

Surface Water Supply of Hawaii 1955-56

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GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1449

*Prepared in cooperation with the
Territory of Hawaii*



UNITED STATES DEPARTMENT OF THE INTERIOR

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PREFACE

This report was prepared by the Geological Survey in cooperation with the Territory of Hawaii by personnel of the Water Resources Division, C. G. Paulsen, chief, succeeded by L. B. Leopold, under the general direction of J. V. B. Wells, chief, Surface Water Branch, and B. J. Peterson, chief, Basic Records Section, succeeded by F. J. Flynn.

The data were collected and computed under the supervision of H. S. Leak, district engineer, Honolulu.

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SURFACE WATER SUPPLY OF HAWAII, JULY 1, 1955 TO JUNE 30, 1956

SCOPE OF WORK

This volume contains records of daily flow of streams and ditches at 124 gaging stations in the Territory of Hawaii during the year ending June 30, 1956. In addition, discharge measurements only have been made at many other points, and rather extensive studies of ground water have been made on all the inhabited islands.

Since the beginning of stream-gaging work in Hawaii, in 1910, records of flow of streams and ditches have been obtained at about 586 stations for periods ranging from a few months to 45 years. Also, hundreds of discharge measurements only have been made at points other than gaging stations. Most of the results of ground-water studies have been published in bulletins of the Territorial Division of Hydrography.

COOPERATION

The work during the year ending June 30, 1956, was done under cooperative agreement with the Territory of Hawaii through the commissioner of public lands. Assistance in collecting records was rendered also on the island of Kauai by the Kekaha Sugar Co. Ltd., the McBryde Sugar Co. Ltd., the East Kauai Water Co. Ltd., the Kilauea Sugar Co. Ltd., and the Lihue Plantation Co. Ltd.; on the island of Oahu by the Waialua Agricultural Co. Ltd. and Waiahole Water Co. Ltd.; on the island of Maui by the Pioneer Mill Co. Ltd., the East Maui Irrigation Co. Ltd., the Maui County Engineer, Maui County Board of Water Works, and Territory of Hawaii Board of Agriculture and Forestry; and on the island of Hawaii by the City of Hilo Water Works, the Kohala Ditch Co. Ltd., and the Olaa Sugar Co. Ltd.

Acknowledgment of records collected by individuals or corporations is made in connection with the description of each station for which such records were furnished.

DIVISION OF WORK

The stream-gaging work was done by the Water Resources Division of the Geological Survey under the direction of personnel shown in the preface.

Information of a more detailed nature than that published for most of the gaging stations given in this report is on file in the district office, Room 225, Federal Building, Honolulu. Provisional records of discharge prior to publication, and other unpublished data concerning the gaging-station records may usually be obtained from the district office.

DEFINITION OF TERMS AND ABBREVIATIONS

The terms of streamflow and other hydrologic data, as used in this report, are defined as follows:

Stage-discharge relation is the relation between gage height and the amount of water flowing in a channel, expressed as volume per unit of time.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, a long reach of the channel, or an artificial structure.

The drainage area of a stream at a specified location is that area, measured in a horizontal plane, which is so enclosed by a topographic divide that direct surface runoff from precipitation normally would drain by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Cubic foot per second (cfs) is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

Acre-foot is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet. The term is commonly used in relation to storage for irrigation.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

In the Territory of Hawaii the unit most commonly used in measuring water is "million gallons." This is used with two meanings-- (1) to indicate a rate of flow and (2) to express an actual quantity of water. In the former sense "million gallons a day" is inferred, 1,000,000 gallons being taken as the unit of quantity and 24 hours as the unit of time. With this meaning the term is generally used in connection with pumping and irrigation. In the latter sense "million gallons" as an absolute quantity is used in the measurement of storage capacities of reservoirs.

The following convenient approximate relations exist between cubic feet per second, million gallons a day, and acre-feet: 1 cubic foot per second flowing 24 hours equals about 2 acre-feet; 1,000,000 gallons equals about 3 acre-feet; and 1,000,000 gallons a day equals about 1.55 cubic feet per second.

DOWNSTREAM ORDER OF LISTING GAGING STATIONS

Beginning with the report for the year ending June 30, 1950, the order of listing gaging-station records was changed. Proceeding in a downstream direction along the main stem, all stations on a tributary entering above a main-stem station are listed before that station. If a tributary enters between two main-stem stations, it is listed between them. Tributary streams are indicated by indentation. This downstream order and the system of indentation show which gaging stations are on tributaries between any two stations on a main stem.

The order of listing used in previous reports listed first all stations on the main stem from headwaters toward mouth, then all stations on the uppermost tributary to the main stem from the tributary's source to mouth.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage and measurements of discharge. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determining the daily flow. All records of stage are obtained from water-stage recorders that give continuous records of fluctuations. Measurements of discharge are made with a current meter by the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-Supply Paper 888 and are also outlined in standard textbooks on the measurement of stream discharge. Occasionally discharge is determined from a weir or rating flume, using standard formulas.

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect determinations of peak discharge (such as slope-area or contracted-opening determinations, computation of flow over dams or weirs, and by other methods), velocity-area studies, and logarithmic plotting. For several stations the high-water ratings have been developed by the use of models. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is essentially the shifting-control method.

The data herein presented generally comprise a description of the station, a skeleton rating table, and a table showing the daily discharge and monthly and yearly discharge and runoff of the stream.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, general remarks, and notations of revisions of the previously published record. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Under "Gage" are given the type of gage currently in use and the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of records available. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height and the minimum discharge. In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and conditions which affect the natural flow at the gaging station is given under "Remarks."

Previously published records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual reports. In order to make it easier to find such revised records, a paragraph headed "Revisions (fiscal years)" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the fiscal years for which figures are revised in that report. In listing the fiscal years only one number is given; for instance, 1933 stands for the fiscal year July 1, 1932, to June 30, 1933. If no daily, monthly, or annual figures of discharge are

concerned in the revision, that fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given.

Skeleton rating tables are published for all stations except for ditch or spring stations.

The daily table gives, in general, the discharge corresponding to the daily mean gage height. For stations subject to sudden or rapid diurnal fluctuation, the daily mean gage height may not indicate the true daily mean discharge, which must be obtained by averaging the discharge for parts of the day.

Records of daily discharge are published on the basis of Hawaiian standard time.

In the table of daily discharge, the figures for the maximum and the minimum day are underlined. If the figure is repeated, it is underlined only on the first day of its occurrence.

In the monthly summary below the daily table, the line headed "Total" gives the sum of the daily figures in million gallons. The mean for the month is given both in terms of million gallons a day (line headed "mgd") and in cubic feet per second (line headed "cfs"). The line headed "Ac-ft" gives the runoff for the month in acre-feet.

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges, not the momentary discharges when the water was at crest stage. Likewise, the minimums in this summary are the minimum daily discharges.

Peak discharges and the times of their occurrence and corresponding gage heights of most stations are listed below the table of daily and monthly discharge. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for canals, ditches, springs, or for any stream for which the peaks are subject to substantial control by man.

Footnotes to the table of daily discharge indicate periods when discharge was computed or estimated by unusual or special methods during periods of no gage-height record or by other effects that reduce the degree of accuracy of the records.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretation of records.

The station description states the degree of accuracy of the records. "Excellent" indicates that, in general, the error in the daily records is believed to be less than 5 percent; "good," less than 10 percent; "fair," less than 15 percent; and "poor," probably more than 15 percent. The records of monthly and yearly mean discharge and runoff are, in general, more nearly accurate than the daily records.

Computations are carried to not more than three significant figures, except that monthly and yearly total runoff (million gallons and acre-feet) above 10,000 are carried to four significant figures.

PUBLICATIONS

The following table lists, by years and numbers, the papers on the surface-water supply of Hawaii published during the period 1903-56 and, used in conjunction with the list of stations maintained, which is given in Water-Supply Paper 795, provides a convenient index for finding the data for any station. Except as indicated, the year or years covered by each report begin July 1 and end on June 30. The data for any particular station will be found in the reports covering the years during which that station was maintained, unless, owing to undeveloped rating curves, publication was postponed. Occasionally data are revised and republished in later papers. Discharge measurements made during any year at points other than regular gaging stations are included in the data published for that year.

Numbers of water-supply papers containing data on the surface water supply of Hawaii, 1903-56									
Year	WSP	Year	WSP	Year	WSP	Year	WSP	Year	WSP
1903	*77	1920-21	535	1930-31	725	1940-41	935	1950-51	1219
1909-11†	318	1921-22	555	1931-32	740	1941-42	965	1951-52	1249
1912†	336	1922-23	575	1932-33	755	1942-43	985	1952-53	1289
1913†	373	1923-24	595	1933-34	770	1943-44	1015	1953-54	1349
1913-15	430	1924-25	615	1934-35	795	1944-45	1045	1954-55	1399
1915-16	445	1925-26	635	1935-36	815	1945-46	1065	1955-56	1449
1916-17	465	1926-27	655	1936-37	835	1946-47	1095		
1917-18	485	1927-28	675	1937-38	865	1947-48	1125		
1918-19	515	1928-29	695	1938-39	885	1948-49	1155		
1919-20	516	1929-30	710	1939-40	905	1949-50	1185		

* This paper, entitled "Water resources of Molokai," by Waldemar Lindgren, contains data on both the surface and ground-water supplies of the island named.

† Calendar years. Data for the last half of the calendar year 1913 appears not only in Water-Supply Paper 373 but also in Water-Supply Paper 430, the first of the reports covering a year ending June 30.

A summary of records of flow in streams and ditches in the Territory of Hawaii was published in 1939 by the Territorial Planning Board. This report, entitled "Surface-water resources of the Territory of Hawaii, 1901-38," gives, by gaging stations for the periods of record, (1) monthly-discharge tables, which show for each month the maximum, minimum, and mean daily discharge and the total discharge, and (2) duration-discharge tables. Nearly all available records of flow in the Territory up to December 1938 were considered in making the summary. Some of these records are not contained in publications of the Geological Survey; some are revisions of records published in the Survey's water-supply papers.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The following table lists the gaging stations in the Territory of Hawaii at which records of discharge were collected during the fiscal year July 1955 to June 1956 by agencies other than the Geological Survey. The records for these stations are not contained in the publications of the Geological Survey, and, except as indicated, have not been published elsewhere.

Records of discharge collected by agencies other than the Geological Survey

ISLAND OF KAUAI			
Stream	Location	Period	operated by
East Lawai storm ditch..	Near Government Road, near Kalaheo.	1924-56	McBryde Sugar Co.
Eleele ditch.....	do.	1924-56	Do.
Hanaiei ditch.....	Above Kalihuiwai Reservoir, near Kilauea.	1923-56	Kilauea Sugar Plantation Co.
Hanamaulu ditch.....	Below intake, near Hanamaulu.....	1925-56	Lihue Plantation Co.
Hanapepe field ditch....	Below Hanapepe River intake, near Eleele.	1924-56	McBryde Sugar Co.
Hanapepe Stream.....	At tidewater, near Eleele.....	1924-56	Do.
Kamooloa ditch.....	Below Kauai Belt Road crossing, near Koloa.	1924-56	Do.
Kealia River.....	1 mile west of Kaneha Reservoir and 5½ miles northwest of Kealia.	1936-56	Lihue Plantation Co.
Koloa ditch.....	4½ miles north of Koloa and 6½ miles west of Lihue.	1927-56	Do.
Koula ditch.....	In Hanonui Valley, near Makaweli...	1949-56	Gay & Robinson.
Lawai Stream.....	½ mile above cannery, near Kalaheo.	1924-56	McBryde Sugar Co.
Lihue lower ditch.....	Below intake, near Lihue.....	1925-56	Lihue Plantation Co.
Lihue upper ditch.....	do.	1925-56	Do.
Olokele ditch.....	At powerhouse, near Makaweli.....	1926-56	Gay & Robinson.
Wahiawa main stream....	Above Alexander Reservoir, near Kalaheo.	1924-56	McBryde Sugar Co.
Wahiawa Stream, East Branch.	do.	1929-56	Do.
West Lawai ditch.....	Near camp 12, near Kalaheo.....	1924-56	Do.

Records of discharge collected by agencies other than the Geological Survey--Continued

ISLAND OF OAHU			
Stream	Location	Period	Operated by
Alewa Heights Spring....	Below reservoir 3.....	1932-56*	Board of Water Supply, City and County of Honolulu.
Booth Springs.....	In Pauoa Valley, at altitude 685 feet	1929-56*	Do.
Helemano ditch.....	About 3 miles below upper Helemano Reservoir.	1933-56	Waialua Agricultural Co.
Hering Springs.....	In Makiki Valley, at altitude 970 feet.	1925-56*	Board of Water Supply, City and County of Honolulu.
Kahuawai Springs.....	In Pauoa Valley, at altitude 618 feet.	1925-56*	Do.
Kalihi tunnels.....	At diversion, at altitude 650 feet.	1926-56*	Do.
Kamananui ditch.....	In Kawailoa Gulch about 500 yards above third siphon from Government Road.	1934-56	Waialua Agricultural Co.
Kipapa Stream.....	At altitude 300 feet.....	1917-56	Waiahole Water Co.
Makiki Springs.....	In Makiki Valley, at altitude 350 feet.	1926-56*	Board of Water Supply, City and County of Honolulu.
Manoa tunnels.....	Upper Manoa Valley.....	1925-56*	Do.
Nuuanu tunnels.....	At Lower Nuuanu.....	1926-56*	Do.
Nuuanu tunnel 3.....	At overflow, in upper Nuuanu Valley	1931-56*	Do.
Palolo tunnel.....	Upper Palolo Valley.....	1926-56*	Do.
Wahiawa Reservoir Outlet	About 1,200 feet below dam.....	1912-56*	Wahiawa Water Co.
Waiahole tunnel.....	At adit 8.....	1916-56	Waiahole Water Co.
Waialua Stream.....	At altitude 750 feet.....	1917-56	Do.
Waikakalua Stream.....	.....do.....	1917-56	Do.
Waimalu Stream.....	At altitude 535 feet, near Aiea....	1947-56	Do.

* Published in biennial reports of Honolulu Sewer & Water Commission and of Honolulu Board of Water Supply.

ISLAND OF MAUI (WEST MAUI)			
Everett ditch.....	Below intake, near Wailuku.....	1935-56	Wailuku Sugar Co.
Honokohau tunnel.....	At outlet of tunnel, at Mahinahina Weir.	1917-56	Pioneer Mill Co.
Iao-Waikapu ditch.....	At lower end of tunnels, near Wailuku.	1923-56	Wailuku Sugar Co.
Kahoma tunnel.....	2,000 feet upstream from outlet, above Lahaina.	1920-56	Pioneer Mill Co.
Kama ditch.....	Below intake, near Wailuku.....	1933-56	Wailuku Sugar Co.
Kanaha ditch.....	At intake in Kanaha Gulch, above Lahainaluna.	1921-56	Pioneer Mill Co.
Kauala tunnel.....	At outlet, above Lahaina.....	1920-56	Do.
K-3 flume.....	Above Lahainaluna.....	1931-56	Do.
Launupoko ditch.....	At outlet, above Lahaina.....	1921-56	Do.
Maniania ditch.....	Below intake, near Wailuku.....	1923-56	Wailuku Sugar Co.
North Waiehu Stream.....	Near end of Waiehu Camp road, near Wailuku.	1922-56	Do.
South Waikapu ditch.....	Above second lateral, near reservoir 1, near Waikapu.	1933-56	Do.
Spreekels ditch.....	Below intake, near Waihee.....	1931-56	Do.
Ukumehame ditch.....	At outlet in Ukumehame Gulch, near Olowalu.	1931-56	Pioneer Mill Co.
Waihee ditch.....	Below intake, near Waihee.....	1931-56	Wailuku Sugar Co.

ISLAND OF MAUI (EAST MAUI)			
Hanawi Stream.....	Below Government Road, near Nahiku.	1927-32, 1947-56	East Maui Irrigation Co.

ISLAND OF HAWAII			
Hionamoa Gulch.....	Below all development tunnels, near Pahala.	1926-56	Hawaiian Agricultural Co.
Honokaape ditch.....	At Kukuihaele Village.....	1923-56	Hawaiian Irrigation Co.
Keaiwa Gulch.....	Below all development tunnels, near Pahala.	1926-56	Hawaiian Agricultural Co.
Kohala ditch.....	At Awini weir in Honokane, near Niuli.	1917-56†	Kohala Ditch Co.
Do.....	At Niuli weir, near Niuli.....	1917-56†	Do.
Lalakea ditch.....	At altitude 1,800 ft, near Waipio.....	1905-56	Hawaiian Irrigation Co.
Lower Hamakua ditch.....	At main weir, near Kukuihaele.....	1921-56†	Do.
Moala Gulch.....	Below all development tunnels, near Pahala.	1929-56	Hawaiian Agricultural Co.
Noguchi tunnel 19.....	5.3 miles from Pahala, at altitude 3,500 feet.	1928-56	Do.
Pololu Inlet 1.....	At Pololu, near Niuli.....	1929-56	Kohala Ditch Co.
Pololu Inlet 2.....	In Waikakae Gulch at Pololu, near Niuli.	1929-56	Do.
Pololu Inlet 3.....	In Opeapeape Gulch, above Kohala ditch, near Niuli.	1937-56	Do.
Pololu Inlet 5.....	In Niuli Gulch, above Kohala ditch, near Niuli.	1937-56	Do.
Pololu Inlet 6.....	In Waikane Gulch, above Kohala ditch, near Niuli.	1937-56	Do.
Puwaiolo Stream.....	Above Kohala ditch, near Halawa....	1937-56	Do.
Waipuka Stream.....	Above Kohala ditch, near Niuli.....	1929-56	Do.
Waipuhi Stream.....	Above Kohala ditch, near Halawa....	1933-56	Do.
Waipunalau Stream.....	.....do.....	1929-56	Do.

† Records for some earlier years published in water-supply papers of Geological Survey.

GAGING-STATION RECORDS

7

ISLAND OF KAUAI

Kawaikoi Stream near Waimea

Location.--Lat 22°08'00", long 159°37'15", on left bank at old trail crossing, 12.5 miles northeast of Waimea.

Drainage area.--4.1 sq mi.

Records available.--April 1909 to December 1916, July 1919 to June 1956.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 3,420 ft (by barometer). Prior to May 26, 1910, staff gage at site 300 ft downstream at different datum.

Average discharge.--37 years (1919-56), 21.7 mgd (33.6 cfs).

Extremes.--Maximum discharge during year, 2,650 mgd (4,100 cfs) Nov. 11 (gage height, 9.96 ft), from rating curve extended above 300 mgd as explained below; minimum, 2.85 mgd (4.41 cfs) Nov. 7.

1909-16, 1919-56: Maximum discharge, 6,900 mgd (10,700 cfs) Dec. 18, 1916 (gage height, 15.2 ft), from rating curve extended above 300 mgd on basis of slope-area determinations at gage heights 12.12 and 13.43 ft; minimum, 0.74 mgd (1.15 cfs) Sept. 21, 22, 1953.

Remarks.--Records good.

Revisions (fiscal years)--WSP 555: 1920-21. WSP 1185: 1914-17(M), 1920-38(M), 1940-43(M), 1947(M).

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Feb. 25					Feb. 26 to June 30				
2.0	2.5	3.6	81		2.1	3.4			
2.1	3.7	4.0	141		2.3	6.6			
2.4	9.4	4.5	241		2.5	11.2			
2.7	18.5	5.0	355		2.7	17.8			
3.0	31	5.5	500		3.0	31			
3.3	50	6.0	670						

Note.--Same as preceding table above 3.0 ft.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	4.5	4.3	15.0	5.0	4.5	6.8	9.9	10.6	28	41	8.9	8.2
2	8.1	4.0	22	12.4	3.85	7.2	8.3	19.3	20	11.5	7.8	7.4
3	9.7	18.5	10.9	32.5	3.6	7.0	8.1	13.2	16.8	9.9	8.4	7.6
4	4.8	8.0	7.9	32.5	3.45	6.6	7.4	9.2	14.6	9.1	7.0	23.5
5	12.6	4.8	6.8	21	3.1	5.9	7.0	16.0	13.4	8.0	20	19.8
6	16.1	7.3	6.2	15.7	3.0	5.3	6.1	159	13.7	9.6	22	18.2
7	8.8	5.9	5.7	14.4	3.0	5.0	5.5	42	12.8	18.9	22	15.4
8	6.2	16.0	5.3	14.4	129	4.8	5.1	25.5	18.7	17.4	18.7	9.1
9	4.2	22	5.0	9.0	120	4.7	5.0	*12.9	34.5	27	17.2	7.6
10	*3.45	29	10.7	7.0	40	4.7	4.8	27.5	27.5	23.5	8.6	26
11	3.2	16.0	10.2	6.1	183	15.5	100	19.4	37.5	12.1	8.4	31.5
12	3.55	7.0	5.9	5.5	238	7.0	294	150	24	15.0	7.6	28.5
13	23.5	14.2	6.8	5.1	40	5.1	115	141	14.3	19.5	5.9	21
14	38.5	18.5	12.0	4.8	21.5	4.5	30.5	86	17.4	14.6	5.5	31.5
15	74	24.5	7.4	4.7	19.6	4.2	158	32	14.3	18.6	5.5	21
16	34	16.8	10.5	7.9	19.6	4.0	45	513	40	13.8	6.4	13.1
17	23.5	*16.9	6.4	*14.4	93	3.85	22	490	35.5	8.9	5.2	9.4
18	38	46	4.8	6.8	53	3.7	16.4	198	14.3	9.5	4.7	7.4
19	12.8	28.5	4.3	5.3	31.5	183	13.4	86	16.1	120	4.8	6.4
20	14.2	11.9	5.9	6.2	33.5	95	11.4	62	32	43	16.6	5.5
21	8.1	9.2	39.5	5.3	34	179	10.4	43	37	18.8	16.4	8.5
22	6.1	6.4	20.5	5.0	32.5	62	9.4	27	35	13.4	46	18.3
23	5.1	5.5	13.8	5.1	17.4	19.6	8.7	32.5	27.5	*9.9	11.8	21
24	6.4	15.0	26.5	6.8	14.7	14.1	12.0	64	48	6.6	6.8	17.8
25	8.7	77	10.2	6.8	11.6	11.6	45	300	16.4	7.8	5.5	12.2
26	5.5	19.1	6.6	6.1	10.2	10.2	33	383	12.8	7.4	4.8	6.8
27	7.3	20.5	7.0	4.8	9.2	9.0	25.5	60	11.2	12.6	4.6	5.5
28	17.0	29.5	6.8	4.5	8.7	8.3	12.8	43	10.2	16.9	4.9	4.7
29	6.8	24	6.4	4.3	8.1	*14.1	10.8	26	*9.9	8.6	15.9	4.4
30	7.3	14.2	5.5	5.3	7.2	30	31	-----	9.1	9.2	16.9	5.0
31	5.0	17.4	-----	5.7	-----	15.5	14.6	-----	35	-----	25	-----
Total	426.80	557.9	312.5	290.4	1,199.80	757.25	1,086.1	3,089.1	697.5	564.1	369.8	422.3
Mean	13.8	18.0	10.4	9.37	40.0	24.4	35.0	107	22.5	18.8	11.9	14.1
mgd	21.4	27.9	16.1	14.5	61.9	37.8	54.2	166	34.8	29.1	18.4	21.8
cfs	1,310	1,710	959	891	3,680	2,320	3,350	9,480	2,140	1,730	1,130	1,300

Calendar year 1955: Max 634 Min 2.75 Mean(mgd) 25.7 Mean(cfs) 39.8 Ac-ft 28,800
Fiscal year 1955-56: Max 513 Min 3.0 Mean(mgd) 26.7 Mean(cfs) 41.3 Ac-ft 29,980

Peak discharge (base, 1,300 mgd).--Nov. 11 (11 p.m.) 2,650 mgd (4,100 cfs), 9.96 ft; Feb. 16 (2:30 p.m.) 2,110 mgd (3,260 cfs), 9.10 ft; Feb. 26 (12 p.m.) 1,600 mgd (2,480 cfs), 8.15 ft.

* Discharge measurement made on this day.

ISLAND OF KAUAI

Mohihi Stream at altitude 3,500 ft, near Waimea

Location.--Lat 22°07'05", long 159°36'15", on left bank at upper trail crossing, 3.8 miles northeast of confluence of Waiahulu and Po mau Streams and 12 miles northeast of Waimea.

Drainage area.--1.6 sq mi.

Records available.--June 1920 to October 1926, October 1936 to June 1956. April 1909 to December 1911 (fragmentary), July 1947 to June 1952, published as Mohihi Stream near Waimea; records 1909-11 at site 2 miles downstream not equivalent owing to inflow.

Gage.--Water-stage recorder. Altitude of gage is 3,500 ft (from topographic map).

Average discharge.--25 years (1920-26, 1937-56), 5.21 mgd (8.06 cfs).

Extremes.--Maximum discharge during year, 475 mgd (735 cfs) Feb. 17 (gage height, 5.16 ft), from rating curve extended above 21 mgd; minimum, 0.50 mgd (0.77 cfs) Nov. 6, 1920-26, 1936-56; Maximum discharge, 1,250 mgd (1,930 cfs) Aug. 15, 1950 (gage height, 7.23 ft), from rating curve extended above 21 mgd; minimum, 0.02 mgd (0.03 cfs) Sept. 22, 23, 1958.

Remarks.--Records good except those above 21 mgd, which are poor.

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Sept. 2

Sept. 3 to June 30

1.0	0.61	1.0	0.37	2.1	13.9
1.1	.98	1.1	.64	2.5	27
1.3	2.1	1.2	.99	3.0	53
1.5	3.8	1.3	1.51	3.5	96
1.8	7.6	1.5	3.2	4.0	166
2.1	13.9	1.8	7.2	4.5	268

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.08	1.32	3.6	0.64	0.85	1.57	3.1	3.95	14.0	15.2	1.93	2.8
2	.98	1.13	4.4	3.9	.74	2.0	2.5	3.65	8.7	4.4	1.70	2.1
3	.98	8.5	2.4	7.3	.64	2.25	2.15	3.65	6.9	3.4	1.57	2.15
4	.93	3.2	1.57	7.1	.56	1.93	2.0	2.8	5.6	2.9	1.45	3.4
5	.85	1.59	1.27	3.55	.53	1.57	1.66	2.8	5.0	2.4	1.63	4.2
6	.98	2.2	1.07	2.9	.61	1.33	1.57	16.9	*5.5	2.25	2.35	4.3
7	1.27	1.96	.91	2.4	.58	1.17	1.39	9.1	5.2	3.0	3.2	4.2
8	1.32	2.65	.85	2.6	.49	1.12	1.33	6.3	6.7	3.95	4.8	3.65
9	.98	4.5	.81	1.70	.45	1.07	1.22	3.4	8.6	4.8	4.6	2.6
10	.78	4.1	.81	1.17	18.1	1.03	1.17	4.7	6.4	3.75	2.4	2.95
11	.71	3.95	.78	.99	.39	1.45	28	5.5	5.3	2.8	3.45	5.1
12	.71	2.0	.74	.88	108	1.33	100	25	4.6	2.4	2.6	9.4
13	2.2	1.65	.78	.78	21.5	1.12	44	29.5	3.65	3.1	1.78	4.1
14	5.2	4.1	.85	.71	9.1	.99	14.3	24	3.2	3.4	1.45	4.8
15	13.6	4.1	.85	.64	9.3	.91	33.5	16.1	3.0	3.0	1.45	6.8
16	8.9	4.1	.88	1.19	10.0	.88	21	114	4.7	3.0	1.78	4.6
17	4.5	*3.65	.85	*7.0	28	.85	9.1	169	10.9	2.15	1.51	4.2
18	7.2	11.2	.71	1.86	27.5	.81	.61	53	4.3	1.86	1.22	2.6
19	2.75	7.3	.64	1.12	14.8	46	4.7	26.5	3.0	12.1	1.12	2.1
20	2.15	4.4	.64	.95	10.0	34	3.85	17.3	3.1	11.5	1.45	1.63
21	1.65	3.15	1.16	.85	8.4	69	3.3	13.4	4.6	5.8	2.35	1.51
22	1.27	2.1	2.95	.78	11.9	35.5	2.8	9.1	5.9	4.1	4.8	2.65
23	1.13	1.59	2.5	.74	5.3	9.2	2.5	10.6	4.7	2.6	4.0	3.7
24	1.08	1.53	6.3	.71	4.2	5.6	*2.4	36.5	7.9	2.0	2.15	4.8
25	.98	11.0	2.55	.71	3.4	4.3	7.2	82	4.6	*1.78	1.57	3.0
26	.98	5.2	1.22	.67	2.8	3.4	17.1	130	3.85	1.57	1.27	2.15
27	1.08	4.5	.99	.64	2.4	2.8	15.0	25	3.75	2.9	1.12	1.70
28	4.5	6.8	.88	.67	2.1	2.4	5.8	20.5	3.2	6.0	1.39	1.45
29	2.5	7.0	.78	.81	1.93	2.15	4.5	11.3	2.5	2.8	*5.6	1.27
30	3.15	3.5	1.44	.67	1.70	9.7	15.1	2.3	2.3	2.15	3.1	1.17
31	1.59	3.8		1.17		5.8	6.3		7.2		5.0	
Total	77.98	127.77	45.41	58.57	437.94	253.23	364.64	875.55	169.45	123.06	75.99	101.08
Mean:	2.52	4.12	1.51	1.89	14.6	8.17	11.8	30.2	5.47	4.10	2.45	3.37
mgd	3.90	6.37	2.34	2.92	22.6	12.6	18.3	46.7	8.46	6.34	3.79	5.21
Ac-ft	239	392	139	180	1,340	777	1,120	2,690	520	378	233	310
Calendar year 1955:	Max	108	Min	0.53	Mean(mgd)	6.01	Mean(cfs)	9.30	Ac-ft	6,730		
Fiscal year 1955-56:	Max	169	Min	0.53	Mean(mgd)	7.41	Mean(cfs)	11.5	Ac-ft	8,320		

Peak discharge (base, 200 mgd).--Nov. 8 (2:30 p.m.) 204 mgd (316 cfs), 4.22 ft; Nov. 11 (11 p.m.) 440 mgd (681 cfs), 5.13 ft; Dec. 19 (6 p.m.) 246 mgd (381 cfs), 4.40 ft; Jan. 11 (11:30 p.m.) 235 mgd (364 cfs), 4.35 ft; Feb. 17 (10 a.m.) 475 mgd (735 cfs), 5.16 ft; Feb. 26 (4 a.m.) 440 mgd (681 cfs), 5.13 ft.

* Discharge measurement made on this day.

Kokee ditch near Waimea

Location.--Lat 22°06'25", long 159°40'45", on left bank 1,000 ft west of road and 10.5 miles north of Waimea.

Records available.--September 1926 to June 1956.

Gage.--Water-stage recorder and suppressed weir. Altitude of gage is 3,310 ft (by barometer).

Average discharge.--29 years (1927-56), 16.0 mgd (24.8 cfs).

Extremes.--1926-56: Maximum daily discharge, 68 mgd (105 cfs) Dec. 2, 1929, Mar. 4, 1933; no flow occasionally.

Remarks.--Records good except those for period of no gage-height record, which are fair. Kokee ditch diverts water at altitude 3,400 ft from all streams tributary to Waimea River west of Mohihi Stream for irrigation near Kekaha. Flow regulated by headgates.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	7.7	7.0	18.8	7.4	7.2	15.1	7.9	17.4	23	34.5	15.1	14.0
2	9.1	6.5	24.5	12.2	6.3	16.3	8.1	22.5	23	18.0	14.4	12.0
3	12.7	17.6	15.5	29.5	5.8	16.3	14.8	17.5	21	21	14.0	11.5
4	7.9	12.6	11.1	34	5.5	15.1	18.8	14.4	20	20	12.2	22.5
5	8.6	7.6	9.8	22.5	5.2	14.2	17.5	30	23	18.8	20	22.5
6	19.6	8.8	8.8	20	5.2	13.0	16.3	25	33	18.8	25.5	21
7	14.0	9.0	8.1	17.5	5.0	12.6	14.9	23	19	25.5	22.5	20
8	10.9	13.9	7.5	18.8	28.5	12.2	14.0	21	16	25	24	14.6
9	7.9	24	7.5	12.4	55	*11.4	13.7	12	20	31	24	11.8
10	6.7	25.5	9.7	9.8	46	10.7	13.3	15	18	29.5	15.1	23
11	6.0	21.5	14.4	8.4	41	19.4	28	22	25	21	13.7	24
12	5.8	10.3	8.4	7.9	8.4	13.7	15.9	40	15	22.5	13.5	32.5
13	22	14.4	9.2	7.4	5.6	11.5	6.7	33	20	25	11.5	23.5
14	29.5	20	13.3	6.8	15.7	10.5	13.0	15	26	22.5	10.7	30
15	35.5	20.5	10.3	6.5	12.8	7.8	16.8	15	27	25	10.7	27.5
16	32.5	22	12.4	9.0	16.8	7.1	15.1	18	33	22.5	11.3	17.5
17	25	18.0	8.8	*19.6	22.5	9.2	15.0	12	32	17.5	10.3	14.6
18	34	35.5	7.0	9.2	17.5	8.8	12.6	11	25	16.3	9.4	11.8
19	17.5	29.5	6.5	8.1	11.3	22.5	11.3	11	26	37	9.2	10.3
20	18.8	16.3	7.5	8.4	14.7	42	15.6	19	36	40	17.4	9.4
21	12.0	12.5	18.2	7.7	15.2	40	16.3	23	45	28	17.5	10.6
22	9.4	9.9	24.5	7.7	19.2	20.5	14.2	24	25	22.5	35.5	20
23	8.3	8.4	20.5	7.4	8.5	6.3	18.4	24	20	18.8	18.8	21
24	7.9	10.7	30	8.4	8.1	11.4	29.5	25	35	16.3	12.4	21
25	12.1	39	17.0	8.4	17.1	12.2	22.5	30	30	14.9	10.5	17.1
26	8.3	26	10.7	8.3	21	11.1	14.9	35	26	14.0	9.6	10.7
27	8.3	23	9.9	6.8	20	10.1	9.8	12	24	19.4	9.0	9.0
28	20	29.5	9.6	6.7	18.8	9.8	11.2	14	22	26	9.2	8.1
29	10.3	29	8.8	6.7	17.5	12.0	13.0	20	21	16.3	*18.8	7.5
30	10.3	17.5	7.7	10.0	16.3	16.2	20	20	21	16.3	15.5	8.1
31	7.9	21	-----	8.8	-----	11.0	13.3	-----	23.5	-----	28.5	-----
Total	446.5	567.0	376.0	362.3	497.7	450.0	472.4	600.8	773.5	683.9	489.8	507.1
Mean:												
mgd	14.4	18.3	12.5	11.7	16.6	14.5	15.2	20.7	25.0	22.8	15.8	16.9
cfs	22.3	28.3	19.3	18.1	25.7	22.4	23.5	32.0	38.7	35.3	24.4	26.1
Ac-ft	1,370	1,740	1,150	1,110	1,530	1,380	1,450	1,840	2,370	2,100	1,500	1,560
Calendar year 1955: Max	55			Min 4.3		Mean(mgd)	17.2	Mean(cfs)	26.6	Ac-ft	19,260	
Fiscal year 1955-56: Max	55			Min 5.0		Mean(mgd)	17.0	Mean(cfs)	26.3	Ac-ft	19,100	

* Discharge measurement made on this day.

Note.--No gage-height record Feb. 5 to Mar. 30; discharge estimated on basis of records for nearby stations and Kekaha Sugar Co. records.

Waimea River at altitude 890 ft, near Waimea

Location.--Lat 22°04'45", long 159°39'15", on right bank in Waimea Canyon, 0.5 mile upstream from confluence with Koale Stream and 8.8 miles north of Waimea.

Drainage area.--20.0 sq mi.

Records available.--February to October 1916, October 1917 to June 1918, May 1925 to June 1956. Prior to July 1, 1952, published as Waiahulu Stream near Waimea.

Gage.--Water-stage recorder. Altitude of gage is 890 ft (by barometer). Prior to May 25, 1925, at datum 1.55 ft lower.

Average discharge.--28 years (1925-48, 1951-56), 30.7 mgd (47.5 cfs).

Extremes.--Maximum discharge during year, 7,440 mgd (11,500 cfs) Nov. 11 (gage height, 11.45 ft), from rating curve extended above 320 mgd on basis of slope-area determination at gage height 11.45 ft; minimum daily, 8.8 mgd (13.6 cfs) Oct. 14, 15, 1916, 1917-18, 1925-56: Maximum discharge, 18,100 mgd (28,000 cfs) Aug. 17, 1950 (gage height, 18.3 ft, from floodmarks), from rating curve extended above 320 mgd; minimum, 5.2 mgd (8.0 cfs) Nov. 4, 1927.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Kokee ditch diverts water above station for irrigation near Kekaha (see preceding page).

Revisions (fiscal years).--WSP 1095: 1928(M).

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Nov. 11					Nov. 12 to June 30				
2.0	7.0	3.5	130		1.7	8.8	3.5	182	
2.1	9.6	4.0	222		1.9	15.8	4.0	289	
2.3	17.0	4.5	350		2.2	30.5	5.0	590	
2.5	27	5.0	530		2.5	52	6.0	1,050	
3.0	65				3.0	106			

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	11.0	9.9	12.0	9.3	10.6	9.5	14	12	60	88	13.9	14.7
2	10.6	9.6	12.5	9.6	9.9	9.3	12	21	43	20.5	13.5	13.1
3	10.3	15.9	12.3	19.0	9.6	9.2	11	15	34	17.5	13.1	12.8
4	10.3	15.0	10.3	25	9.3	9.1	10	11	28	16.6	13.1	14.9
5	10.3	10.6	9.9	14.5	9.1	9.0	10	19	25	16.2	13.1	15.4
6	14.6	9.6	9.6	12.7	9.1	9.0	9.5	250	25	15.8	18.2	15.0
7	11.6	10.6	9.3	11.3	9.1	9.0	9.2	60	23	16.6	15.0	15.0
8	11.3	9.9	9.3	11.3	307	9.0	9.1	24	30	17.5	18.9	14.3
9	10.6	13.3	9.6	11.0	319	8.9	9.0	11.7	42	19.8	16.6	13.1
10	10.3	13.7	9.6	9.9	103	8.9	9.0	31.5	32.5	19.6	14.3	15.4
11	9.9	16.3	10.3	9.6	*504	18	200	22	28	16.2	13.9	19.3
12	9.9	11.0	9.3	9.3	90	13	750	239	31.5	15.4	14.3	31.5
13	11.1	9.9	9.1	9.1	90	*12	250	390	20	16.2	13.1	15.4
14	25	11.0	9.1	8.8	75	11.4	70	171	19.6	16.2	13.1	16.9
15	75	13.9	9.1	8.8	70	12.0	300	63	19.2	15.8	12.8	21.5
16	32	17.9	9.1	12.0	65	11.7	80	810	24.5	15.4	12.8	15.0
17	18.0	11.3	9.1	17.3	200	11.4	40	917	35.5	14.7	12.8	15.0
18	33.5	33	9.1	12.0	100	11.4	25	460	18.7	14.3	12.4	13.1
19	13.4	30.5	9.3	10.3	80	339	19	269	17.9	11.6	12.0	12.4
20	11.3	13.4	9.6	*9.6	80	272	15	168	18.7	49	12.0	12.0
21	10.6	12.7	37	9.6	75	375	12	121	25.5	21	13.5	12.0
22	10.3	11.0	22	9.6	70	164	11	76	25.5	16.2	28.5	13.1
23	9.9	*10.3	16.2	9.3	40	36.5	10	65	19.6	14.7	16.9	14.9
24	9.6	9.9	29.5	9.3	22	21.5	14	133	33	13.5	13.5	16.2
25	9.6	81	17.6	9.1	15	15.4	55	525	19.2	13.1	12.8	13.9
26	9.6	23	11.6	9.1	12	11.7	37	961	18.3	13.1	12.0	12.8
27	9.6	12.7	10.3	9.1	11	11	30	207	*18.7	18.6	12.0	12.4
28	11.9	17.1	9.9	9.6	10	10	15	127	19.2	24.5	12.8	12.0
29	12.0	23.5	9.6	10.3	9.8	15	14	71	18.3	16.2	16.2	12.0
30	12.0	12.3	9.6	24.5	9.6	33	33	-----	17.9	14.7	14.7	11.7
31	10.6	12.0	-----	12.3	-----	18	16	-----	21	-----	*23	-----
Total	465.7	511.8	370.8	362.2	2,984.1	1,513.9	2,098.8	6,250.2	812.3	702.9	454.8	446.8
mgd	15.0	16.5	12.4	11.7	99.5	48.8	67.7	216	26.2	23.4	14.7	14.9
cfs	23.2	25.5	19.2	18.1	154	75.5	105	334	40.5	36.2	22.7	23.1
Ac-ft	1,430	1,570	1,140	1,110	9,160	4,650	6,440	19,180	2,490	2,160	1,400	1,370

Calendar year 1955: Max 1,100 Min 8.8 Mean(mgd) 43.2 Mean(cfs) 66.8 Ac-ft 48,390
Fiscal year 1955-56: Max 961 Min 8.8 Mean(mgd) 46.4 Mean(cfs) 71.8 Ac-ft 52,100

Peak discharge (base, 1,200 mgd)--Nov. 8 (3 p.m.) 1,240 mgd (1,920 cfs), 6.35 ft; Nov. 11 (11:30 p.m.) 7,440 mgd (11,500 cfs), 11.45 ft; Dec. 19 (5:30 p.m.) 1,530 mgd (2,370 cfs), 6.85 ft; Jan. 12 (time and discharge unknown); Feb. 17 (11 a.m.) 2,300 mgd (3,560 cfs), 7.55 ft; Feb. 26 (5 a.m.) 3,140 mgd (4,860 cfs), 8.40 ft.

Note.--No gage-height record Nov. 12 to Dec. 13, Dec. 27 to Feb. 7; discharge estimated on basis of records for Kawaikoi and Waimea stations.

Kekaha ditch at camp 1, near Waimea

Location.--Lat 22°02'35", long 159°38'30", on right bank 0.2 mile downstream from lower intake and 6.2 miles northeast of Waimea.

Records available.--November 1907 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 520 ft (by barometer). Prior to July 12, 1921, staff gages at several sites within 1 mile of present site at various datums.

Average discharge.--37 years (1918-24, 1925-56), 35.7 mgd (55.2 cfs).

Extremes.--1907-56: Maximum daily discharge, 67 mgd (104 cfs) Jan. 6, Mar. 3, 6, 7, 17, 18, 24-26, 29-31, 1921; no flow at times.

Remarks.--Records good. Ditch diverts water from Waimea River 1 mile downstream from confluence with Waialae River. Flow regulated by headgates. Water used for irrigation in vicinity of Kekaha.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	32	46	48	30	39	41	41	0	35.5	41	45	43
2	32	36.5	51	41	34.5	44	41	0	32	51	45	41
3	43	44	48	51	32	41	41	0	5.1	51	44	46
4	34.5	51	41	51	30	41	41	0	27.5	51	41	53
5	32	39	39	48	30	48	41	0	45	51	41	53
6	36.5	44	34.5	51	30	46	41	0	53	45	43	53
7	36.5	44	32	46	30	44	44	*0	53	39	51	53
8	32	39	32	51	38.5	41	44	1.12	37.5	43	53	48
9	30	51	32	46	39	41	41	.18	32	53	53	41
10	28	48	32	36.5	36.5	39	41	10.8	34.5	53	51	48
11	28	51	32	34.5	36	41	41	32	34.5	51	46	53
12	28	41	30	32	24.5	*41	36	36	48	53	39	51
13	39	36.5	32	30	30	36.5	42	41	51	48	41	53
14	51	48	32	30	35	36.5	41	44	53	39	44	53
15	51	51	32	30	39	36.5	41	44	53	43	51	47
16	51	51	34.5	36	39	34.5	41	41	53	51	51	39
17	51	51	36.5	46	39	34.5	41	44	53	51	44	45
18	51	51	30	46	39	32	41	44	53	46	40	51
19	51	51	26.5	36.5	39	31	41	41	53	49	39.5	48
20	44	51	51	*33.5	39	36.5	41	27.5	53	48	39.5	41
21	39	51	36.5	32	39	41	41	32	56	39	46	41
22	34.5	41	46	30	36.5	44	44	51	53	43	48	47
23	32	35.5	48	30	36.5	41	11.9	53	53	51	51	39.5
24	34.5	35.5	46	30	36.5	41	.05	31.5	53	46	46	42
25	34.5	51	48	30	36.5	41	1.40	23	53	44	41	51
26	41	51	37	34.5	39	41	2.5	26	53	41	40	44
27	41	51	31.5	32	39	41	0	34.5	53	41	38.5	41
28	51	51	34.5	32	36.5	41	0	34.5	53	39	44	41
29	48	51	32	38.5	39	41	0	32	38.5	43	53	39
30	51	48	32	46	39	41	4.1	-----	30	51	51	36.5
31	46	51	-----	48	-----	41	0	-----	28	-----	*50	-----
Total	1,234.0	1,442.0	1,097.5	1,189.0	1,076.5	1,239.0	926.95	724.10	1,383.1	1,395	1,410.5	1,382.0
Mean:												
mgd	39.8	46.5	36.6	38.4	35.9	40.0	29.9	25.0	44.6	46.5	45.5	46.1
cfs	61.6	71.9	56.6	59.4	55.5	61.9	46.3	38.7	69.0	71.9	70.4	71.3
Ac-ft	3,790	4,430	3,370	3,650	3,300	3,800	2,840	2,220	4,240	4,280	4,330	4,240
Calendar year 1955.	Max 51			Min 24.5		Mean(mgd)	42.3		Mean(cfs)	65.4	Ac-ft	47,400
Fiscal year 1955-56:	Max 56			Min 0		Mean(mgd)	39.6		Mean(cfs)	61.3	Ac-ft	44,490

* Discharge measurement or observation of no flow made on this day.

Waimea River below Kekaha ditch intake, near Waimea

Location--Lat 22°02'40", long 159°38'35", on right bank in Waimea Canyon, 500 ft downstream from Kekaha ditch lower intake and 6.5 miles northeast of Waimea.

Drainage area--45.0 sq mi.

Records available--July 1921 to December 1955 (discontinued).

Gage--Water-stage recorder. Altitude of gage is 490 ft (by barometer). Prior to May 7, 1926, at datum 3.85 ft higher.

Average discharge--29 years (1925-47, 1948-55), 49.9 mgd (77.2 cfs).

Extremes--Maximum discharge during period July to December, 10,700 mgd (16,600 cfs) Nov. 11 (gage height, 23.7 ft), from rating curve extended above 500 mgd on basis of slope-area determination of peak flow; no flow at times.

1921-55: Maximum discharge, 20,000 mgd (30,900 cfs) Aug. 17, 1950 (gage height, about 25 ft, from floodmarks), from rating curve extended above 500 mgd by test on model of station site; no flow at times.

Remarks--Records fair except those below 20 mgd and those after Nov. 12, which are poor. Kokee and Kekaha ditches divert practically all flow below medium stages for irrigation near Waimea and Kekaha.

Revisions (fiscal years)--WSP 740: 1921-31. WSP 1125: 1947.

Discharge, in million gallons a day, July to December 1955

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	2.4	0	0	0	12						
2	0	0	6.4	34	0	28						
3	.1	123	1.5	31	0	60						
4	0	11.4	0	78	0	30						
5	0	0	0	6.3	0	12						
6	0	14.2	0	0	0	5.0						
7	0	.4	0	0	0	1.0						
8	0	0	0	0	807	.6						
9	0	13.9	0	0	960	.5						
10	0	4.7	0	0	310	.4						
11	0	14.0	0	0	*778	.4						
12	0	0	0	0	2,800	.4						
13	0	0	0	0	808	.2						
14	36	34.5	0	0	220	0						
15	191	31.5	0	0	160	0						
16	105	34.5	0	9.9	110	0						
17	22	.5	0	110	460	0						
18	88	60	0	.2	320	0						
19	1.2	60	.8	0	160	1,100						
20	0	4.7	7.3	0	140	1,000						
21	0	4.7	101	0	130	1,300						
22	0	0	15.2	0	190	650						
23	0	0	5.3	0	80	140						
24	0	0	67	0	65	80						
25	0	254	10.1	0	46	65						
26	.8	41	.6	0	34	50						
27	12.3	1.6	.7	0	28	42						
28	86	13.2	0	0	24	40						
29	10.1	40	0	1.3	18	38						
30	19.0	1.5	0	113	14	110						
31	3.5	0	-----	1.6	-----	65						
Total	575.0	765.7	215.9	385.3	8,454	4,830.5						
Mean:												
mgd	18.5	24.7	7.20	12.4	282	156						
cfs	28.6	38.2	11.1	19.2	436	241						
Ac-ft	1,780	2,350	663	1,180	25,940	14,820						

Calendar year 1955: Max 2,800 Min 0 Mean(mgd) 80.6 Mean(cfs) 125 Ac-ft 90,270

Fiscal year 1955-56: Max - Min - Mean(mgd) - Mean(cfs) - Ac-ft -

Peak discharge (base, 5,000 mgd).--Nov. 11 (10:30 p.m.) 10,700 mgd (16,600 cfs), 23.7 ft; Dec. 19 (5 p.m.) about 5,400 mgd (8,400 cfs), 17.7 ft.

* Discharge measurement made on this day.

Waimea River near Waimea

Location.--Lat 21°58'55", long 159°39'50", on right bank 1.2 miles upstream from confluence with Makaweli River and 1.8 miles north of Waimea.

Drainage area.--57.8 sq mi.

Records available.--July 1910 to October 1919, November 1943 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 25 ft (by hand levels from estuary at confluence with Makaweli River). Prior to Oct. 5, 1911, staff gage at site 1 mile downstream at different datum. Oct. 5, 1911, to June 30, 1918, staff gage at present site at different datum.

Average discharge.--12 years (1944-56), 81.6 mgd (126 cfs).

Extremes.--Maximum discharge during year, 17,100 mgd (26,500 cfs) Nov. 11 (gage height, 15.91 ft), from rating curve extended above 3,300 mgd as explained below; minimum, 0.61 mgd (0.94 cfs) Oct. 25.

1943-56: Maximum discharge, 24,000 mgd (37,100 cfs) Feb. 7, 1949 (gage height, 19.3 ft), from rating curve extended above 3,300 mgd on basis of slope-area determinations at gage heights 10.28, 13.6, and 18.7 ft; minimum, less than 0.01 mgd (0.02 cfs) Sept. 27, 1948.

Remarks.--Records good except those below 10 mgd, which are poor. Several ditches divert most of low flow for irrigation of sugarcane.

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Nov. 11

Nov. 12 to June 30

2.7	0.70	3.5	51	3.0	2.85	4.5	210
2.8	2.0	4.0	145	3.1	5.4	5.0	385
2.9	4.4	4.5	298	3.2	9.6	5.5	620
3.0	8.0	5.0	535	3.3	15.8	6.0	940
3.1	13.0	6.0	1,200	3.5	31.5	7.0	1,700
3.3	28.5	7.0	2,150	3.7	52	8.0	2,650
				4.0	95	9.0	3,800
				4.2	135		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.0	17.2	9.0	3.55	7.6	30	82	158	301	123	8.5	14.0
2	1.65	4.8	9.3	19.2	5.5	50	71	109	205	31.5	6.9	10.2
3	3.35	82	20	45	4.4	76	67	100	158	18.7	6.1	9.6
4	3.7	37	7.3	70	3.8	46	51	87	124	14.6	5.7	22
5	1.65	6.6	7.6	30	4.2	27	46	85	87	10.8	5.7	28
6	2.0	12.4	4.2	11.0	5.1	17.2	40	258	76	8.7	10.9	24
7	2.6	15.4	2.0	8.9	2.8	11.5	34.5	153	79	15.2	8.5	18.7
8	3.05	4.2	1.85	5.5	895	8.5	30.5	106	111	18.7	36.5	18.1
9	1.35	18.1	2.2	6.9	1,060	9.6	28	81	133	33.5	21	11.8
10	1.35	15.9	3.05	3.05	298	11.5	26.5	93	113	36.5	11.2	10.8
11	1.00	32	3.3	2.2	1,290	10.8	226	106	85	22	39.5	30
12	1.00	9.5	3.05	1.85	3,710	8.5	2,480	419	69	11.5	26	68
13	1.20	4.4	2.8	1.65	669	6.1	1,160	831	48	16.5	12.1	27.5
14	11.8	19.8	2.4	1.65	235	8.1	414	508	40	24.5	6.9	37.5
15	178	*37	2.6	*1.50	184	9.0	656	286	35.5	18.7	*8.4	70
16	99	55	2.2	6.1	139	9.0	625	2,780	33.5	18.7	15.5	54
17	44	10.5	2.8	120	489	7.7	232	2,950	101	10.8	6.5	40
18	81	53	2.6	14.4	348	7.7	*140	1,430	77	8.1	5.1	12.7
19	21.5	65	2.2	3.05	177	1,230	102	808	41	73	4.8	8.1
20	4.8	21	6.2	2.0	163	1,220	82	325	28	*93	4.6	5.1
21	3.3	18.8	91	1.65	152	1,580	71	240	35	46	5.4	4.3
22	3.05	6.9	52	1.65	215	756	62	160	49	30	10.9	9.2
23	3.05	3.8	24	1.65	*97	241	72	166	31.5	10.9	21	28
24	3.55	2.8	66	1.85	80	160	79	675	75	6.9	6.5	42
25	3.55	190	44	1.20	61	124	197	1,610	46	7.3	5.1	15.8
26	3.6	75	10.0	1.35	51	100	409	2,390	66	6.9	4.3	8.1
27	6.9	15.7	10.0	1.85	44	82	393	695	57	22	4.6	6.1
28	86	24	6.2	2.2	41	75	147	468	38	84	4.6	5.7
29	18.6	45	4.2	3.9	36	78	117	240	26.5	27	88	5.4
30	34.5	19.1	3.8	136	32.5	*164	382	-----	55.5	11.5	15.8	4.8
31	8.5	9.0	-----	24	-----	133	203	-----	60	-----	28	-----
Total	638.60	930.9	407.85	532.80	10,490.9	8,277.2	8,725.5	18,677	2,464.5	860.5	447.6	649.5
Mean	20.6	30.0	13.6	17.2	350	202	281	644	79.5	28.7	14.4	21.6
mgd	31.9	46.4	21.0	26.6	542	313	435	996	123	44.4	22.5	33.4
cfs	1,360	2,860	1,250	1,640	32,200	19,260	26,780	57,320	7,560	2,640	1,370	1,990
Ac-ft												
Calendar year 1955: Max	3,710	Min	1.00	Mean(mgd)	95.4	Mean(cfs)	148	Ac-ft	106,900			
Fiscal year 1955-56: Max	3,710	Min	1.00	Mean(mgd)	140	Mean(cfs)	217	Ac-ft	156,800			

Peak discharge (base, 5,600 mgd).--Nov. 11 (11:30 p.m.) 17,100 mgd (26,500 cfs), 15.91 ft; Dec. 19 (7 p.m.) 5,650 mgd (8,740 cfs), 10.33 ft; Feb. 17 (1:30 p.m.) 6,250 mgd (9,670 cfs), 10.68 ft; Feb. 26 (8 a.m.) 7,380 mgd (11,400 cfs), 11.42 ft.

* Discharge measurement made on this day.

Makaweli River near Waimea

Location--Lat 21°58'15", long 159°38'55", on left bank 0.7 mile upstream from mouth, 1.9 miles northeast of Waimea, and 3.8 miles northwest of Makaweli.

Drainage area--25.0 sq mi.

Records available--October 1911 to June 1917, July 1943 to June 1956.

Gage--Water-stage recorder. Altitude of gage is 30 ft (by hand levels from estuary at confluence with Waimea River). Oct. 6, 1911, to June 30, 1917, staff gage at site 0.2 mile downstream at different datum.

Average discharge--17 years (1912-17, 1944-56), 60.6 mgd (93.8 cfs).

Extremes--Maximum discharge during year, 7,450 mgd (11,500 cfs) Nov. 11 (gage height, 10.34 ft), from rating curve extended above 1,300 mgd as explained below; minimum daily, 5.5 mgd (8.5 cfs) July 11.

1943-56: Maximum discharge, 8,800 mgd (13,600 cfs) Jan. 19, 1952 (gage height, 11.19 ft), from rating curve extended above 1,300 mgd on basis of slope-area determination at gage height 9.46 ft; minimum daily, 2.8 mgd (4.3 cfs) July 19, 20, 1951.

Remarks--Records fair except those for periods of no gage-height record, which are poor. Olokele ditch diverts all low water from Olokele Stream 9 miles above station for irrigation near Makaweli.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	9.4	23.5	19.0	a9.0	19.0	a32	44	85	525	40	a15	a21
2	21	13.5	47	64	13.5	130	36	62	201	a25	a13	a21
3	15.4	258	16.2	29	12.6	a120	a35	44	134	a21	a12	36
4	13.0	31.5	13.5	68	11.2	a40	a32	44	97	a18	a11	84
5	11.2	16.2	13.5	16.2	10.4	a30	a29	44	62	a16	a10	65
6	39.5	99	11.7	16.2	12.6	a25	a26	53	53	a14	a15	50
7	a9.5	16.2	9.0	17.4	10.4	a21	a24	44	53	a13	160	48
8	a8.5	22	9.0	16.2	411	a19	a23	*36	106	a11	73	41
9	a6.5	33	8.7	12.6	521	a18	a22	29.5	85	63	a30	a25
10	a6.0	41	9.0	a9.0	204	a17	a21	42	53	36	a21	63
11	a5.5	34	9.4	*a8.5	643	a15	470	48	53	a25	194	60
12	14.2	16.2	a9.0	7.6	1,790	a15	1,040	165	a40	36	36	92
13	19.8	*14.2	a8.0	a6.5	298	a14	418	238	a30	a29	a25	36
14	45	73	a7.5	19.6	a270	a13	144	370	a25	a20	94	44
15	188	105	a7.0	8.3	a250	a12	196	258	a35	a35	*86	53
16	121	46	24.5	59	a220	a11	174	2,340	a37	a30	a25	87
17	51	16.2	9.0	96	a700	a10	85	2,340	81	a18	a17	44
18	97	25.5	a8.0	19.0	a550	a9.5	62	1,420	56	a21	a14	a30
19	22	66	a7.5	13.5	a300	887	53	326	a29	a20	a12	a23
20	19.0	78	10.8	11.7	a230	755	44	158	a35	a25	a20	a22
21	13.5	26	66	9.9	a450	990	36	110	a38	a20	a11	a28
22	10.4	13.5	35	9.4	a290	399	29.5	85	*58	a17	a12	37
23	11.7	11.7	25.5	9.0	*a280	158	29.5	291	a25	a14	a30	53
24	13.0	27	47	8.7	114	110	29.5	1,080	88	a12	a14	53
25	11.7	222	19.0	15.3	60	85	580	1,380	93	a11	a11	a25
26	51	52	11.2	13.9	51	a55	596	1,850	257	a10	a10	a20
27	67	29	9.0	9.4	a45	a40	404	*841	135	55	a14	a30
28	130	37	a8.0	11.7	a41	a35	110	492	66	68	63	a20
29	149	41	a7.5	32.5	a38	a29	97	230	38.5	a21	177	a18
30	44	25.5	a12	155	a35	*171	352	-	50	a18	29.5	a17
31	64	22	-----	29	-----	79	124	-----	45	-----	48	-----
Total	1,287.8	1,534.7	497.5	811.1	7,880.7	4,344.5	5,363.5	14,505.5	2,663.5	761	1,302.5	1,236
Mean	41.5	49.5	16.6	26.2	263	140	173	500	85.9	25.4	42.0	41.2
cfs	64.2	76.6	25.7	40.5	407	217	268	774	133	39.3	65.0	63.7
Ac-ft	3,950	4,710	1,530	2,490	24,180	13,330	16,460	44,520	8,170	2,340	4,000	3,790

Calendar year 1955: Max 1,790 Min 5.5 Mean(mgd) 68.9 Mean(cfs) 107 Ac-ft 77,150
 Fiscal year 1955-56: Max 2,340 Min 5.5 Mean(mgd) 115 Mean(cfs) 178 Ac-ft 129,500

Peak discharge (base, 1,300 mgd)--Nov. 11 (11 p.m.) 7,450 mgd (11,500 cfs), 10.34 ft; Dec. 19 (7 p.m.) 3,550 mgd (5,490 cfs), 7.49 ft; Jan. 11 (11:30 p.m.) 3,100 mgd (4,800 cfs), 6.53 ft; Feb. 16 (7 p.m.) 5,370 mgd (8,510 cfs), 8.56 ft; Feb. 26 (12:30 p.m.) 3,750 mgd (5,800 cfs), 7.19 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Hanapepe River.

Hanapepe River below Manuahi Stream, near Eleele

Location.--Lat 21°57'20", long 159°33'15", on left bank just downstream from Manuahi Stream, 4 miles northeast of Eleele.

Drainage area.--18.8 sq mi.

Records available.--May 1917 to January 1921, December 1926 to June 1956. Prior to July 1952, published as "at Koula, near Eleele." August 1910 to December 1916, at site half a mile upstream; records not equivalent due to inflow.

Gage.--Water-stage recorder. Altitude of gage is 150 ft (by barometer). Prior to Dec. 15, 1926, staff gage and Dec. 16, 1926, to June 30, 1951, water-stage recorder, at same site at datum 1.00 ft higher.

Average discharge.--32 years (1917-20, 1927-56), 55.5 mgd (85.9 cfs).

Extremes.--Maximum discharge during year, 6,360 mgd (9,840 cfs) Feb. 16 (gage height, 10.31 ft); minimum, 5.1 mgd (7.9 cfs) July 9, 1910-21, 1926-56: Maximum discharge, 10,400 mgd (16,100 cfs) Dec. 17, 1949 (gage height, 11.74 ft), from rating curve extended above 2,400 mgd by test on model of station site; minimum, 3.3 mgd (5.1 cfs) May 21, 1954.

Remarks.--Records good. Hanapepe ditch diverts water from river 3 miles above station for irrigation in vicinity of Makaweli.

Revisions (fiscal years).--WSP 740: 1931.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.5	5.3	2.5	228
.6	7.6	3.0	355
.8	14.5	3.5	520
1.1	32	4.0	710
1.4	57	5.0	1,260
1.7	90	6.0	1,930
2.0	132		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	6.4	19.6	10.3	14.0	31.5	18.0	16.8	34.5	34.4	33.5	10.6	20.5
2	19.8	9.7	39	47	10.6	104	17.1	24.5	167	23	10.3	17.6
3	12.9	34.5	10.2	37.5	9.1	100	14.5	19.5	99	17.0	10.0	24.5
4	6.2	37	10.0	87	8.2	32	20	17.5	71	16.0	9.7	56
5	6.2	14.5	8.5	27.5	7.9	16.9	14.5	21	53	15.0	10.4	91
6	24.5	59	8.8	15.0	9.4	16.5	12.9	19.8	51	*13.7	15.5	65
7	5.8	10.2	9.5	15.5	7.9	15.0	11.8	14.5	37	13.3	162	76
8	6.8	12.8	12.9	18.1	487	13.7	11.4	*12.7	73	12.9	100	*47
9	5.3	21.5	10.6	16.5	336	12.9	11.4	12.6	42	32.5	28.5	34.5
10	5.3	44	8.8	9.7	118	12.2	11.0	69	28	21	31.5	74
11	5.5	17.6	10.9	*9.9	470	11.4	168	27	23	14.1	183	76
12	6.3	9.0	8.2	8.2	1,390	11.0	582	41	20.5	17.2	41	71
13	7.2	8.0	8.2	6.9	267	10.0	168	113	19.0	13.3	25.5	46
14	24	66	7.6	8.1	*238	9.4	48	245	18.0	11.8	99	52
15	123	96	6.9	6.9	172	9.4	36	140	23	23	125	42
16	95	32	14.4	93	157	7.9	36.5	1,430	54	16.9	36.5	78
17	63	11.4	7.4	52	660	7.9	21.5	1,530	67	12.2	19.2	41
18	74	15.9	6.9	12.0	468	8.2	18.0	1,110	22.5	14.6	14.1	33
19	16.5	*54	8.9	9.1	246	520	15.5	229	18.4	11.8	13.4	20.5
20	10.3	190	11.8	7.9	196	374	14.5	111	26	11.0	17.2	18.9
21	8.2	59	30	7.4	364	554	13.3	66	32	11.0	11.8	35.5
22	6.9	13.7	93	6.9	244	160	13.3	43	39.5	10.6	13.3	48
23	6.2	9.1	39.5	6.9	264	58	12.9	205	18.9	10.3	22.5	67
24	6.4	33	47	31.5	177	40	26	762	70	10.0	19.2	56
25	6.2	176	14.6	45	117	30	342	692	102	9.7	12.2	25.5
26	31.5	42	9.4	9.8	90	22.5	349	1,020	243	9.7	11.0	19.0
27	77	25.5	7.9	7.4	84	18.5	159	744	137	48	16.8	48
28	69	33	7.4	13.2	51	17.0	51	340	81	25.5	167	18.9
29	272	39	6.9	63	32	15.5	128	197	46	13.3	154	14.1
30	69	23.5	25	30.5	17.5	*34.5	271	-	83	11.4	31.5	13.7
31	68	13.6		31	-----	35	69	-----	46	-----	47	-----
Total	1,144.4	1,540.6	500.5	1,028.9	6,730.1	2,297.4	2,703.9	9,590.6	2,154.8	503.3	1,470.7	1,340.2
Mean:												
mgd	36.9	49.7	16.7	33.2	224	74.1	87.2	331	69.5	16.8	47.4	44.7
cfs	57.1	78.9	25.8	51.4	347	115	135	512	108	28.0	73.5	69.2
Ac-ft	3,510	4,730	1,540	3,160	20,650	7,050	8,300	29,430	6,610	1,540	4,510	4,110

Calendar year 1955: Max 1,390 Min 5.3 Mean(mgd) 52.7 Mean(cfs) 81.5 Ac-ft 59,070
Fiscal year 1955-56: Max 1,630 Min 5.3 Mean(mgd) 84.7 Mean(cfs) 131 Ac-ft 95,140

Peak discharge (base, 2,300 mgd).--Nov. 12 (11:30 a.m.) 4,680 mgd (7,240 cfs), 8.84 ft; Dec. 19 (5 p.m.) 2,350 mgd (3,640 cfs), 6.48 ft; Jan. 11 (11 p.m.) 2,440 mgd (3,780 cfs), 6.57 ft; Feb. 16 (2 p.m.) 6,360 mgd (9,840 cfs), 10.31 ft; Feb. 25 (11 p.m.) 2,530 mgd (3,910 cfs), 6.74 ft.

* Discharge measurement made on this day.

South Fork Wailua River near Lihue

Location.--Lat 22°02'10", long 159°22'55", on right bank 0.3 mile upstream from Wailua Falls and 5 miles north of Lihue.

Drainage area.--22.4 sq mi.

Records available.--December 1911 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 230 ft (by barometer). Prior to Nov. 18, 1918, at site 0.3 mile upstream at different datum.

Average discharge.--34 years (1921-24, 1925-56), 66.8 mgd (103 cfs).

Extremes.--Maximum discharge during year, 30,200 mgd (46,700 cfs) Nov. 12 (gage height, 11.52 ft), from rating curve extended above 4,200 mgd by logarithmic plotting; minimum, 2.7 mgd (4.2 cfs), July 11, 12, 25.
1911-56: Maximum discharge, that of Nov. 12, 1955; minimum, 1.09 mgd (1.69 cfs) Sept. 21, 1953.

Remarks.--Records good. Several ditches divert about 20 mgd for irrigation of cane lands above station.

Revisions (fiscal years).--WSP 1249: 1941-47(M), 1948-51(P).

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.7	2.45	3.0	225
.8	3.2	3.5	395
1.0	5.2	4.0	640
1.2	8.4	4.5	950
1.4	13.3	5.0	1,400
1.7	25.5	6.0	2,790
2.0	47	7.0	4,910
2.5	111		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.45	26.5	3.85	5.5	57	99	136	115	358	168	5.6	19.1
2	3.55	4.3	9.4	62	37	252	87	106	235	85	5.3	44
3	3.55	301	6.3	31.5	25.5	204	70	87	160	42	5.2	42
4	3.2	18.4	10.4	47	19.9	100	71	77	118	13.7	5.2	51
5	3.1	5.5	35.5	11.9	17.7	68	53	78	80	28.5	5.3	101
6	116	51	5.8	4.3	16.8	47	44	97	34	19.6	5.6	79
7	9.6	24	3.55	4.1	15.2	41	37	68	85	22.5	207	41
8	3.85	13.9	3.2	4.0	*556	10.8	35.5	66	94	22	144	56
9	3.4	6.8	3.2	8.4	554	8.8	*40	52	85	31	33	22.5
10	3.05	9.9	3.0	8.3	160	9.8	34.5	128	69	24.5	9.1	75
11	2.75	6.8	5.2	3.65	465	25.5	178	111	61	15.2	164	42
12	2.75	4.2	3.65	3.4	5,660	17.9	*773	194	52	6.6	62	35
13	3.05	4.5	3.05	3.3	402	24.5	320	246	53	5.9	48	5.6
14	3.3	106	2.9	3.2	230	22	111	183	50	6.2	74	4.8
15	42	88	2.8	3.2	170	21.5	94	122	45	6.1	71	7.3
16	36	26.5	3.05	44	163	19.7	101	1,270	81	14.0	11.7	65
17	35	5.2	2.8	61	650	19.7	66	855	144	67	6.6	83
18	39	5.0	2.75	5.0	442	21	57	849	50	250	4.9	52
19	4.9	57	2.8	3.75	310	617	48	245	58	79	4.8	15.3
20	3.65	547	5.2	3.4	252	634	28.5	149	66	45	6.5	13.4
21	3.55	222	4.6	3.1	418	849	24.5	125	58	39.5	5.0	32.5
22	3.1	51	13.2	3.0	269	392	22	105	91	35	5.0	82
23	2.9	9.1	34.5	3.0	381	149	15.5	318	44	20.5	6.0	80
24	2.9	*5.9	14.3	3.1	285	119	220	428	103	6.6	6.6	91
25	2.8	88	9.7	3.2	172	119	2,930	*982	96	6.5	5.2	31
26	8.9	38	7.7	3.4	129	88	731	675	267	5.8	6.9	5.0
27	15.4	38.5	3.9	3.3	120	68	344	695	197	27.5	38.5	6.6
28	32	42	3.45	3.3	148	55	149	344	135	38.5	158	5.7
29	186	33.5	5.3	4.9	149	73	346	237	106	7.2	144	4.1
30	66	6.1	24	230	105	120	346	-----	173	5.3	17.2	3.55
31	53	4.2	-----	44	-----	269	156	-----	130	-----	27	-----
Total	701.70	1,849.8	233.05	625.20	10,557.1	4,564.2	7,668.5	9,007	3,338	1,142.2	1,298.2	1,175.45
Mean	22.6	59.7	7.77	20.2	352	147	247	311	108	38.1	41.9	39.2
mgd	35.0	92.4	12.0	31.3	545	227	382	481	167	58.9	64.8	60.7
cfs	2,150	5,680	715	1,920	32,400	14,010	23,530	27,640	10,240	3,510	3,980	3,610
Ac-ft												

Calendar year 1955. Max 3,860 Min 2.75 Mean(mgd) 79.1 Mean(cfs) 122 Ac-ft 88,660
Fiscal year 1955-56. Max 3,860 Min 2.75 Mean(mgd) 115 Mean(cfs) 178 Ac-ft 129,400

Peak discharge (base, 3,700 mgd).--Nov. 12 (12 m.) 30,200 mgd (46,700 cfs), 11.52 ft; Jan. 25 (2:30 a.m.) 8,400 mgd (13,000 cfs), 8.07 ft; Feb. 16 (3 p.m.) 7,000 mgd (10,800 cfs), 7.74 ft.

* Discharge measurement made on this day.

North Wailua ditch near Lihue

Location.--Lat 22°03'40", long 159°27'55", on left bank 300 ft downstream from intake diversion dam on North Fork Wailua River, 8 miles west of Wailua, and 8.5 miles north-west of Lihue.

Records available.--July 1932 to June 1956 in reports of Geological Survey. October 1925 to June 1932 in files of Lihue Plantation Co.

Gage.--Water-stage recorder and sharp-crested weir. Datum of gage is 1,105.45 ft above mean sea level (levels by Lihue Plantation Co.).

Average discharge.--24 years (1932-56), 12.0 mgd (18.6 cfs).

Extremes.--1932-56: Maximum daily discharge, 38 mgd (59 cfs) Dec. 21, 1933, Apr. 24, 1934; no flow at times.

Remarks.--Records excellent. Water used for power and irrigation in vicinity of Lihue.

Revisions (fiscal years).--WSP 770: 1933.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	11.6	10.5	9.8	10.7	12.5	12.6	9.3	5.1	8.6	9.1	11.0	7.6
2	12.2	11.0	11.5	11.5	11.6	11.8	8.5	12.2	8.8	9.1	11.3	8.8
3	11.0	12.0	9.1	11.2	11.3	9.3	10.0	11.0	8.5	9.1	11.6	9.3
4	11.6	10.7	9.3	11.0	11.3	8.8	11.0	10.7	7.2	8.8	11.6	9.3
5	10.7	11.0	9.1	11.0	11.3	8.5	10.7	11.0	6.9	8.5	12.2	9.4
6	12.9	12.9	8.5	11.0	11.3	8.5	10.7	11.6	11.9	8.5	12.8	*9.3
7	11.0	10.7	8.5	11.6	11.0	9.3	10.5	11.0	11.9	8.5	11.4	9.6
8	12.2	11.6	9.3	11.3	10.8	14.0	10.7	10.7	10.0	8.5	9.9	9.6
9	10.5	11.3	8.8	11.3	7.5	13.7	11.3	11.5	9.4	8.8	9.1	10.2
10	10.7	12.2	8.8	11.6	8.8	14.0	11.0	12.2	9.6	8.5	10.5	10.7
11	10.5	11.0	10.4	13.0	10.1	14.0	13.5	12.2	9.6	8.5	11.9	10.7
12	11.3	10.5	9.3	12.5	7.2	13.4	4.6	14.4	10.6	8.8	11.0	10.2
13	10.9	10.5	9.3	12.5	0	12.8	4.8	11.8	11.6	10.8	10.7	10.2
14	11.6	12.8	8.8	12.8	0	12.6	10.7	10.7	11.6	11.6	11.9	12.7
15	12.5	12.8	9.1	11.0	0	12.5	11.3	12.4	11.9	13.1	11.9	11.9
16	12.2	11.6	10.0	12.8	3.9	12.2	8.4	9.7	11.3	11.9	10.7	13.1
17	12.2	10.8	8.8	11.3	6.3	12.2	8.8	5.8	10.5	11.9	11.4	12.8
18	11.6	11.7	8.5	11.3	6.7	11.9	9.8	2.3	9.9	11.7	11.6	12.2
19	10.7	12.5	9.6	11.3	5.8	15.3	10.2	0	11.6	12.8	12.2	15.1
20	10.9	15.5	9.8	11.3	6.0	3.0	11.2	3.0	12.8	10.7	11.9	15.5
21	10.2	13.1	10.5	11.3	7.1	7.6	11.6	7.1	11.6	9.1	11.6	14.4
22	9.9	10.5	10.7	11.3	7.2	.86	11.6	12.5	9.1	8.8	12.2	13.1
23	9.6	9.6	9.9	11.3	7.4	.36	11.6	11.9	9.1	10.5	12.5	13.1
24	8.9	11.6	10.5	11.6	7.2	.36	11.9	10.2	9.1	11.3	11.9	12.8
25	10.7	13.7	9.6	12.2	6.8	.36	6.4	9.4	9.9	11.6	11.9	11.9
26	11.3	10.5	9.3	11.3	5.8	.29	.15	7.2	10.3	11.6	12.5	11.9
27	11.8	9.9	9.5	11.6	6.0	3.15	0	8.4	10.5	10.4	12.8	12.8
28	11.0	10.5	9.3	11.6	6.3	7.9	0	3.65	9.9	8.5	13.4	12.2
29	12.8	11.0	9.6	*12.2	8.4	12.5	.25	5.4	9.3	8.1	9.9	11.6
30	11.3	10.2	10.5	13.1	10.4	12.4	.04	-----	9.3	10.2	9.0	11.6
31	11.6	9.6	-----	11.6	-----	10.7	0	-----	9.3	-----	3.75	-----
Total	348.9	353.8	285.7	361.1	226.0	286.88	250.52	265.05	311.6	299.3	348.05	343.6
Mean:	11.3	11.4	9.52	11.6	7.53	9.25	8.08	9.14	10.1	9.98	11.2	11.5
mgd	17.5	17.6	14.7	17.9	11.7	14.3	12.5	14.1	15.6	15.4	17.3	17.8
cfs	1,070	1,090	877	1,110	694	880	769	813	956	919	1,070	1,050
Ac-ft												
Calendar year 1955:	Max 17.6	Min 0	Mean(mgd) 10.6	Mean(cfs) 16.4	Ac-ft 11,880							
Fiscal year 1955-56:	Max 15.5	Min 0	Mean(mgd) 10.1	Mean(cfs) 15.6	Ac-ft 11,300							

* Discharge measurement made on this day.

Stable storm ditch near Lihue

Location--Lat 22°04'00", long 159°26'45", on left bank 100 ft downstream from intake, 7.8 miles northwest of Lihue, and 8.2 miles west of Kapaa.

Records available--December 1936 to June 1956.

Gage--Water-stage recorder and sharp-crested weir. Altitude of gage is 710 ft (by barometer).

Average discharge--19 years (1937-56), 7.23 mgd (11.2 cfs).

Extremes--1936-56: Maximum daily discharge, 46 mgd (71 cfs) Apr. 3, 1948; no flow at times each year.

Remarks--Records good. Ditch diverts water from North Fork Waialua River for irrigation of sugarcane in vicinity of Lihue. Flow regulated by headgates.

Discharge, in million gallons a day, fiscal year July 1955. to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	18.0	0.08	0	0.23	0.23	0	0.08	0	0.15	0.15	12.7	5.9
2	4.1	0	0	.31	.15	0	0	0	.15	.08	11.7	.15
3	.23	.13	0	.32	.15	0	.08	0	.08	.08	10.6	.15
4	.31	.08	0	.23	.08	0	.08	0	.08	0	10.4	6.2
5	9.0	0	0	.23	.08	0	0	0	0	0	16.0	.10
6	14.1	0	0	.23	.08	0	0	0	0	0	18.8	0
7	.23	0	9.8	.23	.08	0	0	0	0	0	8.0	0
8	.23	0	16.5	.23	.23	0	0	0	0	0	.23	7.7
9	.15	0	14.0	.23	.15	0	0	0	0	0	.15	0
10	.15	0	13.0	.23	.15	0	0	.07	0	0	.15	0
11	11.8	0	19.8	.23	.60	0	0	0	0	0	.08	0
12	21.5	0	15.7	6.9	3.5	0	.13	.12	0	0	.08	0
13	21.5	0	15.1	9.6	.23	0	.15	.15	0	0	.08	0
14	24	0	13.8	18.3	.15	0	.15	.15	0	0	.15	13.3
15	17.4	0	13.3	10.9	.08	0	.15	0	.02	0	.15	18.3
16	.40	0	19.2	26.5	0	0	.15	.82	.12	0	.15	27.5
17	.40	0	12.7	10.9	.08	0	.15	.40	.15	0	.08	26
18	.31	0	11.9	.23	.08	0	.08	.30	0	0	0	24.5
19	.31	0	15.4	7.5	0	0	0	.15	0	0	.08	23
20	15.2	.15	17.1	10.1	0	0	0	.08	.04	0	.08	18.6
21	17.4	.08	21	9.4	0	0	0	.08	.02	0	10.9	19.0
22	14.9	0	19.9	8.7	0	0	0	.08	.15	0	4.9	10.0
23	13.5	0	21	8.9	.08	0	0	.15	.08	0	.15	.31
24	14.0	0	21	10.6	0	0	.19	.23	.08	8.8	.15	.23
25	16.5	0	18.3	16.4	0	0	1.74	.36	.08	12.4	.08	14.1
26	22.5	0	14.9	11.2	0	0	.23	.23	.15	11.9	.08	19.8
27	22.5	0	14.9	13.3	0	0	0	.23	.15	10.4	.08	28
28	23	0	13.2	5.5	0	0	0	.23	.15	.31	.15	23
29	13.1	0	14.8	.23	0	0	.15	.15	.23	.23	.08	17.1
30	.08	0	11.4	.23	0	0	0	0	.23	9.5	.08	15.4
31	.08	0	-----	.23	-----	.05	0	-----	.23	-----	.08	-----
Total	316.88	0.52	377.7	188.32	5.98	0.05	3.36	3.98	2.26	53.85	106.39	318.34
Mean	10.2	0.017	12.6	6.07	0.199	0.002	0.108	0.137	0.073	1.80	3.43	10.6
mgd	15.8	0.026	19.5	9.39	0.308	0.003	0.167	0.212	0.113	2.79	5.31	16.4
cfs	972	1.6	1,160	578	18	0.2	10	12	6.9	165	326	977
Ac-ft												
Calendar year 1955: Max	26.5		Min	0		Mean(mgd)	3.89		Mean(cfs)	6.02	Ac-ft	4,360
Fiscal year 1955-56: Max	28		Min	0		Mean(mgd)	3.76		Mean(cfs)	5.82	Ac-ft	4,230

North Fork Wailua River at altitude 650 ft, near Lihue

Location.--Lat 22°03'50", long 159°26'20", on right bank 0.5 mile downstream from intake of Stable storm ditch and 7.8 miles northwest of Lihue.

Drainage area.--6.6 sq mi.

Records available.--September 1914 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 650 ft (from topographic map). Prior to Sept. 9, 1944, at datum 2.0 ft higher.

Average discharge.--35 years (1921-56), 47.5 mgd (73.5 cfs).

Extremes.--Maximum discharge during year, 5,480 mgd (8,480 cfs) Nov. 12 (gage height, 13.53 ft), from rating curve extended above 280 mgd by test on model of station site; minimum, 0.67 mgd (1.04 cfs) May 4.

1914-56: Maximum discharge, that of Nov. 12, 1955; minimum, 0.22 mgd (0.34 cfs) Oct. 27, 1953.

Remarks.--Records good except those for periods of doubtful or no gage-height record, which are poor. Since 1925 Hanalei tunnel (see p. 32) has discharged its water into river, and North Wailua and Stable storm ditches have diverted water above station for irrigation in vicinity of Lihue.

Revisions (fiscal years).--WSP 555: 1921.

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Nov. 12

Nov. 13 to June 30

1.0	0.70	3.5	197	1.2	0.59	3.0	94
1.2	2.75	4.0	297	1.3	1.39	3.5	160
1.5	8.2	5.0	540	1.4	2.55	4.0	245
2.0	26	6.0	850	1.6	6.0	5.0	490
2.5	62	7.0	1,220	1.9	14.4	6.0	820
3.0	116			2.2	27.5	7.0	1,220
				2.5	47		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.45	21.5	24.5	22	32.5	26	60	*55	217	47	0.75	25.5
2	24.5	24.5	40	40	15.8	90	42	39	109	30	.75	24
3	16.4	215	27	32.5	13.3	60	32	28.5	65	26	*.75	38.5
4	24	31.5	20.5	39.5	12.2	41	31	25	49	25	.75	46
5	6.7	28	19.3	23.5	11.7	37	*26	25.5	42	21	.94	60
6	168	74	16.4	18.1	11.4	32	24	57	35	19.8	6.6	53
7	29.5	23.5	6.9	25	10.6	27	22	31	28	20	112	76
8	42	29	3.85	22	203	19	21	25	44	18.9	79	29.5
9	20	30	1.91	23	167	17	21	21	31.5	29.5	31	28.5
10	20	37.5	1.79	14.7	53	14	19	23	26.5	19.8	43	38.5
11	7.7	26.5	9.8	13.0	167	12	55	20	25.5	18.4	90	36.5
12	4.1	23.5	1.91	5.6	867	11	280	103	21.5	*22	35.5	28.5
13	3.45	22.5	1.79	2.15	200	15	120	104	18.4	15.3	29.5	24
14	7.8	*60	1.67	8.0	100	14	49	71	18.0	11.8	71	10.4
15	35	63	1.99	1.67	70	14	39	50	18.9	29	67	1.31
16	56	36	9.6	21.5	60	13	47	460	41	15.8	27.5	26
17	45	25	1.67	11.2	300	13	33	424	41	59	20.5	8.2
18	41	32.5	1.55	12.8	200	14	*26	255	21.5	58	17.3	4.4
19	24	71	4.3	5.8	140	250	22	92	18.0	60	27.5	2.55
20	11.3	302	3.0	2.15	100	120	19	65	29.5	38	22.5	1.75
21	2.75	97	6.9	2.15	180	200	17	47	30	30.5	6.8	7.4
22	2.5	42	7.7	2.05	120	110	17	35.5	37	23	22	33
23	2.25	33	5.3	2.15	150	80	14	149	24	17.6	36	38.5
24	2.4	44	5.3	3.45	115	65	70	197	43	6.0	21	37
25	4.0	89	2.8	5.4	65	65	900	358	61	.75	20	8.8
26	13.1	37	2.15	2.25	44	50	240	220	98	.75	31	1.39
27	13.9	32	1.91	2.8	39	42	130	257	103	34	39	9.3
28	9.2	36	1.91	8.0	55	30	85	118	57	24	132	2.85
29	111	39	2.05	*36.5	50	33	130	110	80	18.9	67	1.39
30	35	31.5	33	74	30	53	130	-----	80	6.4	41	1.31
31	41	26.5	-----	20	-----	110	70	-----	58	-----	42	-----
Total	826.00	1,683.5	262.45	502.92	3,577.5	1,677	2,791	5,465.5	1,571.3	744.20	1,141.64	704.03
Mean:												
mgd	26.6	54.3	8.75	16.2	119	54.1	90.0	119	50.7	24.8	36.8	23.5
cfs	41.2	84.0	13.5	25.1	184	83.7	139	184	78.4	38.4	56.9	36.4
Ac-ft	2,530	5,170	805	1,540	10,980	5,150	8,570	10,630	4,820	2,280	3,500	2,160
Calendar year 1955:	Max 667				Min 1.55	Mean(mgd) 44.6	Mean(cfs) 69.0	Ac-ft 49,940				
Fiscal year 1955-56:	Max 900				Min 0.75	Mean(mgd) 51.8	Mean(cfs) 80.1	Ac-ft 58,140				

Peak discharge (base, 1,200 mgd).--Nov. 12 (10 a.m.) 5,480 mgd (8,480 cfs), 13.53 ft; Dec. 19 (4 p.m.) 1,600 mgd (2,480 cfs), 7.88 ft; Jan. 11 (10:30 p.m.) 1,420 mgd (2,200 cfs), 7.47 ft; Jan. 25 (11 a.m.) 3,600 mgd (5,570 cfs), 11.45 ft; Feb. 16 (2 p.m.) 2,100 mgd (3,250 cfs), 8.87 ft; Feb. 25 (2:50 a.m.) 1,380 mgd (2,140 cfs), 7.35 ft.

* Discharge measurement made on this day.

Note.--Doubtful or no gage-height record Nov. 13 to Feb. 1, Apr. 24-27, Apr. 30 to May 4; discharge estimated on basis of recorder graph and records for station near Kapaa and nearby streams.

Wailua ditch near Kapaa

Location.--Lat 22°04'25", long 159°24'05", on right bank 2,000 ft downstream from Wailua Reservoir, 5.2 miles west of Kapaa, and 7 miles north of Lihue.

Records available.--November 1936 to June 1956 in reports of Geological Survey. April 1932 to November 1936 in files of East Kauai Water Co.

Gage.--Water-stage recorder. Altitude of gage is 462 ft (by estimating slope of 2,000-foot length of ditch on basis of levels by Lihue Plantation Co.).

Average discharge.--19 years (1937-56), 11.0 mgd (17.0 cfs).

Extremes.--1936-56: Maximum daily discharge, 41 mgd (63 cfs) June 4, 1937; no flow at times.

Remarks.--Records fair. Ditch diverts water from North Fork Wailua River to reservoir 2,000 ft above station and thence to fields for irrigation of sugarcane. Flow regulated by gates at reservoir.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	14.7	19.5	34	9.9	0.84	0.72	0.30	0.12	0.33	0	4.9	13.2
2	8.4	27.5	20	9.9	.96	.72	.30	.12	.36	0	5.1	13.2
3	8.9	26.5	10.4	15.1	.96	.66	.30	.12	.42	0	5.2	13.8
4	8.9	25	10.4	20	.96	.60	.30	.12	.48	0	5.3	14.3
5	14.1	26.5	10.4	11.6	1.02	.54	.30	.12	.36	0	5.5	11.6
6	18.6	14.3	18.0	2.05	.96	.54	.40	.18	.36	0	5.6	8.9
7	18.8	10.4	29	1.97	.96	.60	.36	.18	.36	0	5.8	8.4
8	14.9	18.1	31.5	1.90	.96	.60	.36	.18	.36	0	5.8	7.9
9	11.0	26.5	20	1.97	.96	.66	.30	.18	.36	0	5.9	7.9
10	11.6	26.5	10.4	2.4	.90	.60	.30	.18	.30	0	5.7	7.9
11	19.6	27.5	10.4	2.75	.90	.60	.30	.18	.30	0	5.6	7.9
12	27.5	34.5	18.7	10.6	1.07	.60	.24	.24	.36	0	5.6	7.4
13	30.5	19.2	26.5	18.8	.78	.60	.24	.30	.24	0	5.6	15.9
14	29	*11.6	27.5	14.7	.72	.54	.24	.30	.30	4.2	5.7	26.5
15	20.5	15.4	27.5	9.9	.72	.54	.24	.30	.30	5.8	6.4	26.5
16	11.6	22.5	18.6	9.9	.78	.42	.12	.36	.30	5.9	5.7	19.0
17	11.6	29	10.4	16.2	.84	.36	.18	.30	.30	5.2	5.3	12.1
18	11.6	33	10.4	23.5	.90	.36	.24	.36	.30	*4.3	5.1	13.2
19	21.5	23.5	18.7	21	.90	.36	.12	.30	.30	4.0	5.0	13.8
20	30.5	9.9	25	14.3	.90	.36	0	.30	.30	3.9	5.0	13.8
21	33	9.9	25	11.6	.90	.36	0	.36	.30	3.8	5.0	13.2
22	26.5	21.5	23.5	11.0	.96	.36	0	.42	.30	3.7	5.1	13.2
23	13.3	33	14.4	11.0	.96	.36	0	4.5	.30	3.55	5.3	13.2
24	10.4	34.5	8.4	*14.7	.96	.36	.04	3.6	.30	3.4	5.6	13.2
25	20.5	31.5	7.4	21	.96	.42	1.78	.55	.30	6.2	5.6	12.6
26	30.5	18.6	12.8	25	.96	.42	.24	.30	0	7.7	5.6	13.2
27	31.5	10.4	18.8	25	.96	.42	.18	.30	0	4.9	5.6	13.8
28	33	10.4	18.8	14.3	.96	.42	.18	.30	0	5.1	*5.6	14.3
29	29	17.7	18.8	7.7	.96	.42	.18	.30	0	5.0	5.6	*13.8
30	15.8	25	14.1	5.0	.90	.36	.18	-----	0	4.8	5.6	13.8
31	11.6	30.5	-----	.72	-----	.39	.18	-----	0	-----	10.5	-----
Total	599.1	689.9	549.8	365.46	27.47	15.27	8.10	15.09	8.19	81.45	174.9	397.5
Mean:	19.3	22.3	18.3	11.8	0.916	0.493	0.261	0.520	0.264	2.72	5.64	13.2
cfs	29.9	34.5	28.3	18.3	1.42	0.763	0.404	0.805	0.408	4.21	8.73	20.4
Ac-ft	1,840	2,120	1,690	1,120	84	47	25	46	25	250	537	1,220
Calendar year 1955: Max	34.5				Min 0	Mean(mgd)	8.33	Mean(cfs)	12.9	Ac-ft	9,330	
Fiscal year 1955-56: Max	34.5				Min 0	Mean(mgd)	6.01	Mean(cfs)	12.4	Ac-ft	9,000	

* Discharge measurement made on this day.

North Fork Wailua River near Kapaa

Location.--Lat 22°02'55", long 159°22'25", on right bank 1.1 miles upstream from confluence with South Fork, 4.0 miles southwest of Kapaa, and 5.0 miles north of Linue.

Drainage area.--18.7 sq mi.

Records available.--July 1952 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 30 ft (from topographic map).

Extremes.--Maximum discharge during year, 34,400 mgd (53,200 cfs) Nov. 12 (gage height, 19.88 ft in gage well, 20.8 ft from floodmarks), from rating curve extended above 930 mgd on basis of slope-area determination at gage height 19.88 ft; minimum, 4.3 mgd (6.6 cfs) Sept. 10.
1952-56: Maximum discharge, that of Nov. 12, 1955; minimum, 1.37 mgd (2.12 cfs) Oct. 28, 1953.

Remarks.--Records good except those for period of doubtful or no gage-height record, which are poor. Wailua ditch diverts water between this station and station at altitude 650 ft.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.2	4.6	4.0	430
1.4	9.7	4.5	620
1.6	17.0	5.0	860
1.8	27	6.0	1,470
2.0	40	7.0	2,300
2.5	91	8.0	3,400
3.0	171	10.0	6,150
3.5	285		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	7.7	27.5	32	42	82	65	120	120	340	140	36	59
2	17.3	14.5	78	68	58	210	85	100	220	80	35.5	47
3	26	295	37.5	45	56	180	70	85	150	65	39	61
4	26	46	29.5	65	42	100	70	75	110	60	37.5	75
5	30	23.5	29.5	41	40	90	60	75	100	55	35.5	96
6	249	82	18.6	44	40	85	55	100	85	50	47	96
7	49	39	6.2	49	38.5	80	50	80	80	50	179	156
8	21.5	43	5.1	50	266	65	45	70	90	45	155	84
9	39	39.5	5.1	54	377	70	50	65	80	70	89	65
10	48	30.5	4.9	41	160	55	*50	70	70	55	75	73
11	31.5	24.5	8.2	38.5	303	50	280	70	65	50	168	71
12	10.2	24.5	5.3	31.5	*2730	42	700	170	55	*65	85	64
13	7.5	21	5.1	14.7	350	50	320	170	50	49	75	49
14	7.7	76	4.9	10.9	180	44	120	140	50	38.5	93	45
15	21.5	96	5.1	8.0	120	44	100	100	55	59	119	15.9
16	60	73	6.8	17.9	110	42	*110	1,000	90	49	79	27.5
17	76	31	5.6	32.5	440	42	75	800	85	75	60	13.8
18	70	22	5.3	14.5	300	48	65	500	55	143	46	14.2
19	32.5	69	5.6	7.2	220	480	60	200	50	137	56	11.4
20	20.5	470	6.3	6.9	180	300	50	160	70	103	65	16.6
21	6.4	172	27	12.8	300	400	46	120	65	93	41	36.5
22	5.8	70	89	14.6	200	250	44	100	75	79	48	54
23	6.7	30.5	96	16.6	240	150	38	280	60	72	65	65
24	6.7	*22.5	51	15.7	170	120	280	400	80	59	48.5	69
25	6.7	110	37.5	11.0	120	120	4,750	950	120	37	48	37
26	13.9	58	24	15.3	95	95	1,100	440	190	25	54	11.4
27	6.2	45	11.9	14.6	90	75	550	500	210	67	54	19.4
28	12.5	55	5.1	13.5	110	55	250	240	120	85	205	15.3
29	72	61	4.9	100	100	65	400	220	160	70	130	*20.5
30	34.5	37	47	*274	70	110	400	-----	160	53	73	18.9
31	50	7.2	-----	95	-----	240	200	-----	120	-----	93	-----
Total	1,072.3	2,215.7	698.2	1,264.7	7,587.5	3,832	10,593	7,400	3,310	2,078.5	2,434.0	1,487.4
Mean:												
mgd	34.6	71.5	23.3	40.8	253	124	342	255	107	69.3	78.5	49.6
cfs	53.5	111	36.1	63.1	391	192	529	395	166	107	121	76.7
Ac-ft	3,290	6,800	2,140	3,880	23,290	11,760	32,510	22,710	10,160	6,380	7,470	4,560

Calendar year 1955: Max 2,730 Min 4.9 Mean(mgd) 93.2 Mean(cfs) 144 Ac-ft 104,400
Fiscal year 1955-56: Max 4,750 Min 4.9 Mean(mgd) 120 Mean(cfs) 186 Ac-ft 135,000

Peak discharge (base, 1,100 mgd)--Nov. 12 (11:30 a.m.) 34,400 mgd (53,200 cfs), 19.88 ft; Dec. 19 (5 p.m.) 3,920 mgd (6,070 cfs), 8.40 ft; Dec. 31 (11:30 a.m.) 2,820 mgd (4,360 cfs), 7.50 ft; Jan. 11 (11 p.m.) 2,930 mgd (4,530 cfs), 7.62 ft; Jan. 25 (9 a.m.) 21,600 mgd (33,400 cfs), 16.50 ft; Feb. 16 (6:30 p.m.) 5,700 mgd (8,820 cfs), 9.68 ft; Feb. 25 (11 a.m.) 3,660 mgd (5,660 cfs), 8.16 ft.

* Discharge measurement made on this day.

Note.--Doubtful or no gage-height record Nov. 12 to Apr. 12; discharge estimated on basis of recorded graph, records for station at altitude 650 ft, and nearby streams.

Makaleha ditch near Kealia

Location--Lat 22°06'55", long 159°22'05", on left bank at end of last tunnel from which flow enters Mimino Reservoir, 3.9 miles northwest of Kealia and 4.1 miles northwest of Kapaa.

Records available--December 1936 to June 1956 in reports of Geological Survey. July 1925 to November 1936 in files of East Kauai Water Co.

Gage--Water-stage recorder and Parshall flume. Prior to December 1936, water-stage recorder at site 150 ft downstream at different datum.

Average discharge--19 years (1937-56), 4.07 mgd (6.30 cfs).

Extremes--1936-56: Maximum daily discharge, 17.9 mgd (27.7 cfs) Oct. 31, 1954, Aug. 3, 20, 1955; minimum daily, 0.02 mgd (0.03 cfs) Nov. 28, 1942, Sept. 24-26, 1944, Aug. 31, 1947, Dec. 28, 1952, Sept. 17-21, 1953.

Remarks--Records good. Ditch diverts water from Makaleha Stream for irrigation of sugarcane. Diversion is regulated by headgates.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	9.9	8.5	8.1	7.8	0.98	0.20	1.28	0.68	0.49	1.06	9.3	12.0
2	12.4	7.7	12.4	9.8	.53	.27	.64	2.35	.39	.49	8.8	10.9
3	9.5	17.9	6.4	10.4	.36	.25	.36	.86	.34	.34	8.3	12.0
4	7.8	6.8	5.8	10.4	.27	.20	.31	.57	.31	.25	8.3	12.0
5	6.9	7.9	6.0	7.8	.22	.17	.25	.46	.25	.22	11.4	12.0
6	11.4	9.6	5.5	6.9	.17	.20	.20	.52	.25	.22	12.0	12.0
7	9.3	6.9	5.2	8.8	.14	.20	.17	.42	.22	.22	12.0	12.0
8	11.9	10.5	8.0	8.3	.85	.17	.14	.39	.70	.17	12.0	12.0
9	7.4	11.0	5.0	7.8	2.9	.14	.16	.34	.62	2.2	11.4	10.4
10	6.9	15.8	4.9	6.0	1.40	.14	.16	.44	.36	6.9	10.9	11.4
11	6.4	10.7	8.9	5.8	3.55	.22	.34	.36	.34	7.8	12.6	10.9
12	8.3	8.0	5.8	5.4	12.6	1.92	.26	1.33	.31	8.8	12.0	11.4
13	9.8	10.3	8.2	5.2	3.85	.57	.17	2.55	.28	8.5	10.4	9.8
14	9.8	14.2	6.9	5.7	1.66	.57	.10	1.29	.25	8.3	11.4	10.4
15	10.4	13.1	6.1	5.2	.88	3.6	.08	.92	.25	9.3	12.0	10.1
16	11.4	11.4	10.0	9.5	.75	.11	.08	5.1	.40	9.3	10.4	10.4
17	15.4	11.2	5.4	7.4	.92	.08	.08	3.7	.55	9.3	8.8	10.4
18	11.8	15.6	5.0	5.5	.77	.08	.08	2.55	.31	*9.8	8.3	10.9
19	9.8	15.3	5.5	5.5	.79	1.26	.05	1.34	.34	10.9	10.9	10.9
20	10.4	17.9	7.9	5.4	.57	1.48	.08	.88	.31	10.4	12.0	10.4
21	7.8	11.4	10.8	5.0	.75	.72	3.55	.64	.31	7.4	10.4	10.9
22	6.6	7.8	10.1	5.1	.72	.57	5.9	.46	.31	.92	12.6	12.0
23	5.9	6.9	16.1	5.8	.81	.37	3.9	.52	.22	6.0	12.6	12.0
24	6.4	7.1	13.6	7.4	.78	.31	2.2	.39	.20	8.8	12.0	12.0
25	9.4	14.2	10.1	9.5	.60	.25	14.7	6.0	.17	8.5	10.4	9.3
26	10.8	7.6	7.4	7.8	.46	.22	7.1	1.82	.20	8.5	10.4	8.3
27	12.5	7.4	7.8	7.8	.34	.20	3.35	1.14	.17	10.4	9.8	11.4
28	9.9	9.3	6.4	7.9	.31	.17	1.50	.75	.14	12.6	13.1	8.3
29	12.4	11.7	6.4	11.3	.22	.14	2.65	.64	.12	12.0	12.0	7.4
30	8.8	8.3	9.2	11.0	.20	.17	2.15	-----	.79	10.9	11.4	7.8
31	9.8	6.9	-----	*2.05	-----	4.4	1.10	-----	1.18	-----	12.0	-----
Total	296.8	326.7	231.9	224.85	39.45	29.57	53.02	39.41	11.08	190.09	339.9	321.7
Mean:	9.57	10.5	7.73	7.25	1.32	0.954	1.71	1.36	0.357	6.34	11.0	10.7
mgd	14.8	16.2	12.0	11.2	2.04	1.48	2.65	2.10	0.552	9.81	17.0	16.6
cfs	911	1,000	712	690	121	91	163	121	34	583	1,040	987
Ac-ft												

Calendar year 1955: Max 17.9 Min 0.06 Mean(mgd) 5.16 Mean(cfs) 7.88 Ac-ft 5,780
 Fiscal year 1955-56: Max 17.9 Min 0.05 Mean(mgd) 5.75 Mean(cfs) 8.90 Ac-ft 6,450

* Discharge measurement made on this day.

Kapahi ditch near Kealia

Location.--Lat 22°06'00", long 159°22'30", on right bank 500 ft downstream from intake and 4.0 miles west of Kealia.

Records available.--April 1909 to May 1914, May 1915 to June 1956.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 360 ft (by barometer). Prior to Nov. 26, 1936, water-stage recorder at site 61 ft upstream at datum 2.52 ft higher.

Average discharge.--38 years (1917-20, 1921-56), 5.09 mgd (7.88 cfs).

Extremes.--1909-56: Maximum daily discharge, 89.2 mgd (138 cfs) Feb. 6, 1913; no flow at times.

Remarks.--Records good except those for periods of no gage-height record and period of indefinite stage-discharge relation, which are poor. Ditch diverts water from Kapaa River for irrigation in vicinity of Kapaa. Flow regulated by headgates.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.4	2.75	3.1	4.1	0.10	1.17	1.58	0	0.35	0.16	2.9	6.4
2	2.45	2.9	4.7	1.67	.19	.89	3.25	.03	.23	1.71	2.5	4.4
3	.19	3.9	3.25	4.7	.19	.23	2.2	0	.23	1.94	3.25	3.45
4	.19	2.25	2.95	4.5	.19	.19	.16	0	.19	2.15	3.7	4.8
5	2.3	4.7	2.95	3.5	.16	.16	.16	0	.44	2.15	2.15	3.35
6	7.5	1.56	2.65	2.45	.13	1.06	.16	0	.19	1.52	.33	4.2
7	4.0	.19	2.65	1.54	.10	1.05	.56	0	.56	.27	.72	5.0
8	4.5	3.0	2.55	.19	.16	.70	.56	0	.22	.27	2.7	4.9
9	3.05	5.4	2.65	.78	.16	1.93	.60	0	.13	1.90	4.7	4.7
10	2.65	6.5	2.55	1.90	.13	1.41	.60	0	.13	3.0	4.7	5.2
11	2.45	5.1	6.2	1.99	.13	.27	.02	0	.13	3.85	5.7	4.6
12	2.95	5.7	3.25	2.35	.06	1.01	0	0	.13	2.15	3.05	5.3
13	3.6	1.44	3.9	2.85	.02	1.00	0	0	1.67	1.69	.69	3.9
14	5.6	.19	3.05	2.95	.07	1.59	0	0	0	.39	3.6	4.0
15	6.8	4.3	2.75	2.85	.10	2.75	0	0	.10	.19	2.25	4.4
16	2.8	5.0	4.9	1.67	.10	4.7	0	0	.67	1.98	2.15	3.9
17	.19	4.9	2.75	3.65	.04	2.6	0	0	0	e2.3	2.95	2.35
18	4.5	6.6	2.55	3.25	.04	1.99	0	0	0	e2.3	3.35	3.3
19	4.6	1.85	2.55	3.05	.10	1.39	0	0	.25	e4.0	2.95	2.9
20	4.0	5.0	4.8	2.85	.07	.10	0	0	.44	1.24	.45	3.95
21	3.35	1.61	7.0	2.65	.07	.10	1.0	0	.19	.40	3.7	4.4
22	2.95	4.0	3.1	2.55	.04	.10	2.0	0	1.71	.31	4.8	6.4
23	2.75	3.35	1.62	2.65	.13	.07	2.0	0	1.50	2.1	5.5	3.65
24	2.75	3.25	.23	3.25	.13	.16	.35	0	.27	4.6	5.6	.19
25	3.4	4.4	.19	*6.0	.13	.23	1.0	0	.27	4.5	3.8	3.45
26	4.6	3.6	4.0	4.3	.13	.86	.37	0	.27	4.4	3.15	3.6
27	4.6	3.15	4.5	6.2	.13	2.45	.07	0	.51	2.7	.59	4.6
28	4.4	3.8	3.9	2.05	.13	2.45	.02	.26	.27	.31	3.9	3.45
29	6.7	5.0	4.2	.40	.60	2.35	.04	.50	.27	.27	5.5	3.15
30	4.3	3.8	8.9	1.58	1.19	1.56	.02	-----	.31	1.60	5.7	1.66
31	2.25	3.25	-----	.06	-----	2.85	0	-----	.40	-----	6.4	-----
Total	109.77	110.54	104.34	84.48	4.92	39.37	16.72	0.79	12.03	56.35	103.43	119.55
Mean	3.54	3.57	3.48	2.73	0.164	1.27	0.539	0.027	0.388	1.88	3.34	3.98
mgd	5.48	5.52	5.38	4.22	0.254	1.96	0.834	0.042	0.600	2.91	5.17	6.16
cfs	337	339	320	259	15	121	51	2.4	37	173	317	367
Ac-ft												
Calendar year 1955: Max	13.2			Min	0.02	Mean(mgd)	2.83	Mean(cfs)	4.38	Ac-ft	3,170	
Fiscal year 1955-56: Max	8.9			Min	0	Mean(mgd)	2.08	Mean(cfs)	3.22	Ac-ft	2,340	

* Discharge measurement made on this day.

e Stage-discharge relation indefinite; discharge estimated on basis of records for Kapaa River.

Note.--No gage-height record Jan. 8-25; discharge estimated on basis of records for Kapaa River.

Kapaa River at Kapahi ditch intake, near Kapaa

Location.--Lat 22°06'05", long 159°22'30", on right bank 4 miles northwest of Kapaa and 4.5 miles northwest of Wailua.

Drainage area.--3.3 sq mi.

Records available.--July 1936 (corrected) to June 1956.

Gage.--Water-stage recorder and masonry control. Altitude of gage is 365 ft (by barometer).

Average discharge.--20 years, 13.7 mgd (21.2 cfs).

Extremes.--Maximum discharge during year, 4,960 mgd (7,670 cfs) Jan. 25 (gage height, 5.34 ft), from rating curve extended above 330 mgd by logarithmic plotting; no flow many times.

1936-56: Maximum discharge, that of Jan. 25, 1956; no flow at times.

Remarks.--Records good except those above 330 mgd, which are fair. Entire low flow is diverted into several ditches above station. Records do not include flow of Kapahi ditch (see preceding page).

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

-0.03	0	0.8	54
0.0	.10	1.0	90
.1	.74	1.2	140
.2	2.55	1.7	320
.3	6.1	2.0	470
.4	11.5	2.5	810
.5	18.9	3.0	1,270
.6	28.5		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	0.55	0	0.14	24.5	10.2	21	15.2	20.5	27	1.48	0.92
2	3.55	0	2.9	6.2	12.2	26.5	11.5	80	15.7	12.2	1.52	0
3	3.1	104	0	1.10	10.3	25	10.3	18.1	13.6	10.3	.62	3.85
4	2.55	3.6	0	4.6	9.7	13.6	11.5	15.0	12.9	9.7	0	3.6
5	.52	0	0	.73	9.1	12.2	10.9	17.3	13.6	9.7	4.4	8.9
6	33.5	2.15	0	.99	8.6	11.5	10.3	48	13.6	12.2	10.7	8.2
7	.17	2.85	0	3.5	8.0	10.3	9.1	26	20	15.0	14.9	11.6
8	1.20	.95	0	3.75	46	10.3	9.1	17.3	41	11.5	17.4	4.8
9	0	.83	0	3.05	72	9.1	12.9	14.3	22	11.7	2.55	0
10	0	.26	0	1.30	23.5	11.3	7.5	20.5	15.0	2.95	.61	1.31
11	0	0	.34	1.14	196	16.3	80	15.0	17.3	.25	7.6	2.25
12	0	0	0	.66	554	7.7	139	64	13.6	5.9	4.1	2.0
13	0	3.95	0	0	44	5.4	72	64	7.9	1.85	3.4	0
14	.68	9.2	0	0	27.5	1.12	17.3	35	14.3	2.55	1.83	0
15	5.1	2.15	0	0	19.8	1.40	29	27	13.6	9.4	10.4	0
16	6.6	.11	0	6.0	27	2.6	17.3	248	16.8	3.5	2.3	2.75
17	6.1	0	0	1.65	42	5.6	12.9	152	29	12.4	.75	2.35
18	.69	1.75	0	0	34	6.1	10.9	79	13.6	12.5	0	6.6
19	.02	7.8	0	0	31.5	187	9.9	28.5	11.6	39.5	3.9	5.1
20	0	21	1.43	0	21	41	10.3	22.5	18.9	16.4	4.1	1.66
21	0	4.5	3.35	0	45	24.5	6.6	21	16.3	17.0	0	6.4
22	0	0	78	0	28.5	20.5	4.4	15.7	19.8	15.0	13.3	9.9
23	0	0	29	0	37	13.6	4.4	36	11.5	4.0	18.7	11.1
24	0	0	10.9	1.25	30.5	13.6	79	31	20.5	.05	1.75	.75
25	0	2.05	6.6	1.20	17.3	12.9	1,210	366	14.2	0	.19	.90
26	0	.23	1.02	0	14.3	10.9	165	56	22	0	.47	0
27	0	0	0	0	13.6	8.6	72	54	20.5	13.3	5.8	1.22
28	0	0	0	2.75	21	*8.0	25.5	29.5	15.0	19.4	24	0
29	0	.29	0	20	15.0	7.5	139	22.5	19.4	7.0	5.7	0
30	0	0	5.1	372	10.9	12.2	39.5	-----	40	3.4	1.55	1.36
31	1.62	0	-----	*21	-----	313	18.8	-----	33	-----	5.8	-----
Total	65.40	168.22	138.64	453.01	1,563.8	857.52	2,277.9	1,638.4	576.7	305.65	169.82	104.27
Mean:												
mgd	2.11	5.43	4.62	14.6	52.1	27.7	73.5	56.5	18.6	10.2	5.48	3.48
cfs	3.26	8.40	7.15	22.6	80.6	42.9	114	87.4	28.8	15.8	8.48	5.38
Ac-ft	201	516	425	1,390	4,800	2,630	6,990	5,030	1,770	938	521	320

Calendar year 1955: Max 564 Min 0 Mean(mgd) 17.6 Mean(cfs) 27.2 Ac-ft 19,720
Fiscal year 1955-56: Max 1,210 Min 0 Mean(mgd) 22.7 Mean(cfs) 35.1 Ac-ft 25,530

Peak discharge (base, 1,400 mgd).--Nov. 12 (12 m.) 3,570 mgd (5,520 cfs), 4.65 ft; Dec. 19 (5 p.m.) 1,710 mgd (2,650 cfs), 3.39 ft; Dec. 31 (11:30 a.m.) 2,550 mgd (3,950 cfs), 4.00 ft; Jan. 25 (3 a.m.) 4,960 mgd (7,670 cfs), 5.34 ft; Feb. 16 (5:30 p.m.) 2,550 mgd (3,950 cfs), 3.97 ft; Feb. 25 (10 a.m.) 2,400 mgd (3,710 cfs), 3.91 ft.

* Discharge measurement made on this day.

Anahola ditch wasteway near Kealia

Location.--Lat 22°08'10", long 159°22'30", on right bank 300 ft downstream from wasteway gates on Anahola ditch, 500 ft north of Kaneha Reservoir, 3.8 miles west of Anahola, and 4.9 miles northwest of Kealia.

Records available.--July (corrected) 1936 to June 1956.

Gage.--Water-stage recorder and sharp-crested weir. Datum of gage is 820 ft above mean sea level (by hand levels from East Kauai Water Co bench mark).

Average discharge.--20 years, 3.42 mgd (5.29 cfs).

Extremes.--1936-56: Maximum daily discharge, 54 mgd (84 cfs) Nov. 12, 1955; no flow at times.

Remarks.--Records good except those for period of no gage-height record, which are poor. Water that passes station flows into Kaupaku Stream and thence into Anahola River 2 miles below the Anahola River station.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.06	0.03	0.18	0.12	a9.0	4.0	7.1	1.71	1.71	11.6	3.85	6.7
2	.12	0	.18	.12	a3.85	16.9	4.5	4.2	1.58	5.2	3.3	4.2
3	.12	.02	.18	.12	a3.5	9.4	3.75	1.66	1.45	4.4	1.28	5.7
4	.18	0	.18	.18	3.15	4.6	3.3	1.45	1.45	4.0	.18	*7.1
5	.12	0	.18	.12	2.8	3.85	3.15	1.45	1.45	4.0	.18	5.6
6	.12	0	.18	.12	2.5	3.65	2.9	1.71	1.45	7.1	.06	4.9
7	0	0	.18	.18	2.35	3.3	2.65	1.58	4.7	3.9	.12	.34
8	0	0	.18	.12	18.6	3.15	2.8	1.45	12.3	4.0	4.3	2.75
9	0	0	.15	.12	25	2.8	5.0	1.32	7.4	8.5	6.2	6.1
10	0	0	.12	.12	9.3	9.1	2.8	2.6	5.9	2.45	6.1	5.6
11	0	0	.12	.12	15.5	8.2	25.5	1.58	7.4	.26	15.6	5.8
12	0	0	.12	.12	54	3.3	33.5	2.65	4.4	.26	5.2	2.2
13	0	.01	.12	.12	19.4	1.42	21.5	3.15	4.2	.26	4.6	.26
14	0	.02	.12	.12	11.3	.26	7.4	2.0	6.4	.26	.87	.26
15	0	.02	.12	.06	9.0	.26	13.3	1.85	4.6	.34	.18	.26
16	.02	.02	.12	.12	8.7	.26	7.8	6.9	13.7	.26	.18	.26
17	0	.06	.12	.12	27	.26	5.0	5.7	12.3	.34	.12	.26
18	0	7.5	.12	.12	14.9	.26	4.2	3.3	5.0	.26	.12	.26
19	0	16.0	.12	.18	14.6	20.5	3.85	2.5	8.3	.26	.18	.26
20	.06	16.8	.12	.18	9.3	13.4	3.5	2.15	14.7	11.1	.12	.26
21	.06	5.0	.18	.26	15.9	6.9	3.5	2.0	10.1	8.0	.12	.26
22	.06	3.0	.89	.26	11.4	5.4	3.3	1.85	11.3	5.4	4.3	.26
23	.06	2.35	6.8	.26	13.0	4.1	3.15	2.35	7.0	4.2	18.6	.26
24	.12	.60	8.1	.34	8.5	3.85	16.3	2.2	11.0	3.65	6.2	.26
25	.18	.18	5.0	.26	6.2	3.5	33	7.8	8.2	.86	5.4	.26
26	.18	.18	1.33	.18	5.2	3.5	6.9	2.5	12.4	.26	4.0	.26
27	.12	.18	.18	.26	4.8	3.15	3.35	2.55	10.3	.18	5.3	.26
28	.06	.26	.18	.18	13.8	2.8	2.15	2.0	6.9	.61	14.6	.18
29	.04	.26	.18	2.75	6.3	2.65	4.4	1.85	11.1	.12	9.8	.18
30	.06	.26	.15	20.5	4.4	7.4	2.65	-----	15.7	4.3	8.6	.18
31	.06	.26	-----	*6.9	-----	26	2.0	-----	12.3	-----	10.8	-----
Total	1.80	53.01	23.90	34.73	353.25	178.12	244.20	76.01	236.69	96.33	140.46	61.43
Mean:	0.058	1.71	0.797	1.12	11.8	5.75	7.88	2.62	7.64	3.21	4.53	2.05
mgd	0.090	2.65	1.23	1.73	18.3	8.90	12.2	4.05	11.8	4.97	7.01	3.17
cfs	5.5	163	73	107	1,080	547	749	233	726	296	431	189
Ac-ft												
Calendar year 1955.	Max	54	Min	0	Mean(mgd)	4.60	Mean(cfs)	7.12	Ac-ft	5,160		
Fiscal year 1955-56;	Max	54	Min	0	Mean(mgd)	4.10	Mean(cfs)	6.34	Ac-ft	4,800		

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby stations.

Anahola ditch above Kaneha Reservoir, near Kealia

Location.--Lat 22°08'00", long 159°22'30", on left bank at point of discharge into Kaneha Reservoir, 500 ft below wasteway gates and 5 miles northwest of Kealia.

Records available.--December 1921 to June 1956. May 1915 to December 1921 at site 0.3 mile upstream; records not equivalent owing to diversion.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 821.8 ft above mean sea level (Lihue Plantation bench mark). Dec. 9, 1921, to June 2, 1934, at site 480 ft upstream at different datum.

Average discharge.--33 years (1921-25, 1927-56), 3.22 mgd (4.98 cfs).

Extremes.--1921-56: Maximum daily discharge, 40 mgd (62 cfs) Nov. 12, 1947; no flow at times.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Ditch diverts water from Anahola River to Kaneha Reservoir, where it is stored for irrigation. Flow sometimes diverted by Anahola ditch wasteway (see preceding page).

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.7	3.7	4.0	2.45	0.99	.06	0.09	0.06	0.06	0.16	0.06	0.06
2	3.95	4.8	8.4	3.9	.09	.06	.09	.14	.06	.12	.04	.09
3	3.85	22.5	3.45	4.2	.09	.06	.12	.06	.06	.12	1.55	.09
4	4.4	4.9	3.2	6.2	a.06	.06	.09	.06	.09	.09	2.7	.09
5	3.45	4.1	3.35	3.1	a.06	.06	.06	.06	.09	.09	14.5	.06
6	22.5	3.8	2.8	2.35	a.06	.06	.06	.09	.06	.06	9.4	2.75
7	4.3	3.0	a2.7	4.8	a.06	.06	.06	.06	.06	.50	13.2	14.9
8	5.3	6.4	a2.6	3.8	a.40	.06	.09	.06	.06	.06	8.0	3.2
9	3.0	6.5	a2.5	3.0	a.50	.04	.09	.06	.06	.06	.06	.04
10	2.65	12.2	2.25	2.25	a.12	.04	.06	.06	.06	1.46	.06	.12
11	2.25	7.2	2.45	2.25	1.42	.04	.16	.06	.06	2.9	.06	.04
12	2.85	4.9	2.8	2.1	7.8	.04	.14	.09	.06	4.0	.06	2.8
13	3.5	4.6	3.75	2.0	.16	1.39	.08	.09	.06	3.25	.06	3.55
14	6.1	9.6	2.65	2.0	.12	2.35	.06	.06	.06	2.9	6.0	4.0
15	8.2	7.6	1.82	1.73	.12	2.2	.06	.06	.06	5.6	7.5	4.4
16	11.7	5.8	5.3	4.7	.12	2.1	.06	.16	.04	3.95	3.8	7.2
17	5.7	5.2	1.91	2.65	.09	2.0	.06	.16	.06	8.0	3.2	3.45
18	4.8	8.2	1.73	1.82	.09	2.0	.04	.12	.06	11.0	2.65	5.9
19	3.6	.12	2.05	2.7	.06	1.33	.04	.09	.06	23	8.0	5.2
20	5.5	.12	5.6	2.25	.06	.06	.02	.09	.06	2.65	7.6	3.9
21	2.9	.09	8.7	1.82	.09	.06	.02	.09	.06	.09	4.2	7.1
22	2.45	.09	13.6	1.91	.09	.09	.04	.09	.06	.09	15.7	9.0
23	2.25	.06	9.3	2.2	.09	.06	.04	.06	.06	.09	.06	7.1
24	2.45	2.45	.04	5.6	.06	.04	.28	.06	.06	.09	.06	4.5
25	5.0	7.3	.04	6.3	.06	.06	13.7	.26	.06	2.7	.06	a3.4
26	12.2	3.85	1.83	3.0	.09	.06	.16	.09	.06	2.9	.06	a3.2
27	5.5	3.55	2.8	6.5	.09	.06	.06	.12	.06	4.6	.06	a2.9
28	5.0	7.3	2.35	3.55	.09	.06	.06	.09	.06	16.0	.06	a2.8
29	4.1	9.8	2.1	22	.09	.09	.16	.09	.06	6.9	.06	3.0
30	3.35	8.0	6.8	15.6	.06	.04	.06	-----	.12	1.01	.06	3.1
31	6.9	4.6	-----	.31	-----	.47	.06	-----	.16	-----	.06	-----
Total	162.40	172.33	112.87	129.04	13.28	15.16	16.17	2.64	2.06	104.84	108.95	109.86
Mean	5.24	5.56	3.76	4.16	0.443	0.489	0.522	0.091	0.066	3.49	3.51	3.66
cfs	8.11	8.60	5.82	6.44	0.685	0.757	0.808	0.141	0.102	5.40	5.43	5.66
Ac-ft	498	529	346	396	41	47	50	8.1	6.3	322	334	337

Calendar year 1955: Max 22.5

Min 0

Mean(mgd) 2.57

Mean(cfs) 3.98

Ac-ft 2,870

Fiscal year 1955-56: Max 23

Min 0.02

Mean(mgd) 2.59

Mean(cfs) 4.01

Ac-ft 2,910

a No gage-height record; discharge estimated on basis of records for nearby stations.

Anahola River near Kealia

Location--Lat 22°08'55", long 159°21'20", on right bank just upstream from intake of Lower Anahola ditch and 4.5 miles northwest of Kealia.

Drainage area--5.5 sq mi.

Records available--August to November 1910, December 1910 to November 1912 (fragmentary), December 1912 to June 1956.

Gage--Water-stage recorder and concrete dam and orifice control. Datum of gage is 295.11 ft above mean sea level (Highway Department bench mark). Aug. 22 to Nov. 2, 1910, water-stage recorder, Dec. 15, 1910, to Dec. 29, 1912, staff gage, and Dec. 30, 1912, to May 3, 1934, water-stage recorder, at site an eighth of a mile upstream at different datum.

Average discharge--37 years (1919-56), 13.5 mgd (20.9 cfs).

Extremes--Maximum discharge during year, about 12,700 mgd (19,600 cfs) Jan. 25 (gage height, 14.6 ft, from floodmarks), from rating curve extended above 380 mgd; minimum, 2.65 mgd (4.10 cfs) Sept. 18, 19.

1910, 1912-56: Maximum discharge, that of Jan. 25, 1956; minimum, 1.28 mgd (1.98 cfs) Oct. 27, 1953.

Remarks--Records good prior to Nov. 12, poor thereafter. Anahola ditch diverts water 3 miles above station for irrigation in vicinity of Kealia (see preceding page).

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.3	3.85	3.85	4.6	22	8.7	28	16	21	23	12.2	8.6
2	3.45	4.5	5.5	5.3	13.0	17.9	18.9	80	16	13.4	9.9	6.8
3	3.8	5.2	3.85	5.5	10.9	17.9	15.7	19	14	11.0	8.8	6.8
4	3.3	6.0	3.55	6.4	9.8	12.5	13.9	16	13	9.3	9.0	7.3
5	3.95	4.8	3.8	4.4	8.4	8.4	12.1	18	14	8.8	16.4	*8.4
6	22	4.1	3.45	4.0	7.1	8.0	10.5	50	14	14.5	14.5	11.0
7	4.6	3.85	3.4	5.3	6.7	7.0	9.8	29	20	11.0	17.8	13.4
8	3.8	4.9	3.3	4.8	52	6.4	9.2	18	37	8.4	17.2	8.8
9	3.45	5.8	3.45	4.0	72	6.0	10.1	15	22	11.6	11.6	6.8
10	3.15	8.6	3.1	3.7	*24.5	11.7	8.6	22	14	7.3	9.3	6.1
11	3.0	6.5	2.95	3.55	187	19.5	79	16	15	7.0	25	6.1
12	3.7	5.0	3.0	3.4	619	7.2	110	65	12	7.0	12.2	6.2
13	4.3	4.4	3.3	3.4	59	6.1	44	65	8.0	*6.7	9.3	5.7
14	5.0	7.5	3.1	3.25	38	5.8	22	36	15	6.7	11.0	5.8
15	6.2	6.3	3.1	3.35	26	5.6	25.5	28	15	7.1	9.9	6.2
16	9.3	5.3	4.0	5.5	21	5.9	19.5	240	15	6.8	7.1	6.8
17	5.6	5.2	3.0	4.4	38.5	5.6	15.3	150	25	15.0	6.8	5.6
18	4.4	13.8	2.8	3.4	25.5	5.5	13.4	80	12	17.1	6.7	5.8
19	3.95	20	3.1	3.65	27.5	143	11	32	10	32.5	8.9	6.5
20	5.3	13.2	5.0	4.2	23	31.5	12	25	15	19.2	11.6	5.7
21	3.95	6.5	13.5	3.25	25	17.2	10	23	12.0	13.9	7.0	6.0
22	3.4	5.2	63	3.25	22.5	14.4	9.5	17	16.4	11.0	57	11.6
23	3.25	4.7	39.5	3.3	20	11.7	9.0	35	9.9	8.4	30.5	6.4
24	3.3	*4.1	18.3	4.8	18.3	9.8	70	33	15.6	7.1	12.8	5.8
25	3.8	5.7	11.1	5.7	16.9	8.9	1,000	350	9.3	7.0	8.4	5.2
26	7.1	4.2	7.0	4.4	16.0	10.1	250	57	11.0	6.8	6.7	5.1
27	4.2	3.85	5.7	5.1	15.3	8.6	80	55	9.5	11.4	6.4	5.5
28	4.1	5.1	5.0	5.2	17.5	*7.3	28	30	9.3	53	12.6	5.0
29	3.3	6.8	4.6	80	15.5	7.5	110	23	13.1	24.5	9.9	4.9
30	3.45	5.5	5.2	392	10.0	14.1	40	-----	36	15.1	9.4	4.8
31	3.75	4.6	-----	*25	-----	187	22	-----	30	-----	19.4	-----
Total	149.15	241.85	243.50	617.90	1,465.9	637.4	2,117.0	1,643	494.9	401.6	415.3	204.7
Mean:												
mgd	4.81	7.80	8.12	19.9	48.9	20.6	68.3	56.7	16.0	13.4	13.4	6.82
cfs	7.44	12.1	12.6	30.8	75.7	31.9	108	87.7	24.8	20.7	20.7	10.6
Ac-ft	458	742	747	1,900	4,500	1,960	6,500	5,040	1,520	1,230	1,270	628

Calendar year 1955: Max 619 Min 2.8 Mean(mgd) 17.1 Mean(cfs) 26.5 Ac-ft 19,150

Fiscal year 1955-56: Max 1,000 Min 2.8 Mean(mgd) 23.6 Mean(cfs) 36.5 Ac-ft 26,500

Peak discharge (base, 900 mgd)--Oct. 30 (2 a.m.) 4,370 mgd (6,760 cfs), 8.41 ft; Nov. 12 (10:30 a.m.) 4,970 mgd (7,690 cfs), 8.87 ft; Dec. 19 (4:30 p.m.) 1,070 mgd (1,680 cfs), 5.12 ft; Dec. 31 (11:30 a.m.) 1,540 mgd (2,360 cfs), 5.68 ft; Jan. 25 (time unknown) about 12,700 mgd (19,600 cfs), 14.6 ft; Feb. 16 (time and discharge unknown); Feb. 25 (time and discharge unknown).

* Discharge measurement made on this day.

Note--No gage-height record Jan. 19 to Mar. 20; discharge estimated on basis of records for Kapaa River.

Lower Anahola ditch near Kealia

Location.--Lat 22°08'00", long 159°19'30", on left bank 100 ft downstream from last wastewater, 1.3 miles southwest of mouth of Anahola River, and 2.5 miles northwest of Kealia.

Records available.--December 1936 to June 1956 in reports of Geological Survey. July 1925 to December 1936 in files of East Kauai Water Co.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 276.11 ft above mean sea level (Highway Department bench mark).

Average discharge.--19 years (1937-56), 2.46 mgd (3.81 cfs).

Extremes.--1936-56: Maximum daily discharge, 12.0 mgd (18.6 cfs) June 1, 1938; no flow at times.

Remarks.--Records good. Ditch diverts water from Anahola River for irrigation of sugarcane. Flow regulated by spillways and gates.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.0	3.55	4.7	0	0		0				0	0
2	3.2	3.45	6.8	0	0		0				0	0
3	3.7	4.9	4.7	0	0		0				0	0
4	3.55	4.7	4.2	3.25	0		0				0	*3.0
5	3.55	5.4	4.3	4.8	0		0				0	2.25
6	3.8	5.1	4.1	4.5	0		0				0	2.9
7	4.0	4.7	4.0	3.1	0		0				0	1.60
8	3.75	5.1	3.9	.03	.01		0				0	2.0
9	3.45	6.2	4.0	.03	.01		0				0	.03
10	3.55	6.2	3.8	1.33	0		0				0	.03
11	3.45	6.2	3.7	3.9	.03		0				0	2.75
12	3.25	5.8	3.7	3.9	.03		0				0	3.1
13	3.55	5.3	3.9	3.9	.01		0				0	1.75
14	3.55	5.6	3.8	3.8	0		0				0	1.80
15	3.8	2.5	3.7	3.75	0		0				0	.22
16	4.0	.03	4.2	5.1	0		0				0	.04
17	4.0	.03	3.9	4.7	0		0				0	.03
18	3.7	.03	3.55	4.1	0		0				0	1.74
19	3.4	.03	3.7	4.0	0		0				0	1.89
20	3.7	.03	4.4	4.4	0		0				0	1.65
21	3.45	.03	5.8	3.9	0		0				.36	.07
22	3.2	.03	5.8	3.7	0		0				.01	1.78
23	3.0	.01	3.45	3.7	0		0				0	.04
24	3.0	4.5	.03	4.1	0		0				0	.03
25	3.2	5.0	.03	*4.8	0		.02				0	1.34
26	3.45	2.75	.03	4.6	0		0				0	1.35
27	3.35	.04	.01	4.7	0		0				0	1.45
28	3.35	.03	0	5.1	0		0				0	1.38
29	3.35	3.1	0	6.4	0		0				0	1.29
30	3.4	7.0	0	1.98	0		0				0	.07
31	3.25	5.2	-----	0	-----		0				0	-----
Total	107.95	102.54	98.20	101.57	0.09	0	0.02	0	0	0	0.37	35.58
Mean:												
mgd	3.48	3.31	3.27	3.28	0.003	0	0.001	0	0	0	0.012	1.19
cfs	5.38	5.12	5.06	5.07	0.005	0	0.002	0	0	0	0.019	1.84
Ac-ft	331	315	301	312	0.3	0	0.06	0	0	0	1.1	109
Calendar year 1955:	Max	8.5	Min	0	Mean(mgd)	2.69	Mean(cfs)	4.16	Ac-ft	3,020		
Fiscal year 1955-56:	Max	7.0	Min	0	Mean(mgd)	1.22	Mean(cfs)	1.89	Ac-ft	1,370		

* Discharge measurement made on this day.

Kalihiwai ditch near Kilauea

Location.--Lat 22°10'55", long 159°25'55", on right bank 0.1 mile upstream from Kalihiwai Reservoir and 2.4 miles southwest of Kilauea.

Records available.--June 1934 to June 1956.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 410 ft (by barometer).

Average discharge.--21 years (1934-42, 1943-56), 2.61 mgd (4.04 cfs).

Extremes.--1934-56: Maximum daily discharge, 29.5 mgd (45.6 cfs) July 16, 1937; no flow at times.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Ditch diverts low-water flow from most branches of Pohakuhono Stream at intakes, about 1 mile south of station. Diversion of flow to Kahilihono Stream, 0.1 mile above station, regulated by gates. Water discharges into Kalihiwai Reservoir, where it is stored for irrigation in vicinity of Kilauea.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.96	3.15	3.6	2.05	3.8	0.14	3.9	0.17	5.8	7.1	2.35	3.8
2	2.05	3.05	5.4	3.05	2.95	.14	3.15	.17	5.5	5.5	2.25	3.25
3	1.87	11.8	3.45	3.7	2.65	.11	1.89	.14	4.8	4.1	2.05	5.2
4	1.96	4.3	3.7	4.3	2.35	.11	1.78	.11	4.3	2.35	2.15	7.2
5	1.78	3.6	3.05	3.15	2.15	.11	2.15	.11	3.8	2.25	6.3	7.2
6	15.0	4.6	2.75	2.55	2.05	.11	2.05	.11	3.05	2.35	8.8	8.6
7	4.5	3.25	2.55	2.45	1.96	.11	2.05	.11	2.95	3.4	14.7	*7.4
8	3.25	4.5	2.45	2.25	8.2	.11	1.96	.11	3.05	3.9	9.6	5.5
9	2.65	5.0	2.25	1.96	9.2	.08	1.96	.08	2.5	4.5	4.0	4.9
10	2.45	7.8	2.25	1.87	.70	.08	1.87	.08	2.55	3.8	3.45	5.5
11	2.15	5.4	2.15	1.87	.98	.08	2.8	.08	2.35	3.45	7.0	4.5
12	2.55	4.3	2.35	1.70	2.75	.08	2.75	a.08	2.45	4.5	3.8	4.2
13	2.75	3.9	2.45	1.70	.42	.08	1.96	a.08	2.65	3.35	3.25	3.6
14	2.75	5.3	2.45	2.05	.53	.08	1.54	a.17	2.75	3.25	6.3	3.45
15	6.1	4.8	2.3	1.70	.29	.08	1.62	.11	2.45	6.5	10.8	3.25
16	7.6	4.3	3.7	2.25	.25	.06	1.46	.42	2.8	4.0	4.3	3.7
17	5.3	4.2	2.25	2.2	.33	.06	1.01	.47	3.65	3.9	3.25	3.05
18	4.2	8.6	2.05	1.78	.33	.08	.47	.29	2.75	4.7	2.85	2.95
19	3.5	10.2	2.05	1.70	.29	.22	.47	.21	3.3	5.6	2.85	3.05
20	3.9	11.0	2.75	1.70	.25	.21	.42	.21	4.4	7.1	3.05	2.65
21	3.05	6.8	4.7	1.62	.25	.14	.42	.17	1.52	5.2	3.55	3.15
22	2.75	5.2	14.3	1.70	.25	.14	.42	.14	.70	4.3	14.5	3.6
23	2.55	4.3	8.6	1.78	.25	.14	.42	.14	.64	3.6	7.3	3.55
24	2.65	4.0	5.2	1.96	.29	.14	2.15	.17	.70	3.25	4.0	3.15
25	2.85	6.1	3.9	2.35	.25	.14	6.7	.47	.58	3.05	3.45	2.65
26	4.2	4.2	3.05	1.78	.25	.14	.42	.33	.64	2.95	3.05	2.45
27	3.15	3.6	2.75	*2.95	.21	.14	.25	.33	.58	3.05	3.15	2.85
28	4.5	4.0	2.25	1.96	.21	.14	.25	.25	.58	3.05	4.6	a2.4
29	6.5	6.3	2.05	4.0	.17	.89	.25	2.75	2.65	2.85	3.7	a2.2
30	4.2	5.3	2.05	14.1	.14	5.3	.25	-----	9.2	2.55	3.75	2.05
31	4.1	3.8	-----	4.3	-----	13.9	.25	-----	8.1	-----	4.6	-----
Total	118.77	166.65	104.80	84.48	44.50	23.34	49.04	8.06	93.74	119.45	158.75	120.80
Mean:												
mgd	3.83	5.38	3.49	2.73	1.48	0.753	1.58	0.278	3.02	3.98	5.12	4.03
cfs	5.93	8.32	5.40	4.22	2.29	1.17	2.44	0.430	4.67	6.16	7.92	6.24
Ac-ft	364	511	322	259	137	72	150	25	288	367	487	371
Calendar year 1955:	Max 29		Min 0		Mean(mgd) 3.09		Mean(cfs) 4.78		Ac-ft 3,460			
Fiscal year 1955-56:	Max 15.0		Min 0.06		Mean(mgd) 2.98		Mean(cfs) 4.61		Ac-ft 3,350			

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of probable increase or decrease in flow.

Ka Loko ditch near Kilauea

Location.--Lat 22°10'35", long 159°23'00", on left bank 35 ft downstream from Molooa ditch, 400 ft upstream from Ka Loko Reservoir, and 3.5 miles southeast of Kilauea.

Records available.--August 1932 to June 1956.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 750 ft (from topographic map).

Average discharge.--23 years (1933-56), 3.58 mgd (5.54 cfs).

Extremes.--1932-56: Maximum daily discharge, 63 mgd (98 cfs) Dec. 10, 1935; minimum daily, 0.46 mgd (0.71 cfs) Nov. 21, 22, 1949.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Ditch diverts water from Molooa and Puu Ka Ele Streams, 0.5 mile southeast and 1.5 miles southwest of station, respectively. Water used for irrigation in vicinity of Kilauea. Flow regulated by wasteway gates.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956.

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.39	1.31	1.89	1.63	6.3	1.54	1.63	2.85	2.25	1.96	2.55	3.2
2	1.54	1.39	3.45	2.95	3.15	2.65	1.87	2.95	1.53	1.47	2.35	3.15
3	1.54	13.6	1.80	2.65	2.75	2.75	2.05	2.35	.57	1.47	2.15	3.8
4	1.55	2.05	1.80	3.0	2.45	1.89	1.89	2.25	.52	1.71	2.15	4.0
5	1.57	1.80	1.89	1.89	2.35	1.71	1.71	2.55	1.67	1.89	3.95	3.8
6	2.75	1.63	1.63	1.71	2.15	1.40	1.54	2.95	1.98	2.25	3.9	3.9
7	1.54	1.47	1.54	2.2	2.05	1.29	1.54	2.35	1.80	1.89	3.25	*2.75
8	1.71	2.5	1.54	1.89	17.7	.95	1.47	2.15	2.55	1.71	.95	.95
9	1.51	2.45	1.47	1.80	23.5	1.16	1.47	1.98	2.6	2.05	1.47	1.74
10	1.16	3.95	1.39	1.54	6.2	2.75	1.31	2.65	1.71	1.63	2.45	2.95
11	1.16	2.65	1.31	1.47	15.6	2.5	7.5	2.55	1.54	1.54	2.85	2.95
12	1.54	1.98	1.31	1.39	4.4	1.63	12.7	2.25	1.54	1.54	2.25	2.95
13	1.88	1.71	1.47	1.39	5.0	1.47	5.0	2.35	1.54	1.76	1.98	2.55
14	2.4	3.15	1.47	1.31	3.5	1.31	1.23	a2.7	1.54	2.25	2.25	2.85
15	4.1	2.45	1.31	1.31	2.15	1.23	1.52	a.68	1.39	3.05	1.80	2.85
16	4.9	2.05	2.15	2.65	2.05	1.65	2.55	a4.4	1.71	2.35	2.05	3.9
17	2.35	1.80	1.23	1.54	6.2	2.05	2.8	a5.0	2.15	5.9	2.45	2.65
18	1.71	4.4	1.23	1.31	5.0	1.98	3.05	a4.2	1.47	7.7	2.35	2.95
19	1.54	6.7	1.31	1.62	5.0	11.3	3.05	a3.6	2.36	5.9	2.9	3.35
20	2.35	4.9	4.1	1.54	3.45	5.6	2.75	a3.2	2.35	3.7	2.95	2.75
21	1.47	2.45	9.0	1.31	4.2	3.45	2.45	2.95	1.95	2.15	2.35	3.8
22	1.39	1.98	9.7	1.31	3.35	3.15	1.98	2.65	2.1	1.80	8.7	4.9
23	1.23	1.80	13.2	1.31	4.0	2.65	2.25	2.95	1.47	2.3	2.15	3.25
24	1.39	1.71	4.5	2.45	2.85	2.35	17.7	1.07	1.98	2.45	1.16	2.95
25	1.39	3.45	2.95	2.65	2.35	2.15	19.7	.65	1.54	2.35	1.91	2.45
26	3.15	2.15	2.15	1.71	1.98	2.65	2.85	.57	1.63	2.5	3.05	2.35
27	1.71	1.80	1.89	*1.75	1.89	2.05	3.15	.57	1.63	3.05	3.1	3.25
28	1.39	2.05	1.71	1.76	2.25	1.98	2.75	.57	1.54	3.9	6.4	a2.6
29	1.63	3.85	1.63	13.5	1.80	1.89	2.85	1.98	3.25	1.16	2.15	a2.0
30	1.39	2.9	2.1	29.5	1.54	3.5	2.75	-----	4.5	2.3	1.05	1.98
31	1.75	2.15	-----	4.6	-----	9.5	3.1	-----	2.25	-----	1.46	-----
Total	57.88	90.23	84.12	98.64	186.76	84.53	120.16	69.92	58.60	77.68	82.48	89.52
Mean:												
mgd	1.87	2.91	2.80	3.18	6.23	2.73	3.88	2.41	1.89	2.59	2.66	2.98
cfs	2.89	4.50	4.33	4.92	9.64	4.22	6.00	3.73	2.92	4.01	4.12	4.61
Ac-ft	178	277	258	303	573	259	369	215	180	238	253	275
Calendar year 1955: Max	44			Min	0.95	Mean(mgd)	3.39	Mean(cfs)	5.25	Ac-ft	3,800	
Fiscal year 1955-56: Max	44			Min	0.52	Mean(mgd)	3.01	Mean(cfs)	4.66	Ac-ft	3,380	

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Puu Ka Ele and Kalihiwai ditches.

Puu Ka Ele ditch near Kilauea

Location.--Lat 22°11'05", long 159°24'20", on left bank 200 ft upstream from Puu Ka Ele Reservoir and 2 miles south of Kilauea.

Records available.--August 1932 to June 1956.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 430 ft (by barometer).

Average discharge.--23 years (1933-56), 2.86 mgd (4.43 cfs).

Extremes.--1932-56: Maximum daily discharge, 21 mgd (32 cfs) Sept. 2, 1943; no flow at times each year.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Ditch diverts water from Puu Ka Ele Stream 0.8 mile south of station. Water used for irrigation of sugarcane in vicinity of Kilauea. Flow regulated by wasteway gates.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956.

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.98	2.25	2.85	2.45	0	0	0.87	0	0	0	2.95	4.6
2	1.98	2.35	3.7	3.25	1.28	0	0	0	0	0	2.75	4.0
3	2.25	2.55	2.75	3.15	1.71	0	0	0	0	0	2.65	5.0
4	1.89	0	2.65	3.25	1.54	0	0	0	0	0	2.65	6.2
5	1.98	0	2.75	2.65	1.54	0	0	0	0	0	3.9	5.5
6	2.05	0	2.55	2.55	1.47	0	0	0	0	0	4.7	6.2
7	1.98	0	2.25	2.75	1.39	0	0	0	0	0	8.5	*6.7
8	2.25	0	2.15	2.55	3.6	0	0	0	0	0	6.8	5.2
9	1.98	0	2.05	2.45	1.59	0	0	0	0	0	4.4	4.6
10	1.80	1.35	1.98	2.25	0	0	0	0	0	0	4.3	4.3
11	1.80	2.45	1.98	2.25	1.61	0	2.15	0	0	2.0	7.4	4.1
12	1.89	2.15	2.05	2.15	4.6	0	.76	0	0	3.5	5.5	3.9
13	2.25	2.15	2.05	2.15	0	0	.36	0	0	3.1	4.3	3.45
14	1.98	2.95	1.98	2.05	0	0	.27	0	0	3.1	7.3	3.35
15	2.75	2.55	1.89	1.98	0	0	.55	0	0	3.7	6.6	3.55
16	3.8	2.45	2.15	3.25	0	0	.16	0	0	3.3	4.6	3.8
17	3.55	2.45	1.89	2.25	0	0	0	0	0	4.5	4.0	3.15
18	2.65	3.75	1.80	2.05	0	0	0	0	0	8.0	3.7	3.35
19	2.25	4.8	1.80	2.15	0	.35	0	0	.03	6.2	3.8	3.35
20	2.45	7.2	2.85	2.05	0	0	.12	0	0	4.9	3.9	3.05
21	2.45	3.55	5.6	1.98	0	0	0	0	0	4.0	3.55	3.65
22	2.15	3.05	4.8	1.98	0	0	0	0	0	3.55	12.9	4.9
23	1.98	2.85	8.5	2.15	0	0	0	0	0	3.15	8.5	4.0
24	2.0	2.75	5.2	2.65	0	0	4.4	0	0	2.95	5.5	3.7
25	2.1	4.0	3.8	2.85	0	0	3.85	.23	0	2.85	4.7	3.15
26	3.0	2.95	3.15	2.25	0	0	0	0	0	2.75	4.1	2.85
27	2.5	2.65	2.95	*2.15	0	0	.01	0	0	3.15	3.8	3.7
28	2.2	2.65	2.75	2.4	0	0	0	0	0	5.8	8.5	2.95
29	2.8	3.7	2.65	9.0	0	0	0	0	.40	4.6	5.5	2.85
30	2.35	3.45	2.65	5.0	0	0	0	-----	.20	3.25	4.5	2.55
31	2.7	2.85	-----	0	-----	2.45	0	-----	0	-----	6.0	-----
Total	71.74	75.85	88.17	82.04	20.33	2.80	13.50	0.23	0.63	78.35	162.25	121.25
Mean	2.31	2.45	2.94	2.65	0.678	0.090	0.435	0.008	0.020	2.61	5.23	4.04
cfs	3.57	3.79	4.55	4.10	1.05	0.139	0.673	0.012	0.031	4.04	8.09	6.25
Ac-ft	220	233	271	252	62	8.6	41	0.7	1.9	240	498	372
Calendar year 1955:	Max 10.7			Min 0		Mean(mgd) 2.10		Mean(cfs) 3.25		Ac-ft 2,350		
Fiscal year 1955-56:	Max 12.9			Min 0		Mean(mgd) 1.96		Mean(cfs) 3.03		Ac-ft 2,200		

* Discharge measurement made on this day.

Note.--No gage-height record July 24-28, Mar. 21 to Apr. 19; discharge estimated on basis of recorded range in stage and records for nearby stations.

Hanalei tunnel outlet near Lihue

Location.--Lat 22°05'00", long 159°28'15", on right bank at end of Hanalei tunnel, 2.2 miles downstream from intake on Kaapoko Stream and 9.8 miles northwest of Lihue.

Records available.--July 1932 to June 1956 in reports of Geological Survey. October 1925 to June 1932 in files of Lihue Plantation Co.

Gage.--Water-stage recorder and sharp-crested weir. Altitude of gage is 1,210 ft (from tunnel-profile).

Average discharge.--24 years (1932-56), 19.9 mgd (30.8 cfs).

Extremes.--1932-56: Maximum daily discharge, 64 mgd (99 cfs) Apr. 11, 25, 26, 1942; no flow Aug. 27, 1938, Apr. 4-9, 1945, June 23, 1948.

Remarks.--Records good. Tunnel diverts water from Kaapoko Stream and Hanalei River and empties into North Branch of North Fork Waialua River, from which it is later diverted and used for irrigation in vicinity of Lihue and Kapaa. Flow regulated by spillway and headgates.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.93	0.18	0.39	0.39	0.76	0.39	0.28	0.18	0.63	0.28	0.18	0.28
2	1.42	.18	.51	.78	.51	.39	.28	.28	.39	.28	.18	.28
3	.78	6.1	.39	.64	.39	.39	.18	.18	.28	.28	.18	.28
4	.51	.51	.39	.78	.39	.28	.18	.28	.28	.28	.18	.28
5	.44	.28	.39	.39	.28	.28	.18	.28	.28	.28	.18	.33
6	3.45	2.0	.28	.39	.28	.18	.18	.39	.28	.18	.28	.28
7	.51	.28	.28	.39	.28	.24	.28	.28	.28	.18	.39	.45
8	.51	.39	.28	.39	3.75	.28	.28	.28	.28	.18	.39	.28
9	.39	.39	.28	.28	4.4	.28	.28	.22	.28	.18	.18	.28
10	.39	.78	.28	.18	1.60	.28	.28	.18	.28	.09	.18	.28
11	.39	.51	.39	.18	4.3	.28	.72	.18	.28	.12	.28	.28
12	.28	.39	.39	.18	9.9	.28	.93	.39	.28	.09	.18	.28
13	.18	.51	.39	.09	.93	.28	.51	.39	.28	.09	.18	.28
14	.28	1.27	.28	.28	.39	.28	.28	.28	.28	.09	.18	.28
15	.48	1.26	.28	.18	.28	.39	.39	.28	.28	.09	.28	.28
16	.69	.64	.28	.39	.28	.28	.28	2.15	.28	.18	.18	.51
17	.39	.28	.28	.18	.51	.18	.28	2.7	.28	.41	.18	.39
18	.28	.51	.28	.09	.51	.18	.18	1.20	.28	.43	.18	.39
19	.18	1.65	.39	.18	.39	.64	.18	.51	.28	.28	.18	.39
20	.18	9.1	.39	.18	.28	.39	.18	.39	.39	.18	.18	.28
21	.18	2.2	.28	.18	.39	.44	.18	.28	.28	.18	.28	.28
22	.18	.93	.28	.18	.39	.18	.18	.28	.28	.18	.28	.39
23	.28	.78	.28	.18	.39	.09	.18	.63	.28	.18	.18	.51
24	.28	.93	.28	.28	.28	.09	.72	.51	.28	.18	.18	.51
25	.28	2.05	.28	.39	.28	.09	4.9	1.37	.28	.18	.18	.51
26	.39	.93	.28	.18	.28	.09	1.08	.78	.28	.18	.18	.39
27	.43	.78	.28	.28	.28	.09	.51	.78	.28	.28	.18	.39
28	.18	.93	.18	.28	.39	.18	.28	.51	.28	.28	.71	.28
29	4.0	.78	.18	.51	.39	.28	.28	.39	.28	.28	.28	.28
30	.28	.64	.39	1.66	.28	.28	.28	-----	.28	.28	.28	.28
31	.37	.64	-----	.64	-----	.39	.18	-----	.39	-----	.28	-----
Total	19.50	38.80	9.53	11.30	33.76	8.37	15.10	16.55	9.36	6.37	7.33	10.20
Mean:												
mgd	0.628	1.25	0.318	0.365	1.13	0.270	0.487	0.571	0.302	0.212	0.236	0.340
cfs	0.973	1.93	0.492	0.565	1.75	0.418	0.754	0.883	0.467	0.328	0.365	0.526
Ac-ft	60	119	29	35	104	26	46	51	29	20	22	31
Calendar year 1955: Max	14.3			Min	0.09	Mean(mgd)	1.52	Mean(cfs)	2.35	Ac-ft	1,700	
Fiscal year 1955-56: Max	9.9			Min	0.09	Mean(mgd)	0.509	Mean(cfs)	0.788	Ac-ft	572	

Hanalei River at altitude 625 ft, near Hanalei

Location.--Lat 22°07'10", long 159°28'05", on right bank 0.4 mile downstream from Kaapoko Stream and 6.2 miles southeast of Hanalei.

Drainage area.--7.4 sq mi.

Records available.--January 1914 to January 1952, July 1952 to August 1955 (destroyed by flood of Nov. 12-13, 1955).

Gage.--Water-stage recorder. Altitude of gage is 625 ft (from topographic map). Prior to July 20, 1921, at site 300 ft downstream at same datum.

Average discharge.--36 years (1918-51, 1952-55), 46.7 mgd (72.3 cfs).

Extremes.--1914-56: Maximum discharge observed, at least 9,200 mgd (14,200 cfs) Jan. 3, 1952 (gage height, at least 13.0 ft, from floodmark), from rating curve extended above 70 mgd on basis of slope-area determination at gage height 10.12 ft, but may have been greater Nov. 12-13, 1955, when flood of undetermined magnitude destroyed station; minimum, 5.8 mgd (9.0 cfs) Apr. 28, May 1-3, 1926.

Remarks.--Records good except those above 70 mgd, which are fair. Since 1925, Hanalei tunnel has diverted water from Hanalei River and its tributary Kaapoko Stream at points about 2 miles above station, for irrigation in vicinity of Lihue.

Revisions (fiscal years).--WSP 1289: 1948(M).

Discharge, in million gallons a day, July to August 1955

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	36.5	49										
2	45	51										
3	35	209										
4	38.5	56										
5	32.5	52										
6	182	98										
7	49	49										
8	60	60										
9	43	59										
10	43	86										
11	43	60										
12	48	52										
13	49	54										
14	61	92										
15	87	(*)										
16	88	-										
17	70	-										
18	64	-										
19	49	-										
20	52	-										
21	43	-										
22	40	-										
23	38.5	-										
24	40	-										
25	57	-										
26	59	-										
27	68	-										
28	60	-										
29	182	-										
30	64	-										
31	66	-										
Total	1,893.0	-										
Mean												
mgd	61.1	-										
cfs	94.5	-										
Ac-ft	5,810	-										
Calendar year	Max	Min	Mean(mgd)	Mean(cfs)	Ac-ft							
Fiscal year	Max	Min	Mean(mgd)	Mean(cfs)	Ac-ft							

* Discharge measurement made on this day.

Discharge measurements at points other than gaging stations

Measurements of streamflow on the island of Kauai made at points other than regular gaging stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. Measurements believed to have been made under base-flow conditions are identified by an asterisk (*) to the left of the discharge figure. The measurements when correlated with the simultaneous discharge of a nearby stream when continuous records are available will give a picture of the low-flow potentiality of stream. The column headed, "Measured previously" shows the fiscal years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at points other than gaging stations on the island of Kauai during fiscal year July 1955 to June 1956

Stream	Tributary to	Location	Measured previously (fiscal years)	Date	Discharge	
					Million gallons a day	Cubic feet per second
Hanalei ditch.	Kalihiwai Reservoir.	Lat 22°11'10", long 159°26'10" at Kalihiwai Reservoir, near Kilauea.	1955	Oct. 27	9.37	14.5
Third Left Branch Kalalau Stream a/	Kalalau Stream.	Lat 22°10'30", long 155°38'50", 100 ft downstream from ford on Kalalau trail and 10 miles southwest of Hanalei.	1946-49	Aug. 12	*1.35	*2.09
Honopu Stream.	Pacific Ocean.	Lat 22°10'00", long 159°40'25", 300 ft above mouth, 11 miles north of Mana, and 11.5 miles southwest of Hanalei.		Aug. 13	2.72	4.21
Milolii Stream.	....do.....	Lat 22°09'00", long 159°43'30", near mouth, 9.5 miles north of Mana and 15 miles southwest of Hanalei.	1946-48, 1951, 1954-55	Aug. 12	*1.70	*2.63

* Base flow.

a Formerly published as "Second Left Branch Kalalau Stream."

Kaukonahua ditch near Wahiawa

Location.--Lat 21°30'45", long 157°59'20", on left bank 3 miles northeast of Wahiawa.

Records available.--March 1947 to June 1956.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 1,100 ft (from topographic map).

Average discharge.--9 years, 2.92 mgd (4.52 cfs).

Extremes.--1947-56: Maximum daily discharge, 10.1 mgd (15.6 cfs) Jan. 27, 1948; no flow at times.

Remarks.--Records excellent except those for period of no gage-height record, which are poor. Ditch diverts water from North Fork Kaukonahua Stream for domestic use.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	4.7	5.2	4.8	4.8	3.5	2.5	1.42	3.0	1.92	2.1	2.9	2.7
2	5.4	5.4	5.7	6.0	2.2	2.5	.58	3.3	1.71	1.94	3.0	3.8
3	4.7	5.9	5.0	4.1	1.94	2.4	.38	3.3	2.6	2.3	3.0	2.0
4	4.6	5.2	5.5	5.0	1.69	2.3	1.79	3.2	2.5	2.7	3.0	2.0
5	4.3	5.2	4.7	4.7	1.61	2.2	3.2	3.2	3.15	2.7	2.9	2.0
6	2.75	5.2	4.5	3.75	1.46	*2.1	2.9	3.55	4.0	2.8	4.1	3.0
7	1.77	4.8	4.2	3.3	1.39	2.1	2.8	4.2	3.85	2.7	2.0	2.0
8	2.95	4.8	4.3	3.0	1.39	2.1	2.8	3.3	3.75	2.6	2.0	5.5
9	4.6	5.0	4.0	2.8	3.7	2.1	2.8	3.1	4.3	2.6	4.6	5.5
10	4.3	5.9	3.75	2.8	3.1	2.05	2.6	3.65	3.6	2.5	3.0	4.0
11	4.2	5.7	3.5	5.2	4.1	2.1	2.6	3.55	3.75	2.5	4.0	*3.0
12	3.85	5.0	3.5	4.3	3.1	2.05	6.2	4.1	3.3	2.25	2.0	3.0
13	4.1	5.5	3.3	*3.5	2.6	1.94	4.6	3.85	3.2	1.18	2.0	3.0
14	4.6	6.0	3.2	3.4	4.1	1.94	3.6	4.0	3.0	1.12	2.0	3.0
15	6.3	5.6	3.65	3.0	3.5	1.85	3.2	3.85	3.0	1.18	3.0	3.4
16	5.6	5.2	4.2	3.1	3.3	1.77	4.0	5.3	2.5	1.06	2.5	4.0
17	4.6	5.0	3.1	2.8	5.5	1.77	3.1	4.5	2.3	3.45	4.0	4.5
18	5.2	5.5	3.1	2.5	5.5	1.69	2.8	2.75	2.1	4.6	3.3	3.5
19	4.2	*6.1	3.3	2.4	4.2	2.15	2.6	1.25	2.8	4.3	2.7	3.0
20	5.4	6.0	3.2	2.3	3.4	4.1	2.5	1.06	2.85	5.4	3.1	4.2
21	5.6	5.4	2.7	2.2	3.6	3.0	2.4	2.9	2.4	5.6	4.2	3.1
22	4.5	5.1	4.3	2.1	3.75	2.5	2.2	4.6	2.2	5.0	5.9	3.0
23	4.0	5.0	3.2	3.1	3.3	1.94	2.1	4.8	2.5	4.6	2.5	3.0
24	5.0	5.9	2.7	3.3	3.0	1.94	1.94	6.4	2.6	4.3	6.0	3.0
25	6.1	5.6	2.5	3.75	2.8	1.85	4.2	7.0	2.9	4.2	3.0	6.3
26	5.9	4.8	2.3	3.0	2.7	1.77	4.2	1.69	2.7	4.5	2.5	6.1
27	7.4	4.7	2.2	4.5	2.8	1.77	3.2	1.77	2.5	*4.1	5.8	6.0
28	6.8	4.6	2.1	2.9	2.7	1.69	2.9	1.65	2.2	3.6	7.0	3.5
29	6.0	4.6	4.7	3.1	2.6	1.77	3.75	2.9	2.3	3.4	2.0	3.0
30	5.5	4.5	4.7	2.3	2.5	2.3	3.2	-----	2.2	3.1	4.0	3.0
31	5.6	4.3	-----	2.5	-----	2.2	*3.2	-----	2.1	-----	3.0	-----
Total	150.52	162.7	111.90	105.50	91.03	66.44	89.74	101.72	86.78	94.38	105.0	106.9
Mean:												
mgd	4.86	5.25	3.73	3.40	3.03	2.14	2.89	3.51	2.80	3.15	3.39	3.56
cfs	7.52	8.12	5.77	5.26	4.69	3.31	4.47	5.43	4.33	4.87	5.25	5.51
Ac-ft	462	499	343	324	279	204	275	312	266	290	322	328
Calendar year 1955:	Max 8.7			Min 0.72	Mean(mgd)	4.14	Mean(cfs)	6.41	Ac-ft	4,640		
Fiscal year 1955-56:	Max 7.4			Min 0.36	Mean(mgd)	3.48	Mean(cfs)	5.38	Ac-ft	3,900		

* Discharge measurement made on this day.

Note.--No gage-height record Apr. 28 to June 30; discharge estimated on basis of records for Kaukonahua Stream.

North Fork Kaukonahua Stream near Wahiawa

Location.--Lat 21°30'55", long 157°59'20", on left bank 3 miles northeast of Wahiawa and 8.6 miles north of Pearl City.

Drainage area.--4.9 sq mi.

Records available.--September 1946 to June 1956.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 970 ft (from topographic map).

Average discharge.--9 years (1947-56), 22.8 mgd (35.3 cfs).

Extremes.--Maximum discharge during year, 1,870 mgd (2,890 cfs) Feb. 25 (gage height, 12.72 ft), from rating curve extended above 180 mgd on basis of slope-area determinations at gage heights 8.39 and 15.55 ft; minimum, 0.51 mgd (0.79 cfs) Nov. 6-8.
1946-56: Maximum discharge, 2,400 mgd (3,710 cfs) Nov. 28, 1954 (gage height, 15.55 ft), from rating curve extended above 180 mgd as explained above; minimum, no flow at times in 1953.

Remarks.--Records good. Poamoho tunnel diverts floodwater from Poamoho Stream into North Fork Kaukonahua Stream about 1 mile above station. Kaukonahua ditch diverts water 2.6 miles above station for domestic use in Wahiawa (see preceding page).

Revisions (fiscal years).--WSP 1289: 1947-52.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.3	0.39	1.3	20
.4	.80	1.5	37.5
.5	1.45	2.0	74
.6	2.35	3.0	218
.8	5.0	6.0	718
1.0	9.1		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	10.0	11.5	9.1	8.9	5.4	11.9	29	4.1	199	23.5	1.90	17.8
2	39.5	58	43	61	1.42	7.7	13.2	4.4	70	15.0	1.54	15.4
3	7.9	93	10.0	5.6	.76	5.5	8.4	9.4	46	13.2	1.38	82
4	5.5	15.0	30	17.3	.68	4.7	7.7	4.6	37.5	10.9	1.32	43
5	3.75	20	8.7	10.1	.60	3.95	5.0	6.0	30.5	10.9	1.26	36
6	140	26	5.5	4.6	.51	3.5	3.4	26.5	25.5	15.6	1.86	65
7	14.1	8.6	4.4	2.6	.51	3.25	2.9	45	22	8.2	.48	63
8	9.3	7.5	6.4	2.1	.68	3.15	2.7	7.2	19.6	6.3	.35	27.5
9	4.6	10.1	4.6	1.63	.55	2.9	2.8	4.4	78	6.1	.74	30.5
10	3.8	35	3.15	1.63	.88	2.7	2.6	8.9	21.5	5.7	.94	71
11	3.4	40	2.8	36	21.5	2.8	2.6	18.6	30.5	5.4	1.94	57
12	2.9	10.6	2.8	10.4	8.0	3.15	1.86	36	15.7	5.0	.48	*42
13	3.25	26.5	2.45	*2.95	4.6	2.1	20	34	13.5	11.0	.75	40
14	5.1	114	2.25	2.7	.81	1.81	7.4	34.5	12.5	6.4	1.53	33
15	29	26.5	2.35	1.90	22.5	1.63	4.7	15.6	11.8	22.5	10.9	19.6
16	26	13.2	9.1	1.90	11.9	1.38	8.1	329	10.9	17.8	31.5	21
17	6.6	10.6	2.35	1.99	.98	1.26	4.7	252	10.3	65	20	28.5
18	17.2	32	1.81	1.63	105	1.19	3.25	113	9.7	7.7	15.7	39.5
19	4.6	*148	2.15	1.28	32	20.5	2.9	43	63	4.6	14.3	22.5
20	14.3	161	2.9	1.06	14.6	218	2.6	30.5	73	58	10.9	12.8
21	26.5	22	1.72	.93	24.5	77	2.35	21.5	15.9	69	8.8	15.9
22	4.7	13.9	8.7	.86	37	44	2.25	14.6	11.5	13.8	6.1	67
23	3.95	10.0	2.6	1.05	31.5	13.3	2.15	31	28.5	6.6	39.5	47
24	8.0	22.5	1.63	3.45	42	11.8	2.1	317	32	4.8	30	27
25	39.5	18.1	1.26	3.95	14.6	9.7	79	683	111	3.95	50	15.7
26	47	9.4	1.12	2.7	10.6	7.0	43	231	78	6.9	27.5	18.9
27	98	7.5	1.06	21.5	19.7	6.3	8.7	220	87	3.7	14.2	50
28	76	6.4	1.00	2.5	12.6	5.4	3.95	94	29	2.8	25	21.5
29	56	6.4	10.0	1.92	11.3	4.7	26	208	53	2.35	41	13.5
30	21	5.4	20	1.26	7.3	10.9	11.5	-----	39	2.1	20.5	20.5
31	32.5	4.7	-----	.86	-----	123	*9.2	-----	24.5	-----	47	-----
Total	763.95	1,015.4	204.90	218.23	684.56	616.17	460.15	2,846.8	1,309.9	434.80	1,174.66	1,082.1
Mean:	24.6	32.8	6.83	7.04	22.8	19.9	14.8	98.2	42.3	14.5	37.9	35.4
cfs	38.1	50.7	10.6	10.9	35.3	30.8	22.9	152	65.4	22.4	58.6	54.8
Ac-ft	2,340	3,120	629	670	2,100	1,890	1,410	8,740	4,020	1,330	3,600	3,260

Calendar year 1955: Max 352 Min 0.51 Mean(mgd) 20.4 Mean(cfs) 31.6 Ac-ft 22,790

Fiscal year 1955-56: Max 683 Min 0.51 Mean(mgd) 29.5 Mean(cfs) 45.8 Ac-ft 33,110

Peak discharge (base, 1,100 mgd).--Dec. 31 (11:30 a.m.) 1,520 mgd (2,350 cfs), 10.82 ft; Feb. 17 (12 m.) 1,170 mgd (1,810 cfs), 8.80 ft; Feb. 25 (8 a.m.) 1,870 mgd (2,890 cfs), 12.72 ft.

* Discharge measurement made on this day.

South Fork Kaukonahua Stream near Wahiawa

Location.--Lat 21°30'05", long 157°56'50", on right bank at Canon Dam, 5.4 miles east of Wahiawa, and 7.7 miles north of Pearl City.

Drainage area.--1.9 sq mi.

Records available.--May 1944 to June 1956.

Gage.--Water-stage recorder and masonry dam control. Altitude of gage is 1,070 ft (from topographic map).

Average discharge.--12 years, 7.20 mgd (11.1 cfs).

Extremes.--Maximum discharge during year, 844 mgd (1,310 cfs) Dec. 31 (gage height, 6.21 ft), from rating curve extended above 15 mgd as explained below; minimum, 0.34 mgd (0.53 cfs) Nov. 7, 8, Dec. 19, 1944-56; Maximum discharge, 1,560 mgd (2,410 cfs) Nov. 28, 1954 (gage height, 8.55 ft), from rating curve extended above 15 mgd by test on model of station site; minimum, 0.01 mgd (0.02 cfs) Feb. 21, 1945, Nov. 14, 15, 1953.

Remarks.--Records fair.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.5	0.30	1.1	5.5
.6	.47	1.4	19.2
.7	.68	1.7	38
.8	.95	2.0	64
.9	1.33	2.4	109
1.0	2.3		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	9.5	4.7	10.1	5.9	*0.86	1.53	8.0	1.13	34	7.4	1.13	14.0
2	8.9	16.8	37.5	13.0	.61	1.29	2.8	2.45	*13.8	3.3	.95	11.1
3	2.3	11.0	10.0	3.0	.49	1.10	1.45	3.6	9.8	2.75	.86	42
4	2.3	4.3	28.5	10.5	.43	.95	1.45	4.2	8.5	2.5	.77	20.5
5	11.6	3.95	6.8	10.7	.39	.83	1.25	2.95	8.1	2.5	.77	13.3
6	11.6	4.3	5.1	3.0	.37	.77	.92	18.0	6.8	8.3	2.0	25.5
7	2.05	2.75	4.3	2.3	.36	.73	.77	24.5	5.9	2.75	17.3	15.3
8	1.56	7.0	4.3	1.73	.36	.68	.73	3.3	5.5	1.84	37.5	16.5
9	1.33	9.6	3.6	1.45	18.7	.64	.80	2.5	22.5	1.84	4.3	12.1
10	1.17	39	3.3	1.68	2.75	.59	.75	1.84	7.2	2.3	7.1	20.5
11	1.09	26	2.75	24.5	6.7	.61	.66	3.25	9.9	1.63	27.5	33.5
12	1.09	8.1	3.3	9.9	6.5	.59	4.1	14.7	4.3	1.50	7.6	26
13	2.75	10.8	2.5	2.5	1.27	.55	4.4	7.5	3.8	2.85	18.8	30.5
14	8.5	34	2.5	1.84	18.4	.47	1.56	6.2	3.3	1.50	12.7	25
15	11.2	8.9	3.95	1.56	3.3	.43	1.17	3.3	3.6	4.1	9.4	11.6
16	14.1	6.8	3.3	1.63	2.8	.41	5.8	62	2.75	4.1	4.7	9.8
17	3.25	7.6	1.73	1.41	17.3	.37	1.34	55	2.5	18.8	3.6	16.0
18	6.6	15.8	2.95	1.21	27	.36	.92	46	2.3	2.3	3.3	14.7
19	2.05	46	5.2	1.09	13.8	14.6	.75	12.0	6.1	2.1	4.7	12.3
20	12.0	89	2.05	1.01	4.7	60	.68	8.5	18.2	35.5	2.3	7.6
21	18.2	8.9	1.89	.92	6.2	26	.61	5.9	4.3	25.5	1.84	16.2
22	2.75	6.8	4.8	.83	8.9	23.5	.57	5.1	4.7	5.3	2.05	24
23	2.3	7.2	1.73	1.92	6.8	3.3	.53	6.1	17.3	3.3	8.2	25.5
24	4.2	5.9	1.21	2.1	7.6	3.3	.51	42	11.0	2.3	7.2	12.0
25	20.5	5.9	1.01	2.8	3.0	2.3	10.4	102	10.8	2.05	8.5	8.5
26	11.0	4.3	.95	1.51	2.5	1.73	25.5	37.5	7.7	4.1	10.0	7.6
27	24	4.7	.86	1.93	4.5	1.45	2.0	44	9.2	1.73	8.5	9.8
28	20	4.7	2.2	.93	2.3	1.25	2.2	17.6	4.7	1.50	7.8	7.2
29	12.5	3.6	9.6	2.2	1.73	*1.32	12.7	36.5	30	1.33	50	8.9
30	7.6	4.7	9.9	.73	1.45	3.65	4.3	-----	9.7	1.29	15.2	15.1
31	11.3	3.6	-----	.64	-----	36.5	2.6	-----	5.5	-----	36	-----
Total	249.09	416.70	177.88	116.42	170.07	191.58	139.12	579.62	293.55	156.26	322.57	512.6
Mean	8.04	13.4	5.93	3.76	5.67	6.18	4.49	20.0	9.47	5.21	10.4	17.1
mgd	12.4	20.7	9.18	5.82	8.77	9.56	6.95	30.9	14.7	8.06	16.1	26.5
cfs	764	1,280	546	357	522	588	427	1,780	901	480	990	1,570
Ac-ft												
Calendar year 1955.	Max	129	Min	0.36	Mean(mgd)	7.51	Mean(cfs)	11.6	Ac-ft	8,420		
Fiscal year 1955-56:	Max	102	Min	0.36	Mean(mgd)	9.09	Mean(cfs)	14.1	Ac-ft	10,200		

Peak discharge (base, 400 mgd).--Aug. 19 (11:30 p.m.) 580 mgd (897 cfs), 5.12 ft; Dec. 31 (10 a.m.) 844 mgd (1,310 cfs), 6.21 ft; Feb. 25 (7:30 a.m.) 580 mgd (897 cfs), 5.07 ft.

* Discharge measurement made on this day.

South Fork Kaukonahua Stream above Wahiawa Reservoir, near Wahiawa

Location.--Lat 21°29'35", long 157°59'55", on right bank 2 miles southeast of Wahiawa and 7.5 miles north of Waipahu.

Drainage area.--5.2 sq mi.

Records available.--October 1946 to June 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 844.51 ft above mean sea level, datum of 1929.

Average discharge.--9 years (1947-56), 16.4 mgd (25.4 cfs).

Extremes.--Maximum gage height during year, 22.55 ft Feb. 25, backwater from Wahiawa Reservoir (discharge not determined); minimum discharge, 1.37 mgd (2.12 cfs) Dec. 18, 19. 1946-56: Maximum discharge, 2,840 mgd (4,390 cfs) Nov. 28, 1954 (gage height, 18.16 ft), from rating curve extended above 100 mgd; maximum gage height, that of Feb. 25, 1956; minimum discharge, 0.27 mgd (0.42 cfs) Apr. 11-15, 26, 28, 1954.

Remarks.--Records good except those for period of no gage-height record, which are fair. Ku Tree Reservoir (capacity, 293 million gallons) and Koolau Reservoir (capacity, 43 million gallons) located on tributary, diverts small quantity of water 0.1 mile below Canon Dam for domestic use, fire protection, and as a standby in case of emergency. Excess water spills back into stream.

Revisions (fiscal years).--WSP 1249: 1951(M), drainage area.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	10.5	15.3	*15.7	10.4	9.5	6.8	24	3.55	72	11.8	3.3	20.5
2	16.9	14.3	56	28	9.3	6.6	15.9	3.45	40	8.0	2.85	16.3
3	8.0	32	19.1	9.4	9.0	6.4	10.9	6.3	30	7.0	2.75	83
4	7.2	13.0	51	20.5	6.3	6.2	10.6	5.6	23	7.6	2.55	53
5	6.6	12.3	16.4	23	1.67	*5.9	10.4	6.6	20	5.3	2.45	26.5
6	26	12.0	13.4	10.4	1.58	5.7	9.5	10.7	17	8.3	4.4	57
7	7.2	11.5	12.3	7.2	1.51	5.5	9.0	39.5	15	7.2	16.9	25.5
8	6.2	13.2	13.7	6.2	1.53	5.3	9.8	6.7	13	5.3	4.2	25
9	5.9	22.5	12.3	5.3	29.5	5.3	8.8	5.5	40	5.7	8.0	31.5
10	5.7	58	10.9	4.8	9.1	5.1	8.8	6.4	17	10.4	5.1	60
11	5.5	55	10.4	27	17.2	5.0	5.6	5.9	21	16.0	46	*93
12	5.7	18.4	10.6	*17.7	9.1	4.8	30	18.2	9.0	13.4	11.5	89
13	8.2	21	9.8	6.8	4.7	4.8	16.1	27.5	8.0	14.1	21.5	66
14	18.3	52	7.8	5.9	15.2	4.7	7.1	12.7	7.2	8.5	19.9	60
15	40	20.5	5.3	5.0	12.1	3.75	5.0	9.8	6.7	7.8	18.8	27.5
16	30	16.4	7.3	6.2	5.6	1.51	8.7	99	6.0	9.3	8.3	23
17	12.0	16.8	4.8	4.8	28.5	1.44	5.5	153	5.0	22.5	5.9	19.9
18	17.9	24	4.8	4.2	55	1.37	3.85	118	5.0	6.8	5.1	29.5
19	9.5	*44	5.8	4.0	32	7.2	3.45	29	15	4.7	5.7	19.5
20	17.7	165	6.4	3.85	16.4	1.35	3.05	20.5	*35	36	3.85	15.3
21	26.5	21	4.0	3.55	12.2	*100	2.85	14.1	9.0	36.5	3.45	27.5
22	9.8	17.6	7.1	2.45	18.1	49	2.65	11.2	9.4	12.3	3.3	52
23	8.0	19.5	4.8	4.1	14.1	13.5	2.55	11.5	23	6.4	7.4	54
24	8.2	19.3	3.7	5.1	13.3	10.4	2.45	76	33.5	5.1	8.6	34
25	27	19.7	3.2	7.5	8.6	8.5	12.2	*450	18.6	4.5	9.4	19.3
26	24	15.6	3.05	11.8	7.6	6.8	31	90	18.1	5.8	5.8	15.6
27	46	16.0	2.95	11.2	10.1	8.1	6.9	110	14.0	*4.7	14.4	16.4
28	52	15.3	2.85	10.4	8.2	17.6	3.45	45	10.9	5.85	8.2	15.3
29	24.5	14.1	12.9	10.9	7.7	29	14.4	85	27.5	5.55	59	12.0
30	19.7	13.4	14.7	9.8	7.2	30	7.5	-----	17.7	3.3	23	29.5
31	21	13.4	-----	9.5	-----	55	7.1	-----	12.9	-----	55	-----
Total	542.7	822.1	555.05	297.95	381.94	556.27	558.10	1,481.30	600.0	301.70	434.40	1,116.6
Mean	17.5	26.5	11.8	9.61	12.7	17.9	11.6	51.1	19.4	10.1	14.0	37.2
cfs	27.1	41.0	18.3	14.9	19.6	27.7	17.9	79.1	30.0	15.6	21.7	57.6
Ac-ft	1,670	2,520	1,080	914	1,170	1,710	1,100	4,550	1,840	926	1,330	3,430

Calendar year 1955: Max 284 Min 1.37 Mean(mgd) 17.5 Mean(cfs) 27.1 Ac-ft 19,620

Fiscal year 1955-56: Max 450 Min 1.37 Mean(mgd) 19.8 Mean(cfs) 30.6 Ac-ft 22,240

* Discharge measurement made on this day.

Note.--No gage-height record Feb. 25 to Mar. 21; discharge estimated on basis of records for nearby stations.

Poamoho Stream near Wahiawa

Location--Lat 21°31'25", long 157°58'55", on left bank just below concrete diversion dam, 3.5 miles northeast of Wahiawa and 9.5 miles north of Waipahu.

Drainage area--1.8 sq mi.

Records available--January 1947 to June 1956.

Gage--Water-stage recorder and concrete control. Altitude of gage is 1,150 ft (from topographic map).

Average discharge--9 years, 3.16 mgd (4.89 cfs).

Extremes--Maximum discharge during year, 650 mgd (1,010 cfs) Feb. 25 (gage height, 4.37 ft), from rating curve extended above 48 mgd by test on model of station site; no flow Jan. 2, 3, 6, 7.
1947-56: Maximum discharge, 916 mgd (1,420 cfs) Mar. 30, 1947 (gage height, 5.68 ft), from rating curve extended as explained above; no flow at times.

Remarks--Records good. Poamoho tunnel diverts floodwater into North Fork Kaukonahua Stream about 175 ft above station.

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)
(Shifting-control method used May 14 to June 12)

July 1 to May 10				May 11 to June 30			
0.0	0	0.7	3.6	0.0	0		
.1	.03	.8	5.2	.1	.03		
.2	.14	1.0	9.8	.2	.18		
.3	.37	1.2	16.2	.3	.49		
.4	.76	1.4	25.5	.5	1.63		
.5	1.44	1.7	48	.7	3.6		
.6	2.45	2.0	74				

Note.--Same as preceding table above 0.7 ft.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.27	0.18	2.35	0.94	1.25	0.04	0.01	0.01	3.4	0.02	1.36	4.4
2	2.55	.29	4.7	9.5	.40	.04	0	.02	.02	1.20	4.4	
3	1.91	.24	2.0	1.28	.28	.04	0	.01	.01	.02	1.13	11.4
4	1.44	.20	5.4	2.25	.22	.04	.01	.01	.01	.02	*1.00	6.5
5	1.06	.20	1.90	1.71	.20	.04	.01	.01	.01	.04	.94	4.5
6	5.4	.20	1.36	1.04	.18	.04	0	.02	.02	3.0	1.13	7.7
7	.54	.20	1.13	.58	.16	.03	0	.02	.02	2.8	12.3	16.2
8	.54	.20	1.74	.50	.22	.03	.01	.01	.02	2.25	3.8	5.6
9	.54	.20	1.48	.45	5.8	.03	.01	.01	.50	2.1	2.05	4.5
10	.50	.20	.94	.40	2.65	.04	.01	.02	.03	2.0	10.5	8.4
11	.43	.20	.82	3.15	5.5	.04	.01	.02	.03	2.0	22	8.2
12	.40	.20	.86	*1.68	.24	.03	.13	.02	.05	1.71	13.7	*8.2
13	.37	.20	.76	.66	.16	.03	.01	.02	.06	3.4	9.9	7.8
14	.28	.26	.71	.88	.20	.03	.01	.02	.03	1.91	22	7.8
15	.26	.22	.76	.54	.12	.03	.01	.01	.04	4.1	16.5	4.8
16	.24	.22	.94	.62	.09	.03	.02	5.6	.05	3.2	6.2	8.3
17	.22	.22	.66	.62	.08	.03	.01	.30	.04	10.7	4.0	4.7
18	.20	.22	.58	.40	.08	.03	.01	.02	.04	2.65	3.35	7.7
19	.16	2.8	.71	.34	.06	.05	.01	.01	.51	2.45	3.1	4.5
20	.16	.64	.94	.31	.06	.18	.01	.01	.04	7.2	2.6	3.45
21	.16	.05	.58	.31	.05	.05	.01	.01	.02	8.8	2.5	3.6
22	.14	1.33	5.9	.28	.05	.03	.01	.01	.02	5.1	2.5	8.9
23	.16	2.65	1.13	.28	.04	.02	.01	.01	.02	2.9	14.1	9.6
24	.18	3.35	.66	.90	.04	.02	.01	.13	.02	2.35	9.7	5.0
25	.18	2.65	.54	.78	.04	.02	.23	71	.14	2.0	9.0	3.35
26	.20	2.1	.50	.83	.04	.02	.02	1.14	.20	3.45	4.5	3.1
27	.20	2.45	.46	4.8	.04	.02	.01	.32	.04	2.0	4.1	14.3
28	.20	1.81	.40	.81	.04	.02	.01	.04	.02	1.71	9.7	3.85
29	.18	1.62	.78	.89	.04	.02	.02	8.1	.02	1.53	10.6	3.1
30	.18	1.62	1.44	.46	.04	.03	.02	2	.02	1.53	5.9	4.9
31	.18	1.53		.34		3.85	.02	-----	.02	-----	8.5	-----
Total Mean:	20.43	28.45	43.09	38.51	18.37	4.95	0.66	86.93	5.47	83.15	219.86	198.75
mgd	0.659	0.918	1.44	1.24	0.612	0.160	0.021	3.00	0.176	2.77	7.09	6.62
cfs	1.02	1.42	2.23	1.92	0.947	0.248	0.032	4.64	0.272	4.29	11.0	10.2
Ac-ft	63	87	132	119	56	15	2.0	267	17	255	675	610
Calendar year 1955: Max	80			Min	0.02	Mean(mgd)	3.29	Mean(cfs)	5.09	Ac-ft	3,580	
Fiscal year 1955-56: Max	71			Min	0	Mean(mgd)	2.05	Mean(cfs)	3.17	Ac-ft	2,300	

Peak discharge (base, 130 mgd)--July 6 (2 a.m.) 215 mgd (333 cfs), 2.90 ft; Dec. 31 (9:30 a.m.) 205 mgd (317 cfs), 2.87 ft; Feb. 25 (9 a.m.) 650 mgd (1,010 cfs), 4.37 ft; Feb. 29 (9:30 p.m.) 132 mgd (204 cfs), 2.46 ft.

* Discharge measurement made on this day.

Waikele Stream at Waipahu

Location.--Lat 21°23'10", long 158°00'50", on left bank at Farrington Highway bridge, 0.3 mile south of Waipahu and 2.5 miles west of Pearl City.

Drainage area.--45.4 sq mi.

Records available.--June 1951 to March 1952 (fragmentary), April 1952 to June 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2.67 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 3,720 mgd (5,760 cfs) Feb. 25 (gage height, 10.57 ft), from rating curve extended above 470 mgd on basis of slope-area determination at gage height 14.82 ft; minimum, 11.9 mgd (18.4 cfs) Nov. 8, 1951-56; Maximum discharge, 7,220 mgd (11,200 cfs) Nov. 28, 1954 (gage height, 14.82 ft), from rating curve extended above 470 mgd on basis of slope-area determination of peak flow; minimum recorded, 6.4 mgd (9.9 cfs) Sept. 28-30, 1953.

Remarks.--Records good except those for periods of fragmentary or no gage-height record, which are fair. Flow regulated by plantation operation.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

2.1	11.3	3.5	230
2.3	17.9	4.0	380
2.5	31	4.5	530
2.7	52	5.0	710
3.1	119	6.0	1,110

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	15.6	16.0	16.8	17.9	13.3	18.1	65	34.5	145	29	16.8	15.6
2	20	15.2	16.8	17.9	13.3	17.1	61	33.5	67	22	16.4	17.1
3	22	35	16.8	17.1	12.7	19.0	35.5	33.5	46	17.9	15.2	21
4	21.5	14.9	19.0	16.8	13.9	18.5	28	35.5	41	17.5	15.6	18.6
5	16.4	15.3	19.0	16.0	17.5	16.1	26.5	35.5	39	17.1	16.6	17.1
6	17.7	19.8	15.2	16.0	17.5	14.5	26	44	35.5	16.8	19.6	16.0
7	15.2	19.0	16.8	16.8	12.7	14.5	26	98	33	18.5	16.0	15.6
8	15.2	16.4	16.8	17.5	12.7	14.9	24	43	29.5	21.5	14.1	16.0
9	23	16.0	15.6	20	29.5	15.6	24	33.5	64	18.5	14.1	17.9
10	20.5	14.5	16.0	16.0	40	17.9	24	46	40	17.9	15.8	17.9
11	15.6	14.9	17.1	15.6	88	16.4	24	48	33	17.1	16.5	18.5
12	16.0	16.4	19.0	16.0	33	*13.8	308	59	29.5	16.4	17.9	17.9
13	15.6	16.4	17.5	15.6	30	13.5	130	117	26	16.8	19.0	16.8
14	15.2	27	17.1	15.6	26.5	13.3	58	50	24	17.5	17.1	16.8
15	15.7	20	14.9	16.4	44	13.3	37.5	42	23.5	22	19.4	17.9
16	24	15.8	16.0	17.9	26.5	14.5	58	159	23	17.1	17.5	18.5
17	24	13.8	17.5	18.5	25	17.5	42	229	23.5	23.5	16.8	18.5
18	16.0	15.8	17.9	15.2	33.5	16.4	31	128	26	17.9	16.0	17.1
19	16.0	20	15.2	15.2	24	26	27	85	25	15.2	15.6	17.4
20	14.9	272	14.9	15.6	20.5	429	26.5	51	25.5	19.4	17.5	15.3
21	16.0	38.5	16.4	16.8	19.6	488	26	37.5	29.5	65	16.8	14.1
22	17.5	21.5	16.8	17.5	20.5	124	27	30	23.5	40	16.0	15.6
23	21.5	17.5	17.5	17.1	22	62	27	27	22.5	22	16.4	22
24	20.5	17.1	17.9	13.3	22	48	25	78	35.5	16.2	16.4	20.5
25	17.9	17.9	16.8	13.0	19.0	47	77	1,110	28	16.8	16.0	16.8
26	19.0	16.8	15.2	12.1	21.5	38	140	a229	26	17.1	16.4	14.9
27	18.5	17.9	15.2	15.0	20.5	35.5	64	a133	22	17.1	19.0	14.5
28	17.9	22	15.2	16.8	19.2	31	38	f97	22.5	19.0	17.5	15.6
29	16.8	17.5	15.2	17.5	20.5	29	47	79	19.0	19.6	15.2	17.5
30	20.5	17.1	17.5	16.8	19.7	29	53	-----	31	17.9	14.8	20.5
31	20	17.5	-----	13.3	-----	73	48	-----	31	-----	14.8	-----
Total	566.2	829.5	499.6	502.8	738.6	1,744.4	1,650.0	3,223.5	1,089.5	630.3	510.8	519.5
Mean:	18.3	26.8	16.7	16.2	24.6	56.3	53.2	111	35.1	21.0	16.5	17.3
mgd	28.3	41.5	25.8	25.1	38.1	87.1	82.3	172	54.3	32.5	25.5	26.8
cfs	1,740	2,550	1,530	1,540	2,270	5,350	5,060	9,890	3,340	1,930	1,570	1,590
Ac-ft												

Calendar year 1955: Max 740 Min 12.1 Mean(mgd) 35.3 Mean(cfs) 54.6 Ac-ft 39,490
Fiscal year 1955-56: Max 1,110 Min 12.1 Mean(mgd) 34.2 Mean(cfs) 52.9 Ac-ft 38,360

Peak discharge (base, 700 mgd).--Aug. 20 (6 a.m.) 950 mgd (1,470 cfs), 5.55 ft; Dec. 21 (2:30 a.m.) 1,230 mgd (1,900 cfs), 6.30 ft; Feb. 25 (11:30 a.m.) 3,720 mgd (5,760 cfs), 10.57 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Waiawa Stream.

f Fragmentary gage-height record; discharge computed from partly estimated gage heights.

Pearl Harbor Springs at Waiawa, near Pearl City

Location.--Lat 21°23'35", long 157°59'10", on right bank at rear of Oahu Sugar Co.'s pumping plant 9, 0.7 mile west of Pearl City and 9.8 miles northwest of Honolulu.

Records available.--March 1931 to June 1934, July 1937 to June 1956.

Gage.--Water-stage recorder and sharp-crested weir. Datum of gage is 0.73 ft below mean sea level, datum of 1929.

Average discharge.--22 years (1931-34, 1937-56), 12.2 mgd (18.9 cfs), unadjusted for pumpage.

Extremes.--1931-34, 1937-56: Maximum daily discharge, 18.7 mgd (28.9 cfs) Feb. 27, 1949; minimum daily, 6.0 mgd (9.3 cfs) for several days in 1941 and 1947.

Remarks.--Records igrd. Oahu Sugar Co.'s pump 9 diverts about 3 mgd at times when water is needed for irrigation of sugarcane. Surface runoff from floods not included in figures of discharge given below.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	13.9	14.8	12.7	13.9	12.0	12.0	14.3	15.6	15.6	14.3	13.5	11.6
2	15.6	14.8	12.3	13.9	11.8	*12.0	14.3	15.6	15.6	14.3	13.1	13.1
3	15.6	14.8	12.7	12.3	11.8	13.9	14.8	15.6	15.6	14.3	13.1	13.1
4	15.6	14.8	13.9	13.9	10.5	13.9	14.8	15.6	15.6	14.3	13.1	10.9
5	13.5	12.7	13.9	13.9	13.1	12.3	14.8	15.6	15.6	14.3	13.1	11.6
6	13.5	14.3	12.3	13.9	13.1	11.6	14.8	15.6	15.6	14.3	13.1	12.0
7	13.5	14.3	12.3	13.9	9.8	11.3	14.8	15.6	15.2	14.3	13.1	13.1
8	13.5	13.1	12.0	13.9	10.2	11.3	14.8	15.6	15.2	14.3	13.1	13.1
9	13.9	12.7	12.0	13.9	12.7	12.0	14.8	15.6	15.2	14.3	13.1	13.1
10	15.2	*13.1	12.3	13.5	13.9	13.9	14.8	15.6	15.2	14.3	13.1	13.1
11	13.9	12.3	13.9	12.3	13.9	13.9	14.8	15.6	15.6	13.9	13.1	10.9
12	15.2	13.9	10.9	12.3	13.9	10.9	14.8	15.6	15.6	13.5	12.7	11.3
13	15.2	13.9	11.6	11.6	13.9	10.2	14.8	15.6	15.6	13.5	12.7	11.6
14	15.2	13.9	12.3	11.3	13.9	10.2	14.8	15.6	15.6	13.5	12.3	12.0
15	15.2	12.3	13.9	12.0	13.9	11.6	14.8	15.6	15.6	13.5	12.0	13.1
16	13.5	13.9	13.9	13.5	13.9	12.0	14.8	15.6	15.2	13.5	12.0	13.5
17	15.2	13.9	13.9	12.7	13.9	13.9	14.8	15.6	14.8	13.5	10.2	13.5
18	13.5	13.9	13.9	13.1	14.3	13.9	15.2	16.0	14.8	13.5	10.2	11.3
19	13.5	13.9	13.9	11.3	14.8	11.6	15.2	16.0	14.8	13.5	11.6	12.0
20	13.5	13.9	12.7	11.3	15.6	14.3	15.2	15.6	14.8	13.9	13.1	10.9
21	13.5	13.9	12.7	10.9	15.6	14.3	15.2	15.6	14.8	13.5	9.5	10.9
22	13.5	13.9	12.0	13.1	15.2	14.3	15.2	15.6	14.3	13.5	10.2	11.3
23	12.7	13.9	13.5	13.1	14.8	14.3	*15.2	15.6	14.3	13.5	10.9	13.1
24	14.8	13.9	12.7	13.1	14.8	14.3	15.2	15.6	14.3	13.5	9.8	13.1
25	13.1	13.9	13.9	12.7	14.3	14.3	15.2	16.0	14.3	13.5	9.8	11.3
26	13.1	13.9	12.0	13.5	14.3	14.3	15.2	16.0	14.3	13.5	12.7	11.3
27	12.0	12.3	12.0	13.5	14.3	14.3	15.6	15.6	14.3	13.5	13.1	10.9
28	11.6	13.9	12.0	12.7	14.3	14.3	15.6	15.6	14.3	13.5	11.3	10.9
29	13.1	12.0	11.6	13.1	14.3	14.3	15.6	15.6	13.9	13.5	11.3	11.3
30	14.3	12.0	13.1	13.5	13.9	14.3	15.6	-----	13.9	13.5	10.9	12.3
31	14.8	12.7	-----	12.0	-----	14.3	15.6	-----	14.3	-----	9.8	-----
Total	434.2	421.5	382.8	399.6	406.3	404.0	465.4	454.4	463.8	413.8	370.6	361.2
Mean:												
mgd	14.0	13.6	12.8	12.9	13.5	13.0	15.0	15.7	15.0	13.8	12.0	12.0
cfs	21.7	21.0	19.8	20.0	20.9	20.1	23.2	24.3	23.2	21.4	18.8	18.6
Ac-ft	1,330	1,290	1,170	1,230	1,250	1,240	1,430	1,390	1,420	1,270	1,140	1,110
Calendar year 1955.	Max 16.8			Min 9.8		Mean(mgd) 14.3		Mean(cfs) 22.1		Ac-ft 15,990		
Fiscal year 1955-56:	Max 16.0			Min 9.5		Mean(mgd) 13.6		Mean(cfs) 21.0		Ac-ft 15,270		

* Discharge measurement made on this day.

Morikone pond outlet at Pearl City

Location.--Lat 21°23'30", long 157°59'10", on left bank of Waiawa Springs flow, 0.7 mile west of Pearl City, 1.5 miles east of Waipahu, and 9.8 miles northwest of Honolulu.

Records available.--August 1951 to June 1956.

Gage.--Water-stage recorder and submerged orifice control.

Extremes.--1951-56: Maximum daily discharge, 2.1 mgd (3.2 cfs) Jan. 12, 1956; no flow on Aug. 31, 1952.

Remarks.--Records poor. Surface runoff from floods not included in figures of discharge given below.

Revisions (fiscal years).--WSP 1399: 1952-53.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.64	0.35	0.73	1.10	1.03	1.35	1.51	1.20	1.5	1.50	1.49	1.22
2	.70	.69	.74	1.06	1.06	1.24	1.44	1.46	1.5	1.37	1.41	1.18
3	.70	.83	.66	1.01	1.08	1.18	.96	1.42	1.5	1.27	1.42	1.27
4	.70	.68	.76	1.27	.99	1.16	.79	1.51	1.4	1.40	1.39	1.22
5	.56	.48	.79	1.11	1.01	1.13	1.50	1.33	1.4	1.14	1.32	1.22
6	.56	.21	.57	1.06	.97	1.06	1.44	1.66	1.4	1.34	1.44	1.26
7	.56	.54	.64	1.08	.86	1.07	1.29	1.61	1.3	1.23	1.41	1.47
8	.56	.42	.64	1.02	.86	1.05	1.54	1.46	1.2	1.29	1.48	1.60
9	.60	.44	.57	1.07	1.07	1.02	1.42	1.56	1.2	1.20	1.51	1.50
10	.70	.56	.58	1.09	1.32	1.02	1.51	1.47	1.2	1.25	1.49	1.44
11	.65	.82	.53	.96	1.30	1.19	1.40	1.28	1.3	1.11	1.60	1.28
12	.68	.80	.63	1.00	1.35	.97	2.1	1.29	1.4	1.28	1.46	1.29
13	.68	.58	1.12	.96	1.14	.84	1.79	1.44	1.5	1.27	1.42	1.33
14	.68	.78	.90	1.01	1.16	.91	1.60	1.33	1.5	1.23	1.40	1.24
15	.66	.82	.98	.98	1.31	.95	1.24	1.37	1.2	1.36	1.46	1.34
16	.68	.77	.88	1.04	1.17	.98	1.79	1.30	1.1	1.46	1.46	1.38
17	.66	.83	.95	1.08	1.23	.99	1.37	1.30	.99	1.61	1.01	1.37
18	.72	.88	.52	1.00	1.19	1.07	1.01	1.23	1.25	1.58	.94	1.35
19	.54	.79	.60	1.08	1.21	1.02	.85	1.36	1.31	1.34	1.08	1.33
20	.64	.77	1.22	1.06	1.21	1.93	1.41	1.39	1.27	1.34	1.10	1.34
21	.71	1.01	.78	.93	1.22	1.63	1.40	1.47	1.05	1.24	.88	1.34
22	.66	1.04	.86	1.13	.84	1.19	1.61	1.37	1.11	1.25	1.00	1.39
23	.68	1.13	1.06	1.13	.75	1.11	1.66	1.69	1.34	1.36	1.22	1.27
24	.60	.71	.80	1.04	1.08	1.16	1.68	1.47	1.19	1.40	1.22	1.39
25	.38	.67	.93	1.11	1.23	1.35	1.84	1.6	1.28	1.28	1.24	1.37
26	.45	.70	1.00	1.06	1.08	1.36	1.85	1.6	1.11	1.37	1.18	1.30
27	.63	.76	.96	1.02	1.13	1.43	1.81	1.5	1.17	1.40	1.24	1.31
28	.64	.76	1.00	1.11	1.41	1.47	1.58	1.5	1.14	1.14	1.16	1.22
29	.62	.68	.84	1.08	1.72	1.53	1.38	1.5	1.40	1.41	1.19	1.35
30	.61	.59	.78	1.05	1.44	1.45	1.35	-----	1.36	1.39	1.15	1.11
31	.71	.51	-----	.99	-----	1.38	1.38	-----	1.45	-----	1.21	-----
Total	19.56	21.63	24.02	32.69	34.42	37.19	45.50	41.67	40.12	39.61	39.98	39.68
Mean:												
mgd	0.631	0.698	0.801	1.05	1.15	1.20	1.47	1.44	1.29	1.32	1.29	1.32
cfs	0.976	1.08	1.24	1.62	1.78	1.86	2.27	2.23	2.00	2.04	2.00	2.04
Ac-ft	60	66	74	100	106	114	140	128	123	122	123	122
Calendar year 1955: Max	1.93				Min	0.21	Mean(mgd)	0.924	Mean(cfs)	1.43	Ac-ft	1,030
Fiscal year 1955-56: Max	2.1				Min	0.21	Mean(mgd)	1.14	Mean(cfs)	1.76	Ac-ft	1,280

Note.--Doubtful or no gage-height record July 1-14, Feb. 25 to Mar. 16; discharge estimated on basis of probable increase or decrease in flow.

Waiawa Stream near Pearl City

Location.--Lat 21°23'55", long 157°58'55", on left bank 100 ft upstream from bridge on Farrington Highway, 0.6 mile northwest of Pearl City, and 2.0 miles northeast of Waipahu.

Drainage area.--25.4 sq mi.

Records available.--June 1952 to June 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1.81 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 8,700 mgd (13,500 cfs) Feb. 25 (gage height, 17.1 ft, from floodmark), from rating curve extended above 700 mgd on basis of slope-area determination of peak flow; minimum, 2.85 mgd (4.41 cfs) Oct. 10. 1952-56: Maximum discharge, 10,900 mgd (16,900 cfs) Nov. 28, 1954 (gage height, 19.27 ft), from rating curve extended above 700 mgd on basis of slope-area determination at gage height 17.1 ft; minimum, 1.86 mgd (2.88 cfs) Dec. 4, 1953.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Small quantity of water diverted occasionally for irrigation.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.6	2.6	3.5	155
1.8	5.4	4.0	280
2.0	9.2	5.0	490
2.2	14.9	6.0	700
2.5	29.5	7.0	940
3.0	75	8.0	1,270

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.35	6.9	3.2	3.35	3.1	3.6	11.9	10	67	8.5	4.8	19.2
2	3.5	18.2	3.4	3.35	3.1	3.5	9.9	9.5	37	6.0	4.6	15.5
3	3.5	45	5.5	3.2	3.1	3.35	6.4	9.3	19.3	5.2	4.3	37.5
4	3.5	9.7	7.0	3.2	3.2	3.35	5.4	10	14.3	5.1	4.2	31
5	3.35	5.7	6.8	3.2	3.5	3.2	4.8	10	11.7	4.9	4.2	15.1
6	8.6	4.3	4.8	3.1	3.35	3.2	4.3	15	12.0	4.7	4.0	12.0
7	4.7	3.85	4.0	3.1	3.35	3.2	4.0	60	10.4	5.5	11.6	39
8	3.7	3.6	3.85	3.2	3.6	3.2	3.85	15	9.2	6.5	6.3	21
9	3.5	3.5	3.7	3.2	5.9	3.5	3.7	10	21.5	5.5	4.9	12.0
10	3.6	3.5	3.6	3.0	5.9	3.5	3.7	16	13.3	5.3	4.3	14.7
11	3.35	3.5	3.5	3.1	23	3.5	3.85	18	8.4	5.0	23.5	21.5
12	4.1	4.2	3.5	3.1	7.0	3.5	107	24	7.5	4.8	9.0	46
13	3.6	3.85	3.5	3.1	6.4	3.5	129	65	6.6	5.2	5.5	39
14	3.6	44	3.35	3.2	23	3.85	23	20	5.9	5.5	5.4	30
15	3.5	11.8	3.35	3.35	23	4.2	11.4	14	5.4	6.8	11.0	24.5
16	3.5	6.2	3.35	3.5	6.9	3.7	30.5	100	5.2	5.2	7.9	13.6
17	3.6	4.9	3.5	3.2	17.1	3.6	26	160	5.0	7.5	5.9	9.2
18	3.5	7.4	3.5	3.2	58	3.5	13.0	55	4.6	5.5	5.9	17.7
19	3.5	105	3.6	3.5	25.5	6.7	8.8	36	4.4	4.5	7.1	9.0
20	3.5	215	3.5	3.5	15.7	379	7.1	20	4.9	5.5	5.9	7.7
21	6.5	17.2	3.6	4.0	7.5	432	6.0	13	6.4	22	5.2	5.4
22	4.7	8.8	3.6	3.85	18.3	22	5.4	9.5	5.0	15	4.9	14.7
23	3.7	6.0	3.7	3.6	13.2	23.5	5.0	8.5	4.6	7.0	32	34.5
24	3.7	5.4	3.6	3.6	9.2	15.7	*4.6	30	16.2	*5.3	12.3	22.5
25	3.7	5.7	3.6	3.7	6.8	14.3	120	*1,000	8.0	5.5	11.5	12.0
26	3.85	4.8	3.6	3.5	5.4	8.8	130	160	7.0	5.4	9.2	9.4
27	4.3	4.2	3.6	3.35	20	6.8	30	90	5.2	5.5	7.9	14.9
28	20	3.85	3.6	3.35	7.1	5.9	12	64	5.2	4.8	26	9.4
29	15.1	3.6	3.5	3.35	4.9	5.0	17	56	4.7	4.2	20	6.6
30	9.4	3.5	3.5	3.2	3.85	4.6	22	-----	11	4.2	27	6.4
31	5.5	3.2	-----	3.2	-----	8.1	18	-----	10	-----	26.5	-----
Total	157.50	576.35	116.40	103.35	339.95	1,025.35	787.60	2,107.8	356.9	191.6	322.8	571.0
Mean:	5.08	18.6	3.88	3.33	11.3	33.1	25.4	72.7	11.5	6.39	10.4	19.0
mgd	7.86	28.8	6.00	5.15	17.5	51.2	39.3	112	17.3	9.99	16.1	29.4
cfs	483	1,770	357	317	1,040	3,150	2,420	6,470	1,100	588	991	1,750
Ac-ft												

Calendar year 1955: Max 1,470 Min 3.0 Mean(mgd) 20.9 Mean(cfs) 32.3 Ac-ft 23,450
Fiscal year 1955-56: Max 1,000 Min 3.0 Mean(mgd) 18.2 Mean(cfs) 28.2 Ac-ft 20,440

Peak discharge (base, 800 mgd).--Aug. 20 (1 a.m.) 1,540 mgd (2,380 cfs), 8.46 ft; Dec. 21 (4 a.m.) 2,410 mgd (3,730 cfs), 9.68 ft; Feb. 25 (time unknown) 8,700 mgd (13,500 cfs), 17.1 ft.

* Discharge measurement made on this day.

Note.--No gage-height record Jan. 26 to Feb. 27, Mar. 25 to Apr. 24; discharge estimated on basis of records for Waialeale Stream.

Hawaiian Electric Co. tunnel at Waiau, near Pearl City

Location.--Lat 21°23'30", long 157°57'55", on right bank of ditch at Hawaiian Electric Co.'s Waiau powerplant, 0.6 mile east of Pearl City and 8.8 miles northwest of Honolulu.

Records available.--October 1939 to December 1945, July 1952 to June 1956.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 2.91 ft above mean sea level, datum of 1929. Prior to July 1, 1952, water-stage recorder at site 120 ft downstream at datum 2.27 ft lower.

Average discharge.--6 years (1940-41, 1944-45, 1952-56), 10.3 mgd (15.9 cfs).

Extremes.--1939-45, 1952-56: Maximum daily discharge, 17.3 mgd (26.8 cfs) Mar. 26, 27, 1940; minimum daily, 6.0 mgd (9.3 cfs) Aug. 3, 1941.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by valves. Water used for cooling condensers of powerplant, and afterwards for irrigation of sugarcane.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	9.4	9.4	11.3	10.6	11.3	11.0	9.4	11.0	11.7	9.4	11.6	11.9
2	9.4	9.4	11.9	10.5	10.6	11.5	10.4	12.2	11.7	12.2	11.8	11.4
3	9.4	9.4	11.7	10.9	10.6	10.5	11.6	12.3	9.7	11.9	11.6	10.5
4	9.4	9.4	10.6	10.5	8.8	10.1	10.7	10.6	9.9	12.1	11.6	11.5
5	11.4	8.6	11.0	11.1	8.8	11.6	10.1	10.8	12.3	11.9	11.4	8.8
6	13.5	6.8	11.1	*11.1	8.8	11.6	10.6	12.2	12.2	12.6	9.7	11.8
7	9.4	9.4	11.3	11.2	8.8	12.1	9.4	13.8	12.0	12.2	11.6	11.5
8	9.4	6.8	11.7	10.3	6.8	11.6	9.4	11.2	12.3	10.1	11.6	11.5
9	9.4	9.4	11.6	9.5	8.8	10.5	9.4	11.7	12.3	12.3	12.1	11.4
10	9.4	6.8	9.9	11.1	9.4	9.5	11.6	12.4	11.9	11.9	11.8	10.2
11	9.4	6.8	10.0	10.5	9.4	9.6	11.8	10.3	11.6	11.6	11.6	11.6
12	9.4	6.8	11.5	11.2	9.4	11.6	11.7	9.9	12.6	11.6	11.4	11.6
13	9.4	6.8	11.1	10.9	9.4	11.5	10.2	12.4	12.6	11.3	9.7	11.8
14	9.4	9.4	11.1	11.1	9.4	11.6	9.9	12.2	12.1	11.4	11.2	11.5
15	9.4	6.8	10.9	9.5	10.4	10.4	9.9	12.4	11.6	9.4	11.6	11.6
16	9.4	*6.8	10.8	9.2	10.6	10.9	10.6	11.0	11.9	11.9	11.6	9.4
17	9.4	6.8	6.6	11.3	11.1	9.6	10.6	12.6	11.4	12.0	11.6	9.4
18	9.4	6.8	9.4	11.5	11.2	10.1	11.5	10.6	10.7	11.8	11.6	11.6
19	9.4	6.8	10.9	11.1	9.9	11.4	13.3	10.4	*12.4	11.6	11.0	11.9
20	9.4	9.4	11.1	11.5	10.3	10.6	11.0	12.6	11.9	*11.6	10.6	11.6
21	9.4	9.4	10.6	10.9	11.5	10.4	9.9	12.2	11.8	9.4	11.8	11.6
22	9.4	6.8	10.9	9.8	11.6	10.4	9.9	10.4	11.9	11.4	11.6	11.4
23	9.4	9.5	11.5	9.6	11.4	10.2	10.5	10.5	11.9	11.6	11.2	11.9
24	9.4	6.8	11.0	11.8	11.2	9.4	all.0	9.9	10.0	11.8	11.6	11.6
25	9.4	6.8	9.8	11.5	11.5	9.4	*all.4	10.6	9.9	11.8	11.5	11.8
26	6.8	9.4	11.6	11.6	11.2	9.4	12.0	10.3	11.9	11.6	10.8	11.9
27	6.8	9.4	11.5	11.1	11.1	9.9	12.2	11.7	12.5	11.6	10.8	11.9
28	9.4	6.8	11.2	11.1	11.5	11.9	12.2	12.6	12.5	11.1	11.6	12.1
29	9.4	11.6	11.2	9.4	*11.6	12.3	10.5	11.7	12.6	9.4	11.6	12.1
30	9.4	11.5	11.1	6.6	11.6	11.4	12.8	-----	9.9	11.6	11.5	12.1
31	9.4	6.8	-----	11.3	-----	10.2	12.9	-----	10.2	-----	*11.8	-----
Total	296.3	285.6	326.3	331.7	310.4	333.0	338.8	332.5	360.1	342.1	352.9	341.5
Mean:	9.56	9.21	10.9	10.7	10.3	10.7	10.9	11.5	11.6	11.4	11.4	11.4
mgd	14.6	14.2	16.9	16.6	15.9	16.6	16.9	17.8	17.9	17.6	17.6	17.6
cfs	909	876	1,010	1,020	953	1,020	1,040	1,020	1,110	1,050	1,080	1,050
Ac-ft												
Calendar year 1955.	Max	13.5	Min	6.8	Mean(mgd)	10.0	Mean(cfs)	15.5	Ac-ft	11,240		
Fiscal year 1955-56:	Max	13.8	Min	6.8	Mean(mgd)	10.8	Mean(cfs)	16.7	Ac-ft	12,140		

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage and probable increase in flow.

Waimalu Stream near Aiea

Location.--Lat 21°23'35", long 157°57'05", on right bank of stream, just downstream from bridge on Moanalua Highway, 1.5 miles northwest of Aiea and 1.6 miles east of Pearl City.

Drainage area.--6.1 sq mi.

Records available.--January 1952 to June 1956.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,300 mgd (2,010 cfs) Feb. 25 (gage height, 5.99 ft), from rating curve extended above 14 mgd on basis of test on model of station site and contracted-opening determination of peak flow; minimum, 0.31 mgd (0.48 cfs) Oct. 2, 3.

1952-56: Maximum discharge, 1,900 mgd (2,940 cfs) Nov. 28, 1954 (gage height, 8.03 ft), from rating curve extended above 600 mgd by test on model of station site; minimum, 0.01 mgd (0.02 cfs) Jan. 18, 1952.

Remarks.--Records fair except those for periods of no gage-height record or indefinite stage-discharge relation, which are poor. Small quantities of water diverted for irrigation.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.41	0.73	1.14	0.62	1.67	0.95	3.2	3.35	16.6	13.1	0.55	a2.3
2	.80	29	e1.8	.31	1.81	1.05	3.7	5.5	6.1	3.8	.55	a1.5
3	.66	17.6	e1.5	.31	1.53	.86	1.67	3.95	2.6	2.1	.77	a9.4
4	.49	1.58	e3.5	*.48	1.67	.77	1.53	1.81	1.95	1.15	1.05	a8.0
5	.44	.87	e1.6	.41	1.67	.62	1.53	1.81	2.6	.86	1.15	2.95
6	.38	.66	e.9	.55	1.67	.55	1.91	12.1	2.1	.69	1.15	3.05
7	.32	.82	.62	.69	2.1	.62	1.67	64	1.53	.69	50	8.3
8	.35	1.14	1.15	.75	.62	.69	1.40	6.4	2.15	.69	2.8	2.8
9	.61	1.06	1.01	.77	.69	.55	1.15	2.95	2.1	.77	.95	1.57
10	.71	1.69	.62	.95	.82	.62	1.05	6.0	1.81	1.05	.77	1.27
11	1.36	1.46	.62	1.15	.86	.69	.95	4.6	1.53	1.67	1.15	2.8
12	1.15	1.06	.62	1.61	.62	.61	77	47	1.53	1.53	.77	8.1
13	.76	1.97	.55	1.27	.55	.69	12.3	25.5	1.53	1.15	.69	8.4
14	.82	27	.86	1.27	.59	.62	4.0	10.9	1.15	1.40	.77	6.4
15	.67	3.3	.86	.95	.48	1.22	2.25	5.2	1.15	1.15	2.35	4.4
16	.82	1.98	.86	1.05	.41	.48	3.6	47	1.05	1.05	1.05	2.6
17	.60	1.54	.95	.86	.48	.41	2.1	43	.86	.95	1.15	1.81
18	.55	23	.69	.77	2.0	.62	1.67	29	.86	*.77	.77	2.2
19	.55	34	.77	1.27	1.00	45	1.27	12.4	.77	.77	1.30	1.15
20	.71	52	.77	1.40	.48	198	1.15	5.7	.77	39	.62	.77
21	.76	2.65	1.05	1.27	.55	220	1.15	4.0	.77	31.5	.55	1.45
22	1.06	1.20	1.05	1.27	2.7	14.8	.95	2.95	.69	2.05	.69	4.1
23	1.06	.76	.77	1.53	1.53	6.6	.95	2.6	1.61	.95	a15	5.6
24	.98	.87	.69	1.53	1.05	4.2	.86	51	3.3	.77	a3.5	4.2
25	1.53	.71	.55	1.67	2.25	3.15	62	*391	2.25	.62	a5.0	2.95
26	1.74	.55	.48	1.40	2.2	2.1	36.5	36	2.55	.55	a1.5	1.95
27	1.30	.49	.48	1.27	2.25	1.81	4.2	21	5.7	.82	a.86	1.15
28	19.0	.49	.91	1.27	*.69	1.53	3.45	11.3	3.3	.52	a7.6	.95
29	3.75	.46	1.04	1.27	.77	1.05	13.2	13.9	8.2	.62	a10.0	.86
30	2.15	.41	.95	1.27	1.76	1.05	16.2	-----	15.6	.62	a7.0	.86
31	1.02	.97	-----	1.27	-----	2.75	9.4	-----	20	-----	a4.0	-----
Total	47.71	212.02	29.36	32.46	37.43	514.66	273.96	871.92	114.71	113.26	126.06	103.84
Mean:	1.54	6.84	0.979	1.05	1.25	16.6	8.84	30.1	3.70	3.78	4.07	3.46
mgd	2.38	10.6	1.51	1.62	1.93	25.7	15.7	46.6	5.72	5.85	6.30	5.35
cfs	146	651	90	100	115	1,580	841	2,680	352	348	387	319
Ac-ft												

Calendar year 1955: Max 332 Min 0.31 Mean(mgd) 5.94 Mean(cfs) 9.19 Ac-ft 6,660
Fiscal year 1955-56: Max 391 Min 0.31 Mean(mgd) 6.77 Mean(cfs) 10.5 Ac-ft 7,610

Peak discharge (base, 250 mgd).--Aug. 2 (9:30 p.m.) 306 mgd (473 cfs), 3.59 ft; Aug. 14 (10:30 a.m.) 276 mgd (427 cfs), 3.38 ft; Aug. 19 (12 p.m.) 433 mgd (763 cfs), 4.74 ft; Dec. 21 (1 a.m.) 935 mgd (1,450 cfs), 5.05 ft; Feb. 25 (8:30 a.m.) 1,300 mgd (2,010 cfs) 5.99 ft; May 7 (8:30 a.m.) 550 mgd (851 cfs), 3.36 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby streams.

e Stage-discharge relation indefinite; discharge estimated on basis of recorded graph and records for nearby streams.

Pearl Harbor Springs at Kalauao, near Aiea

Location.--Lat 21°23'05", long 157°56'45", on left bank 900 ft downstream from Oahu Sugar Co.'s pump 6, 1.1 miles west of Aiea, and 7.6 miles northwest of Honolulu.

Records available.--March 1931 to June 1956.

Gage.--Water-stage recorder and sharp-crested weir. Datum of gage is 1.38 ft below mean sea level, datum of 1929.

Average discharge.--25 years, 16.0 mgd (24.8 cfs), unadjusted for pumpage.

Extremes.--1931-56: Maximum daily discharge, 25 mgd (39 cfs) Feb. 17-26, 1938, Feb. 23, 24, 1955; minimum daily, 7.2 mgd (11.1 cfs) Aug. 25, Sept. 2, 1947.

Remarks.--Records good. When water is needed for irrigation of sugarcane, Oahu Sugar Co.'s pump 6 diverts about 7 mgd as a high-lift pump or 9 mgd as a low-lift pump. Surface runoff from floods not included in figures of discharge given below.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	14.2	13.3	12.1	19.4	18.0	19.0	21.5	22.5	22.5	21	19.8	15.4
2	16.7	13.3	14.6	18.5	13.3	20.5	21.5	22	22.5	21	19.4	16.3
3	21.5	16.3	16.3	14.6	12.1	20.5	21.5	22	22.5	21	19.8	19.4
4	18.5	15.4	20.5	13.3	13.8	20.5	20.5	22	22.5	21	19.8	15.0
5	15.4	21	19.8	*14.2	19.4	17.6	21.5	22.5	22	20.5	19.8	13.3
6	13.8	21	12.5	19.4	17.2	20.5	21	22.5	22	17.2	19.8	13.3
7	14.6	18.0	12.5	19.4	12.9	17.2	21.5	22.5	17.6	21	16.3	14.6
8	15.4	13.3	12.5	19.8	12.9	19.8	21.5	22.5	15.9	21	16.7	16.3
9	16.7	13.8	15.0	19.4	16.7	19.8	17.6	22.5	20.5	21	16.3	16.7
10	18.5	13.3	19.8	13.3	19.8	20.5	16.3	22.5	22	21	16.3	19.0
11	13.3	15.0	18.0	15.0	19.8	20.5	21.5	22.5	21.5	17.6	14.6	14.6
12	15.4	18.5	16.3	12.5	19.8	17.6	22	23	20.5	17.6	19.8	16.3
13	14.6	16.3	17.2	14.2	19.8	17.2	22	23	21.5	17.2	19.8	16.3
14	13.8	18.5	13.3	17.6	19.8	17.2	22	22.5	21	21	14.6	16.3
15	16.7	13.3	12.5	19.8	19.8	17.2	22	22.5	21	21	18.0	15.4
16	21	12.5	15.0	19.8	19.8	17.6	22	22.5	19.4	21	17.2	15.0
17	18.5	13.3	19.8	19.4	19.8	20.5	22	22.5	21	20.5	19.0	18.5
18	14.2	15.0	17.2	19.8	19.8	19.4	22	23	21	15.4	16.3	13.8
19	13.8	19.8	13.3	12.9	19.8	16.7	22	22.5	21	17.6	14.6	12.9
20	18.5	18.0	12.5	15.4	19.8	21.5	22	22.5	17.2	19.8	19.0	12.5
21	16.7	18.0	12.5	19.4	19.8	21.5	22	22.5	15.9	20.5	12.9	12.5
22	21	12.9	13.3	19.4	19.8	21	22	22.5	21	20.5	14.2	14.6
23	21	12.5	19.4	19.4	19.8	21	22	22.5	18.0	20.5	15.4	19.4
24	19.0	12.5	20.5	15.9	19.8	21	22	22.5	21	16.7	13.3	19.4
25	13.3	13.3	20.5	12.1	20.5	21	22.5	22.5	21	19.8	14.6	19.4
26	13.3	15.0	15.4	12.5	20.5	21	22.5	23	17.2	19.4	16.7	19.4
27	12.9	17.2	13.3	12.5	20.5	21	22.5	22.5	17.6	15.4	19.4	12.9
28	12.9	18.5	12.5	17.6	15.9	21	22	22.5	19.0	19.8	12.9	12.5
29	12.9	12.5	13.3	19.4	19.8	21	22.5	22.5	21	19.8	19.4	12.1
30	16.7	13.3	14.6	15.9	*16.3	21.5	22.5	-----	21	16.3	15.9	19.0
31	19.8	12.5	-----	14.6	-----	21.5	22.5	-----	21.5	-----	16.7	-----
Total	504.6	477.1	466.0	516.4	546.8	613.8	668.9	653.0	629.3	583.1	528.3	472.1
Mean:												
mgd	16.3	15.4	15.5	16.7	18.2	19.8	21.6	22.5	20.3	19.4	17.0	15.7
cfs	25.2	23.8	24.0	25.8	28.2	30.6	33.4	34.8	31.4	30.0	26.3	24.3
Ac-ft	1,550	1,460	1,430	1,580	1,680	1,880	2,050	2,000	1,930	1,790	1,620	1,450
Calendar year 1955: Max	25			Min 12.1		Mean(mgd)	17.8		Mean(cfs)	27.5	Ac-ft	19,940
Fiscal year 1955-56: Max	23			Min 12.1		Mean(mgd)	18.2		Mean(cfs)	28.2	Ac-ft	20,420

* Discharge measurement made on this day.

Kalauao Stream at Aiea

Location.--Lat 21°23'05", long 157°56'30", on left bank 600 ft upstream from Kamehameha Highway Bridge, 0.7 mile west of Aiea Sugar Mill, and 2.3 miles east of Pearl City.

Drainage area.--2.92 sq mi.

Records available.--July 1953 to June 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 4.00 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 590 mgd (913 cfs) Feb. 25 (gage height, 5.97 ft); minimum, 0.64 mgd (0.99 cfs) Oct. 26-28.

1953-56: Maximum discharge, 1,050 mgd (1,620 cfs) Nov. 28, 1954 (gage height, 7.29 ft), from rating curve extended above 240 mgd; minimum, 0.43 mgd (0.66 cfs) Sept. 22, Oct. 23, 29, 1954.

Remarks.--Records fair except those for periods of no gage-height record, which are poor.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.3	0.37	2.1	14.6
1.4	.78	2.4	29.5
1.5	1.42	2.8	52
1.6	2.35	3.2	85
1.7	3.5	3.6	125
1.8	5.3	4.0	176
1.9	7.8		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.21	0.95	1.07	0.78	0.73	0.89	1.74	3.95	14.9	a6.0	1.07	2.45
2	1.42	6.5	1.55	.78	.73	.89	2.25	5.7	6.7	a2.4	1.14	1.93
3	1.07	7.0	1.28	1.28	.73	.83	1.21	5.6	2.75	1.66	1.07	8.5
4	1.01	1.76	2.65	*1.48	.68	.89	1.35	2.35	2.65	1.35	.95	6.7
5	1.35	.95	1.66	1.14	.68	1.01	1.07	2.45	2.9	1.21	1.01	2.55
6	1.35	1.07	1.35	.78	.68	.95	1.40	9.3	1.93	1.4	1.01	*3.55
7	1.21	1.21	1.35	.89	.78	.95	1.01	33.5	1.66	1.8	10.3	6.9
8	1.07	.95	1.56	.78	.83	.95	1.07	6.0	*2.05	1.35	2.6	4.5
9	1.21	.89	1.46	.78	3.85	.83	1.35	3.0	2.1	1.28	2.3	3.4
10	.95	.63	1.76	.78	2.0	.83	1.35	8.7	1.66	1.50	1.33	2.75
11	1.01	1.07	1.42	.83	2.2	.83	1.35	6.9	1.93	1.58	1.40	6.3
12	.83	1.01	1.14	.89	1.14	1.01	26	21.5	2.0	1.58	1.07	9.0
13	.89	.89	1.07	.89	.95	1.12	10.7	20.5	1.93	1.66	.95	8.6
14	1.35	5.0	1.01	.89	1.21	.89	3.0	11.6	1.93	1.4	.95	6.0
15	1.34	*1.71	1.01	.73	2.15	.83	2.0	7.3	1.58	2.35	3.1	3.7
16	.78	1.14	.95	.68	1.01	.89	6.9	20.5	1.42	a2.6	1.77	2.75
17	.95	1.07	.78	.73	1.01	.83	2.8	18.7	1.35	a3.5	1.21	2.0
18	1.62	8.6	.89	.73	3.85	.83	1.75	24.5	1.35	a4.4	1.07	2.45
19	1.21	13.0	1.62	.73	2.55	9.3	*1.42	13.3	1.28	a4.6	1.77	1.71
20	1.21	8.6	1.62	.73	1.84	76	1.35	6.0	1.21	a7.7	1.21	1.42
21	1.14	1.75	1.01	.78	1.14	*81	1.50	2.75	1.07	a12	1.01	1.64
22	.95	1.42	1.07	.68	2.3	11.7	1.42	2.2	1.07	a7.8	1.14	3.7
23	.89	1.14	.78	.68	1.66	3.2	1.35	2.0	1.07	a3.2	9.3	3.55
24	.83	1.01	.78	.73	1.07	2.0	1.42	24.5	3.8	*2.0	3.15	3.1
25	1.36	.95	.78	.78	1.28	1.84	14.9	137	3.35	1.07	4.2	2.55
26	2.7	1.01	.89	.64	.95	1.35	18.9	31	2.35	1.07	1.93	1.42
27	1.35	.78	.89	.64	3.45	1.21	7.7	22	1.8	1.14	1.49	1.42
28	10.0	.63	1.06	.68	1.42	1.07	4.3	12.0	1.84	1.07	6.8	1.14
29	2.75	1.35	1.09	.68	1.01	1.01	12.9	10.3	1.42	1.01	8.8	1.07
30	1.95	1.07	1.01	.68	*.95	1.55	21	-----	a2.4	1.07	5.7	1.01
31	1.07	1.07	-----	1.13	-----	2.8	12.1	-----	a3.2	-----	3.1	-----
Total	48.03	76.58	36.56	25.40	44.83	210.28	168.56	475.10	78.65	82.75	83.90	107.76
Mean:												
mgd	1.55	2.47	1.22	0.819	1.49	6.78	5.44	16.4	2.54	2.76	2.71	3.59
cfs	2.40	3.82	1.89	1.27	2.31	10.5	8.42	25.4	3.93	4.27	4.19	5.55
Ac-ft	147	235	112	78	138	645	517	1,460	241	254	257	331

Calendar year 1955: Max 144 Min 0.64 Mean(mgd) 5.41 Mean(cfs) 5.28 Ac-ft 3,820
Fiscal year 1955-56: Max 137 Min 0.64 Mean(mgd) 3.93 Mean(cfs) 6.08 Ac-ft 4,420

Peak discharge (base, 150 mgd).--Dec. 20 (12 p.m.) 490 mgd (758 cfs), 5.64 ft; Feb. 7 (4 a.m.) 205 mgd (317 cfs), 4.21 ft; Feb. 12 (9 p.m.) 156 mgd (241 cfs), 3.85 ft; Feb. 25 (8:30 a.m.) 590 mgd (913 cfs), 5.97 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby streams.

North Halawa Stream near Aiea

Location.--Lat 21°23'45", long 157°53'45", on left bank 2.7 miles above confluence with South Halawa Stream and 2.7 miles northeast of Aiea Post Office.

Drainage area.--3.45 sq mi.

Records available.--August 1929 to June 1933, July 1953 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 30 ft (by barometer).

Average discharge.--5 years (1931-33, 1953-56), 5.82 mgd (9.00 cfs).

Extremes.--1953-54: Maximum discharge during fiscal year, 428 mgd (662 cfs) Apr. 29 (gage height, 9.72 ft), from rating curve extended above 70 mgd; no flow at times.
 1954-55: Maximum discharge during fiscal year, 1,100 mgd (1,700 cfs) Nov. 28 (gage height, 12.64 ft, from floodmarks), from rating curve extended above 70 mgd; no flow at times.
 1955-56: Maximum discharge during fiscal year, 660 mgd (1,020 cfs) Feb. 25 (gage height, 10.88 ft), from rating curve extended above 70 mgd; no flow at times.
 1929-33, 1953-56: Maximum discharge, 4,300 mgd (6,650 cfs) Feb. 28, 1932 (gage height, 13.36 ft); no flow several times each year.

Remarks.--Records poor except those for 1955-56, which are fair.

Discharge, in million gallons a day, fiscal year July 1953 to June 1954

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1		0				0	4.1	0	5.1	0	1.13	10.1
2		0				0	6.5	0	11.7	0	.54	2.4
3		0				0	1.44	0	*2.5	0	.37	2.75
4		0				0	.61	0	*1.04	0	.28	.99
5		0				0	.46	0	6.3	0	.16	.72
6		0				0	.39	0	2.4	0	*.18	.48
7		16.6				0	.26	0	1.03	0	.15	1.43
8		2.85				0	.15	0	.78	0	.21	2.85
9		.28				0	.09	0	.92	0	.18	1.19
10		.15				0	.03	0	14.0	0	.12	.78
11		.05				0	.01	0	6.2	0	.06	.54
12		.02				0	0	0	2.25	0	.04	.41
13		5.9				0	0	0	1.15	0	.02	.28
14		1.88				0	0	0	.75	0	.01	.18
15		.04				0	0	0	.61	0	0	.12
16		.02				0	0	0	.48	0	0	.06
17		0				0	0	0	.67	0	0	.04
18		0				0	0	0	1.25	0	0	.04
19		0				0	0	0	.83	0	2.5	.04
20		0				1.01	0	0	.58	0	4.4	.43
21		0				2.15	0	0	.44	0	1.86	.71
22		0				20.5	0	.48	.28	0	.60	.41
23		0				3.55	0	.20	.13	0	.37	.32
24		0				.55	0	8.0	.04	0	6.5	.42
25		0				.16	0	6.9	.03	0	1.01	1.65
26		0				.08	0	5.6	.02	0	.56	.62
27		0				.56	0	3.0	0	0	1.34	.70
28		0				*.18	0	1.92	.01	0	1.76	.76
29		0				.09	0	-	0	53	.83	*.80
30		0				.03	0	-----	0	7.9	11.1	1.39
31		0				.01	0	0	0	-----	50	-----
Total	0	27.77	0	0	0	28.87	50.94	26.10	61.47	60.9	86.28	33.61
Mean:												
mgd	0	0.896	0	0	0	0.931	1.84	0.932	1.98	2.03	2.78	1.12
cfs	0	1.39	0	0	0	1.44	2.54	1.44	3.06	3.14	4.30	1.73
Ac-ft	0	85	0	0	0	89	156	80	189	187	265	103

Calendar year 1953: Max - Min - Mean(mgd) - Mean(cfs) - Ac-ft -
 Fiscal year 1953-54: Max 53 Min 0 Mean(mgd) 1.03 Mean(cfs) 1.59 Ac-ft 1,150

Peak discharge (base, 300 mgd).--Jan. 1 (5:30 a.m.) 320 mgd (495 cfs), 9.04 ft; Apr. 29 (1 p.m.) 428 mgd (662 cfs), 9.72 ft; May 31 (2:30 a.m.) 380 mgd (588 cfs), 9.39 ft.

* Discharge measurement made on this day.

North Halawa Stream near Aiea--Continued

Discharge, in million gallons a day, fiscal year July 1954 to June 1955

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.05	2.55	0.64	0.19	0.48	a5	3.4	0.46	3.1	0.49	0.18	0.13
2	3.4	1.32	.48	.77	.08	*a4	2.4	.61	2.3	.85	.11	.07
3	6.4	.99	.41	.38	.04	3.05	1.98	.69	1.86	3.4	.08	.04
4	41	1.42	.34	.19	.02	1.88	2.45	.56	*2.65	1.70	.04	0
5	11.2	7.0	.28	.16	.02	17.2	1.84	.59	11.9	1.07	.02	0
6	3.2	2.7	.42	.05	0	76	1.27	1.35	3.2	.64	0	0
7	1.17	1.72	.48	.04	0	63	1.07	79	2.1	.45	0	0
8	.80	4.6	.37	.11	0	25	.85	28.5	1.62	.29	0	0
9	.58	4.0	.56	.67	0	10.1	.69	6.2	1.24	.18	0	0
10	25.5	5.0	.37	.35	0	6.3	.56	2.7	3.65	.12	0	0
11	29	3.65	.15	25	0	3.5	.44	1.75	2.8	.09	0	0
12	20.5	11.1	.05	7.1	0	2.5	.32	48	3.25	.07	0	0
13	9.8	1.80	.04	2.05	0	2.95	.34	15.1	3.25	.05	0	0
14	3.4	1.03	.02	1.07	0	32.5	.32	7.5	2.4	.04	0	0
15	1.72	2.25	.02	.78	0	15.1	.34	4.9	30	.03	0	0
16	2.15	3.55	1.35	.48	0	63	.41	5.9	22	.02	0	0
17	7.6	2.2	.54	.30	0	10.6	.39	8.2	4.6	.02	0	0
18	21	3.15	5.3	.19	0	3.9	.39	6.8	2.5	.10	.26	0
19	5.7	1.77	1.58	*.16	0	2.3	.48	19.4	1.70	.10	.03	0
20	4.4	1.27	.72	.09	0	1.63	.32	14.8	1.30	.09	1.17	0
21	1.64	9.1	1.24	.56	0	5.9	84	7.1	1.07	.08	.54	0
22	1.35	3.95	.70	.66	0	33	12.5	37.5	33.5	.05	.11	0
23	1.35	18.6	.28	.23	0	15.9	4.2	139	25	.04	.08	0
24	1.11	*7.3	.54	.11	0	4.6	2.1	61	5.8	.01	.02	0
25	.83	1.94	12.2	.04	a0	2.45	1.19	40	2.7	0	.64	0
26	.61	5.4	1.44	.04	a0	1.70	*.60	14.2	1.70	.11	1.37	0
27	.46	9.8	.74	.02	a0	1.70	.39	7.7	1.18	3.7	5.5	0
28	107	3.6	.44	.02	a180	2.45	.26	5.0	.89	1.69	4.5	0
29	113	2.05	.36	0	a240	8.6	.18	-	.72	.72	1.46	0
30	26	1.11	.50	0	a10	9.0	.17	-----	.60	.37	.52	0
31	5.6	1.19	-----	3.9	-----	7.0	.65	-----	.52	-----	.24	-----
Total	460.52	127.71	32.56	80.36	430.64	439.81	126.68	584.51	181.10	16.57	16.87	0.24
Mean:	14.9	4.12	1.09	2.59	14.4	14.2	4.09	20.9	5.84	0.552	0.544	0.008
cfs	23.1	6.37	1.69	4.01	22.3	22.0	6.33	32.3	9.04	0.854	0.842	0.012
Ac-ft	1,410	392	100	247	1,320	1,350	389	1,790	556	51	52	0.7
Calendar year 1954: Max	240			Min 0		Mean(mgd)	5.18	Mean(cfs)	8.01	Ac-ft	5,800	
Fiscal year 1954-55: Max	240			Min 0		Mean(mgd)	6.84	Mean(cfs)	10.6	Ac-ft	7,660	

Peak discharge (base, 300 mgd).--July 29 (11 a.m.) 335 mgd (518 cfs), 9.14 ft; Nov. 28 (about 6 p.m.) 1,100 mgd (1,700 cfs), 12.64 ft; Jan. 21 (9:30 a.m.) 560 mgd (868 cfs), 10.36 ft; Feb. 7 (12 m.) 350 mgd (542 cfs), 9.18 ft; Feb. 12 (3:30 a.m.) 305 mgd (472 cfs), 8.94 ft; Feb. 23 (5:30 p.m.) 500 mgd (774 cfs), 10.08 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for stations near Aiea.

North Halawa Stream near Aiea--Continued

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	0	0.48		0	0.07	2.05	3.8	17.4	12.2	0.71	2.35
2	.16	10.0	3.6		0	.03	1.57	7.3	6.7	3.4	.13	1.94
3	.07	11.1	1.19		0	0	.56	4.4	3.25	1.70	.09	15.8
4	.03	2.4	4.6		0	0	.33	2.0	2.3	1.07	.04	8.3
5	0	1.01	1.11		0	0	.25	2.15	1.78	.72	.02	3.3
6	.02	.33	.37		0	0	.14	10.9	1.46	4.7	0	3.25
7	0	.18	.22		0	0	.09	46	1.18	1.16	.37	9.3
8	0	.14	.64		0	0	.04	7.3	1.07	.49	2.55	3.2
9	0	.06	.49		7.0	0	.02	3.3	2.0	.29	.78	1.78
10	0	.05	.13		.47	0	0	8.5	1.30	.20	.33	1.38
11	0	.40	.09		2.85	0	0	5.6	1.51	.14	2.0	5.8
12	0	.33	.04		.84	0	30.5	24	.78	.11	.78	14.0
13	0	.14	.01		.21	0	9.8	17.2	.52	.08	.37	13.7
14	0	10.9	0		1.98	0	3.1	10.8	.41	.06	.24	9.7
15	0	1.54	0		2.1	0	1.54	6.6	.37	.04	2.15	6.0
16	0	.66	0		.50	0	4.1	39.5	.29	.03	.64	3.8
17	0	.60	0		1.97	0	1.78	24.5	.25	.44	.27	2.1
18	0	19.0	0		12.5	0	1.07	26.5	.22	.16	.34	*3.45
19	0	31.5	0		7.7	37.5	.84	11.9	.49	.10	2.75	3.0
20	0	15.6	0		3.55	109	*4.1	5.4	1.05	33	.34	1.24
21	0	3.15	.08		1.38	95	.27	3.4	.52	22.5	.14	2.9
22	0	1.42	1.06		3.85	12.4	.14	2.4	.27	3.65	3.4	5.5
23	0	.84	.39		1.96	4.5	.10	2.3	3.65	1.42	12.0	4.1
24	0	.49	.05		2.15	2.6	.07	59	2.05	.64	3.35	2.75
25	0	.27	.02		.95	2.05	29.5	167	2.3	*.37	4.6	1.24
26	0	.18	0		.41	1.18	19.1	25	1.59	3.4	2.1	.78
27	.67	.14	0		3.25	.72	4.5	17.7	5.4	.45	11.3	1.07
28	22.5	.10	0		.48	.49	6.9	10.6	2.25	.22	10.8	.60
29	6.0	.07	0		.18	.33	9.6	11.4	13.6	.13	9.5	.31
30	1.62	.04	0		*.11	.39	26.5	-----	11.4	1.33	6.3	1.26
31	1.00	.02	-----		-----	6.1	10.3	-----	20.5	-----	4.3	-----
Total	32.07	112.66	14.57	0	56.39	272.36	164.97	566.45	107.86	94.20	119.32	133.90
Mean:	1.03	3.63	0.486	0	1.88	8.79	5.32	19.5	3.48	3.14	3.85	4.46
cfs	1.59	5.62	0.752	0	2.91	13.6	8.23	30.2	5.38	4.86	5.96	6.90
Ac-ft	98	346	45	0	173	836	506	1,740	331	289	366	411

Calendar year 1955: Max 139 Min 0 Mean(mgd) 3.87 Mean(cfs) 5.99 Ac-ft 4,340
 Fiscal year 1955-56: Max 167 Min 0 Mean(mgd) 4.58 Mean(cfs) 7.09 Ac-ft 5,140

Peak discharge (base, 300 mgd).--Dec. 19 (12 p.m.) 444 mgd (687 cfs), 9.78 ft; Feb. 25 (6:30 a.m.)
 660 mgd (1,020 cfs), 10.88 ft; May 7 (5:30 a.m.) 320 mgd (495 cfs), 9.01 ft.

* Discharge measurement made on this day.

Halawa Stream near Aiea

Location.--Lat 21°22'25", long 157°55'45", on right bank 0.7 mile southeast of Aiea Post Office and 6.2 miles northeast of Honolulu Post Office.

Drainage area.--8.54 sq mi.

Records available.--April 1953 to June 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 16.52 ft above mean sea level.

Extremes.--Maximum discharge during year, 1,130 mgd (1,750 cfs) Feb. 25 (gage height, 7.78 ft); minimum, 1.28 mgd (1.98 cfs) Jan. 9.

1953-56: Maximum discharge, 1,880 mgd, revised (2,910 cfs) Nov. 28, 1954 (gage height, 9.67 ft); no flow at times.

Revisions.--The maximum discharge for the fiscal year 1955 has been revised to 1,880 mgd (2,910 cfs) Nov. 28, 1954 (gage height, 9.67 ft), superseding figure published in WSP 1399.

Remarks.--Records good except those for period of no gage-height record, which are poor. At times the Oahu Sugar Co. installs flashboards on the control diverting the entire flow for irrigation.

Rating table, fiscal year 1955-56 (gage height, in feet and discharge, in million gallons a day)
(Shifting-control method used July 23, 24, Aug. 23-27, Nov. 27-30)

1.3	0.83	3.0	82
1.4	1.95	3.5	147
1.6	5.8	4.0	222
1.9	13.1	4.5	298
2.2	23	5.0	388
2.5	39.5	5.5	488

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.3	1.95	3.7	2.5	1.95	3.2	5.0	9.1	30.5	21	2.8	6.2
2	1.95	9.6	4.7	1.95	2.1	3.35	4.5	9.1	14.2	7.7	2.3	4.5
3	1.84	18.0	4.1	1.73	2.5	3.0	2.65	9.6	8.4	4.8	2.3	16.3
4	1.61	4.5	5.4	1.84	2.5	2.1	1.95	4.8	6.4	3.15	1.95	*11.4
5	1.73	2.8	5.0	1.84	1.95	1.95	1.84	3.7	6.4	2.5	1.95	7.3
6	1.95	2.3	2.3	2.5	1.61	1.73	1.61	10.7	6.2	5.8	1.73	6.8
7	2.5	1.95	2.1	2.8	1.39	1.73	1.50	64	6.8	3.35	3.9	11.0
8	3.0	2.1	2.3	2.5	1.50	1.73	1.39	14.9	7.3	2.1	4.8	6.7
9	2.8	2.8	3.0	1.95	7.3	2.1	1.61	7.9	7.7	1.95	2.65	4.1
10	2.3	2.5	2.8	1.95	3.35	1.95	2.3	18.2	6.4	1.95	2.48	3.35
11	1.95	2.3	1.95	2.3	3.35	1.61	1.73	13.6	5.0	2.3	3.9	6.0
12	2.5	*3.0	1.95	2.8	2.3	1.39	55	51	4.8	2.3	2.65	19.5
13	2.65	4.3	2.8	3.2	1.84	1.84	23	37	5.0	2.65	1.95	20
14	3.2	11.8	3.35	3.35	1.73	2.3	9.6	20	5.2	2.5	2.3	15.5
15	3.9	5.8	3.9	3.0	3.0	2.65	5.6	13.5	5.4	1.84	5.8	13.0
16	3.35	5.0	4.8	2.3	1.84	2.5	9.1	70	4.5	2.1	4.3	7.9
17	2.5	4.8	3.7	2.5	1.95	2.3	5.8	45	3.2	3.4	3.7	5.4
18	1.95	23.5	2.65	3.2	11.5	1.84	3.7	53	2.5	*3.7	3.5	5.6
19	2.1	3.8	2.8	2.5	9.7	a45	2.65	25.5	2.65	4.3	5.2	4.8
20	2.1	2.6	2.8	1.95	7.4	a210	1.95	13.2	3.35	4.3	3.0	3.5
21	2.3	7.1	3.7	2.3	3.9	a190	1.84	8.9	3.5	36	2.8	4.2
22	2.65	4.8	3.75	2.5	5.8	31	1.73	6.4	3.5	9.4	4.4	7.5
23	2.2	4.1	3.2	1.95	5.2	13.1	1.73	5.8	6.0	5.2	14.6	6.4
24	1.92	3.7	2.5	1.73	4.1	7.9	2.3	107	6.2	4.8	7.4	5.2
25	1.73	3.5	1.95	1.84	*3.5	5.8	36	389	4.5	4.8	6.9	3.5
26	1.73	3.0	1.95	1.95	2.65	4.1	27.5	71	4.8	6.1	5.0	3.0
27	1.95	2.8	1.95	2.5	4.2	3.0	9.8	41	7.8	3.35	9.6	2.65
28	23	2.5	1.95	2.8	3.0	2.65	8.3	24.5	6.8	2.3	17.5	2.5
29	11.7	2.8	2.65	2.5	2.5	2.1	13.4	19.9	14.8	1.95	11.3	2.55
30	5.4	3.35	3.2	1.95	2.6	1.95	33	-----	17.9	1.95	12.2	2.3
31	2.8	3.35	-----	1.84	-----	5.9	19.4	-----	31	-----	8.8	-----
Total	105.56	214.00	90.90	72.52	108.21	561.77	297.48	1,167.3	248.50	198.24	198.76	218.65
Mean:												
mgd	3.41	6.90	3.03	2.34	3.61	18.1	9.60	40.3	8.02	6.61	6.41	7.29
cfs	5.28	10.7	4.69	3.62	5.59	28.0	14.9	62.4	12.4	10.2	9.92	11.3
Ac-ft	324	657	279	223	332	1,720	913	3,580	763	608	610	671

Calendar year 1955: Max. 420 Min 0.69 Mean(mgd) 9.35 Mean(cfs) 14.5 Ac-ft 10,470
Fiscal year 1955-56: Max 389 Min 1.39 Mean(mgd) 9.51 Mean(cfs) 14.7 Ac-ft 10,680

Peak discharge (base, 300 mgd).--Dec. 20 (1 a.m.) 970 mgd (1,500 cfs), 7.26 ft; Feb. 7 (5:30 a.m.) 350 mgd (542 cfs), 4.77 ft; Feb. 12 (8 p.m.) 315 mgd (487 cfs), 4.60 ft; Feb. 25 (7:30 a.m.) 1,130 mgd (1,750 cfs), 7.78 ft; May 7 (6 a.m.) 428 mgd (662 cfs), 5.16 ft.

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of records for North Halawa and for nearby streams.

Moanalua Stream near Honolulu

Location.--Lat 21°22'50", long 157°52'20", on left bank 5 miles upstream from mouth and 5 miles north of Honolulu Post Office.

Drainage area.--2.8 sq mi.

Records available.--June 1926 to June 1956.

Gage.--Water-stage recorder and concrete weir. Datum of gage is 339.12 ft above mean sea level (city and county of Honolulu bench mark).

Average discharge.--30 years, 2.08 mgd (3.22 cfs).

Extremes.--Maximum discharge during year, 670 mgd (1,040 cfs) Feb. 25 (gage height, 6.36 ft), from rating curve extended above 71 mgd by test in model of station site; no flow for many days.

1926-56: Maximum discharge, 2,960 mgd (4,580 cfs) Nov. 18, 1930 (gage height, 11.58 ft), from rating curve extended above 71 mgd by test on model of station site; no flow at times each year.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Continuous records of rainfall are obtained at station.

Revisions (fiscal years).--WSP 905: Drainage area. WSP 935: 1931(M).

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

-0.2	0	0.5	1.86
-1.1	.01	.6	2.9
0.0	.03	.8	5.8
.1	.10	1.1	13.8
.2	.30	1.5	34
.3	.63	2.0	72
.4	1.13	3.0	165

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	0			0	0	1.49	4.0	5.0	8.7	0	0.92
2	0	5.4			0	0	1.11	3.5	3.2	2.8	0	.44
3	0	3.55			0	0	.20	2.55	2.0	1.40	0	6.9
4	0	.27			0	0	.10	1.00	1.6	.81	0	2.45
5	0	.02			0	0	.04	.45	1.4	.48	0	1.15
6	0	0			0	0	.02	5.0	1.2	.92	0	2.3
7	0	0			0	0	.02	9.0	1.01	.55	11.9	6.1
8	0	0			0	0	0	3.0	.81	.17	.58	2.05
9	0	0			.20	0	0	1.3	.84	.06	.05	1.01
10	0	0			.50	0	0	.80	.63	.03	.02	1.40
11	0	0			2.7	0	0	.60	.48	.02	2.75	3.9
12	0	0			.16	0	10	8.0	.28	.02	.54	7.0
13	0	0			.04	0	.45	4.5	.18	.01	.17	7.3
14	0	3.1			.25	0	.20	4.3	.07	.01	.04	3.8
15	0	.04			.18	0	.10	6.0	.05	0	.16	2.55
16	0	0			.10	0	.50	20	.04	0	.11	1.47
17	0	0			.18	0	.14	7.0	.03	0	.03	.86
18	0	13.0			.35	0	.10	5.0	.03	0	.02	.63
19	0	20.5			.25	60	.06	4.0	.02	0	.21	.59
20	0	8.1			.18	140	.02	3.0	.02	13.8	.04	.35
21	0	1.81			.08	*80	.01	2.5	.01	14.0	.02	.13
22	0	.87			.06	*10.6	0	2.0	0	2.05	.02	1.68
23	0	.21			.04	4.6	0	*6.0	0	.67	3.7	1.41
24	0	.05			.04	2.4	10	41	0	.22	.82	.63
25	0	.02			.02	1.51	25	146	0	.04	2.6	.28
26	0	.01			.02	.74	7.0	14	.35	.18	1.51	.08
27	0	.01			.20	.35	1.67	13	1.51	.04	6.8	.04
28	2.1	0			.02	.14	1.82	10	.87	.02	6.6	.33
29	.09	0			0	.06	5.3	8.0	5.7	.01	2.25	.03
30	0	0			0	.04	12	-----	8.7	0	1.97	.03
31	0	0	-----	-----	-----	2.9	6.0	-----	20	-----	1.79	-----
Total	2.19	56.76	0	0	5.57	283.34	83.35	335.50	56.00	47.01	44.70	57.51
Mean:												
mgd	0.071	1.83	0	0	0.186	9.14	2.69	11.6	1.81	1.57	1.44	1.92
cfs	0.110	2.83	0	0	0.288	14.1	4.16	17.9	2.80	2.43	2.23	2.97
Ac-ft	6.7	174	0	0	17	870	256	1,030	172	144	137	176

Calendar year 1955: Max 140 Min 0 Mean(mgd) 2.82 Mean(cfs) 4.36 Ac-ft 3,160
 Fiscal year 1955-56: Max 146 Min 0 Mean(mgd) 2.86 Mean(cfs) 4.12 Ac-ft 2,980

Peak discharge (base, 150 mgd).--Aug. 18 (6 p.m.) 175 mgd (271 cfs), 3.09 ft; Dec. 18-21 (time unknown) 570 mgd (882 cfs), 5.93 ft; Feb. 25 (6:30 a.m.) 670 mgd (1,040 cfs), 6.36 ft.

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 2-28, Dec. 18-21, Jan. 4-25, Jan. 30 to Feb. 2, Feb. 5-23, Feb. 26 to Mar. 6; record estimated on basis of records for nearby streams and recorded range in stage.

Kalihi Stream near Honolulu

Location.--Lat 21°22'00", long 157°50'45", on right bank at Kioi Pool, 0.4 mile upstream from Catholic Orphanage and 4.1 miles north of Honolulu Post Office.

Drainage area.--2.7 sq mi.

Records available.--September 1913 to June 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 464.40 ft above mean sea level, datum of 1929. Prior to Oct. 12, 1923, water-stage recorder at same site at datum 2.00 ft lower.

Average discharge.--39 years (1916-20, 1921-56), 4.61 mgd (7.13 cfs).

Extremes.--Maximum discharge during year, 1,310 mgd (2,030 cfs) Jan. 24 (gage height, 8.70 ft), from rating curve extended above 220 mgd by test on model of station site; minimum, 0.47 mgd (0.73 cfs) Nov. 7-9.

1913-56: Maximum discharge, about 5,400 mgd (about 8,400 cfs) Nov. 18, 1930, by observing on model of station site, the hydraulic conditions which would produce floodmarks of 13.8 ft in gage shelter; minimum, 0.06 mgd (0.09 cfs) Oct. 22, 1933.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Water for domestic use diverted from stream above station.

Revisions (fiscal years).--WSP 795: 1921-30(M), 1932(M). WSP 1399: 1931(M).

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

2.1	0.37	3.0	19.2
2.2	1.05	3.5	38
2.3	2.2	4.0	63
2.4	3.9	5.0	134
2.7	10.9		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.32	1.32	1.90	0.87	0.72	1.22	4.6	6.4	12.3	9.0	1.90	a4.2
2	2.3	16.2	2.65	1.13	.58	*1.32	3.7	6.0	7.6	5.5	1.66	a4.2
3	1.43	6.8	1.90	.95	.52	1.13	3.15	5.3	6.2	4.1	1.54	a5.3
4	1.22	3.5	4.3	1.22	.52	1.13	2.8	4.6	5.5	3.7	1.54	a4.3
5	1.13	2.35	1.90	1.13	.52	.96	2.65	4.4	5.3	3.5	1.43	a3.6
6	1.05	1.78	1.66	.96	.52	.96	2.65	9.7	5.0	5.4	2.45	a4.4
7	1.05	1.54	1.78	.87	.52	.96	2.35	24.5	4.6	3.3	27	8.1
8	.96	1.54	1.78	.79	.52	.96	2.35	6.4	4.4	2.95	4.1	3.7
9	.87	1.54	1.43	.72	1.76	.87	2.05	5.0	5.2	2.65	2.95	3.15
10	.87	1.54	1.22	.72	2.55	.96	1.78	7.1	3.7	2.5	3.4	3.7
11	.79	2.15	1.13	1.22	6.2	1.32	1.78	5.3	3.3	2.2	7.4	7.4
12	.79	1.43	1.13	.72	1.66	.87	26.5	20.5	3.15	2.2	5.2	10.2
13	.96	1.54	1.05	.72	.96	.87	5.7	9.3	2.95	1.90	3.9	9.2
14	1.32	a12	1.05	.72	4.1	.79	3.5	9.6	2.8	2.2	3.5	7.2
15	1.13	a4.5	1.05	.72	2.5	.79	2.8	11.5	2.65	1.90	4.1	5.1
16	1.43	a3.3	.96	.72	1.54	.79	6.3	43	2.65	1.78	3.5	4.6
17	1.05	a3.5	.96	.72	2.2	.72	3.15	15.4	2.5	2.2	2.8	3.3
18	1.22	14.6	.96	.65	4.8	.72	2.8	12.5	2.35	1.78	4.2	3.7
19	.87	16.1	1.58	.65	3.8	66	2.35	8.5	3.55	1.66	4.7	3.7
20	.96	8.9	1.37	.65	2.5	130	2.2	6.7	2.65	25	2.95	2.8
21	1.49	4.6	2.05	.72	2.05	59	2.05	6.9	2.35	28	2.65	4.5
22	.87	3.3	1.54	.72	2.2	12.8	2.0	6.0	2.5	5.7	4.3	8.3
23	.72	2.8	1.43	1.13	1.90	8.3	1.90	8.1	3.75	3.9	9.9	6.2
24	.79	2.5	1.22	1.05	2.05	7.1	25	41	3.3	3.3	a5.5	3.9
25	1.05	2.35	1.05	1.22	1.66	5.7	50	97	4.5	2.95	a12	2.95
26	.96	2.2	.96	.87	1.64	5.0	9.0	16.8	3.95	2.95	a4.8	2.8
27	2.85	2.05	.79	.79	4.3	4.6	5.3	16.3	6.9	2.5	a4.6	2.95
28	7.3	1.90	.87	.72	1.90	4.1	7.5	9.9	3.9	2.35	a8.2	2.65
29	2.95	1.78	.87	.65	1.54	3.7	8.6	13.5	8.0	2.2	a8.2	2.5
30	1.78	1.78	.87	.58	1.32	4.8	51	-----	8.5	2.35	a5.2	2.5
31	2.05	1.54	-----	.72	-----	8.8	10.2	-----	19.2	-----	a5.0	-----
Total	45.53	134.93	43.21	26.03	59.55	337.24	237.91	437.2	155.90	141.42	160.57	141.10
Mean:												
mgd	1.47	4.35	1.44	0.840	1.98	10.9	7.67	15.1	5.03	4.71	5.18	4.70
cfs	2.27	6.73	2.23	1.30	3.06	16.9	11.9	23.4	7.78	7.29	8.01	7.27
Ac-ft	140	414	133	80	183	1,030	730	1,340	478	434	493	433

Calendar year 1955: Max 210 Min 0.52 Mean(mgd) 5.32 Mean(cfs) 8.23 Ac-ft 5,960
Fiscal year 1955-56: Max 130 Min 0.52 Mean(mgd) 5.25 Mean(cfs) 8.12 Ac-ft 5,890

Peak discharge (base, 400 mgd).--Dec. 20 (4 a.m.) 715 mgd (1,110 cfs), 7.70 ft; Jan. 24 (12 p.m.) 1,310 mgd (2,030 cfs), 8.70 ft; Feb. 16 (12 m.) 530 mgd (820 cfs), 7.22 ft; Feb. 25 (6 a.m.) 760 mgd (1,180 cfs), 7.76 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of Nuuanu Stream.

Nuuanu Stream below reservoir 2 wasteway, near Honolulu

Location.--Lat 21°20'55", long 157°49'40", on right bank near Pali Road in upper Nuuanu Valley, 0.2 mile downstream from reservoir 2 wasteway and 3.5 miles northeast of Honolulu Post Office.

Drainage area.--3.4 sq mi.

Records available.--October 1913 to June 1956.

Gage.--Water-stage recorder and sharp-crested weirs. Datum of gage is 631.71 ft above mean sea level, datum of 1929. Prior to Sept. 7, 1915, staff gage at same site at datum 0.03 ft lower. Sept. 7, 1915, to Apr. 4, 1918, staff gage at same site and datum.

Average discharge.--37 years (1917-20, 1922-56), 4.95 mgd (7.66 cfs).

Extremes.--Maximum discharge during year, 652 mgd (1,010 cfs) Jan. 25 (gage height, 5.51 ft); minimum, 0.01 mgd (1.56 cfs) Oct. 10.
1913-56: Maximum discharge, 4,520 mgd (6,990 cfs) Jan. 16, 1921 (gage height, 8.74 ft, from floodmarks), from rating curve extended above 300 mgd by test on model of station site; minimum, 0.06 mgd (0.09 cfs) Sept. 10, 11, 1925.

Remarks.--Records good except those for period of no gage-height record, which are fair. Reservoirs 2, 3, and 4 (capacities, 21, 34, and 1,630 acre-ft, respectively) regulate flow. Honolulu Board of Water Supply diverts ground water from tunnels in drainage area.

Revisions (fiscal years).--WSP 985: 1921-35(M).

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.4	1.05	1.0	4.1
.5	1.45	1.1	5.2
.6	1.90	1.3	9.7
.7	2.4	1.6	19.0
.8	2.95	2.0	37.5
.9	3.5	3.0	105

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.15	1.25	2.45	1.90	1.33	1.50	6.0	11.7	14.0	6.0	3.45	4.1
2	3.3	11.8	2.8	1.81	1.25	1.58	5.1	9.7	9.2	4.3	3.35	4.1
3	2.85	6.7	2.05	1.63	1.25	1.45	5.0	8.7	8.2	4.0	3.3	5.4
4	2.8	2.3	3.05	1.90	1.21	1.41	4.9	7.4	7.7	3.9	3.3	5.1
5	2.6	2.05	1.95	1.90	1.21	1.37	4.6	7.2	7.2	3.8	3.2	4.5
6	2.55	1.95	1.90	1.76	1.17	1.33	4.3	12.4	7.0	4.7	4.0	5.8
7	2.5	a1.9	1.68	1.68	1.17	1.37	4.1	22	6.6	3.7	11.8	*5.8
8	2.4	a2.5	1.90	1.58	1.17	1.37	4.1	11.9	6.0	3.6	3.6	4.4
9	2.25	a1.9	1.76	1.58	1.87	1.33	4.0	9.4	6.8	3.5	3.45	4.1
10	2.05	1.81	1.76	1.58	2.55	1.33	3.9	10.9	6.0	3.45	6.0	5.1
11	2.0	2.45	1.72	2.1	4.8	1.33	3.9	9.4	5.8	3.4	6.0	5.4
12	1.90	1.76	1.72	1.68	1.76	1.25	15.5	19.6	5.4	3.1	5.0	6.2
13	2.0	1.61	1.63	1.58	1.45	1.29	5.5	13.1	5.2	3.2	3.9	7.6
14	2.05	4.0	1.63	1.54	2.15	1.25	5.1	11.8	5.2	3.2	5.0	6.6
15	2.0	2.0	1.72	1.54	1.72	1.21	4.9	10.2	4.6	3.3	6.5	5.1
16	2.2	1.81	1.45	1.72	1.58	1.17	5.6	33	4.9	3.15	3.85	5.0
17	1.90	2.0	1.58	1.50	2.3	1.13	4.8	18.9	4.5	3.2	3.6	4.4
18	1.90	4.6	1.58	1.45	4.0	1.13	4.5	13.7	4.4	3.0	5.8	4.4
19	1.81	3.9	2.05	1.45	2.0	27	4.3	11.1	5.0	3.2	4.6	4.5
20	1.81	2.9	1.81	1.41	1.76	72	4.2	9.2	4.6	*14.6	3.6	3.75
21	1.68	2.25	5.0	1.50	2.25	30.5	4.0	8.2	4.1	18.0	3.55	4.4
22	1.25	2.2	2.65	1.45	2.3	12.8	4.1	7.4	4.0	5.2	4.0	5.6
23	1.29	2.25	2.25	1.58	1.95	9.0	3.9	9.6	4.8	3.95	5.6	5.0
24	1.29	2.25	2.05	1.45	1.81	7.2	4.9	31.5	4.2	4.0	4.2	3.85
25	1.54	2.2	1.90	1.45	1.72	6.6	100	77	7.1	3.85	7.5	3.6
26	1.41	1.90	1.86	1.54	1.69	6.0	29	25.5	5.2	3.85	4.4	4.2
27	3.5	2.05	1.81	1.37	1.77	5.6	13.4	36	8.8	3.75	4.1	4.5
28	2.55	2.0	1.81	1.33	1.68	5.4	10.3	40	4.6	3.6	5.6	3.35
29	1.54	1.90	1.81	1.33	1.58	5.1	11.7	28	5.2	3.55	5.6	3.5
30	1.33	1.95	1.76	1.29	1.50	5.4	23.5	-----	5.5	3.75	4.6	3.85
31	1.37	1.81	-----	1.37	-----	7.4	17.6	-----	8.4	-----	4.5	-----
Total	64.77	86.15	61.27	48.95	55.95	223.80	326.7	524.5	190.2	137.80	146.95	143.20
Mean	2.09	2.78	2.04	1.58	1.66	7.22	10.5	18.1	6.14	4.59	4.74	4.77
mgd	3.23	4.30	3.16	2.44	2.68	11.2	16.2	28.0	9.50	7.10	7.33	7.38
cfs	199	264	188	150	172	687	1,000	1,610	584	423	451	439
Ac-ft												

Calendar year 1955: Max 140 Min 1.13 Mean(mgd) 6.39 Mean(cfs) 9.89 Ac-ft 7,160
Fiscal year 1955-56: Max 100 Min 1.13 Mean(mgd) 5.49 Mean(cfs) 8.49 Ac-ft 6,170

Peak discharge (base, 150 mgd).--Dec. 19 (11:30 p.m.) 254 mgd (393 cfs), 4.44 ft; Jan. 25 (1 a.m.) 652 mgd (1,010 cfs), 5.51 ft; Feb. 25 (5:30 a.m.) 218 mgd (337 cfs), 4.17 ft.

* Discharge measurement made on this day.

No gage-height record; discharge estimated on basis of recorded range in stage and records for nearby streams.

East Branch Manoa Stream near Honolulu

Location.--Lat 21°19'50", long 157°48'10", on right bank just downstream from highway bridge, 400 ft upstream from confluence with West Branch and 4.2 (corrected) miles northeast of Honolulu Post Office.

Drainage area.--1.0 sq mi.

Records available.--May 1913 to January 1921, August 1925 to June 1956.

Gage.--Water-stage recorder and combination Parshall flume and concrete weir. Datum of gage is 294.50 ft above mean sea level (Honolulu Board of Water Supply bench mark). Prior to May 20, 1914, staff gage at site 200 ft upstream at different datum. May 20, 1914, to Jan. 16, 1921, water-stage recorder at site 50 ft upstream at different datum. Aug. 18, 1925, to Oct. 18, 1933, water-stage recorder at present site at datum 0.41 ft higher.

Average discharge.--37 years (1913-20, 1926-56), 3.15 mgd (4.87 cfs).

Extremes.--Maximum discharge during year, 350 mgd (542 cfs) Aug. 2 (gage height, 3.86 ft), from rating curve extended above 21 mgd by test on model of station site; minimum, 1.74 mgd (2.69 cfs) Dec. 15-18.

1913-21, 1925-56: Maximum gage height, 10.4 ft Jan. 16, 1921, from floodmarks, site and datum then in use (discharge, 2,000 mgd or 3,090 cfs, estimated from rating curve extended above 37 mgd); minimum discharge, 0.4 mgd (0.6 cfs) June 7, 8, 1926.

Remarks.--Records good except those for period of no gage-height record, which are fair. Honolulu Board of Water Supply at times diverts a small amount of ground water from tunnels in drainage area.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)
(Shifting-control method used June 10-16, 20-30)

0.3	1.37	1.1	10.0
.4	2.1	1.3	15.0
.5	2.95	1.5	22.2
.6	3.9	1.7	31
.9	7.3	2.0	47

Discharge, in million gallons a day, fiscal year July 1955, to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	5.0	2.8	5.5	2.7	1.95	2.05	2.85	2.8	4.6	4.3	2.25	4.6
2	5.3	16.3	5.9	2.7	1.95	2.25	2.45	3.05	3.7	2.85	2.2	5.6
3	3.6	12.4	5.6	*2.7	1.95	2.05	2.35	2.5	3.25	2.6	2.1	7.9
4	4.3	3.9	5.1	3.65	1.88	1.95	2.25	2.75	3.05	2.5	2.1	4.6
5	3.2	3.5	3.25	3.15	1.88	1.88	2.25	2.8	2.95	2.45	2.1	3.8
6	3.35	3.25	2.95	2.5	1.88	1.81	2.2	3.8	2.85	4.3	3.3	6.2
7	3.4	3.05	2.85	2.35	1.88	1.81	2.1	6.3	*2.7	2.5	10.7	*5.2
8	3.05	4.7	3.65	2.25	1.95	1.81	2.25	2.8	2.5	2.35	2.6	4.0
9	2.95	*3.4	2.95	2.2	2.8	1.81	2.2	2.5	2.7	2.25	2.45	3.6
10	2.85	3.7	2.7	2.2	5.1	1.81	2.25	6.0	2.5	2.35	3.65	4.7
11	2.8	4.2	2.7	4.6	4.9	1.88	2.2	2.95	2.6	2.25	5.55	4.7
12	3.35	3.15	2.7	3.7	2.25	1.81	9.7	5.1	2.35	2.2	3.3	5.9
13	3.9	3.6	2.6	2.5	1.95	1.81	3.15	3.8	2.25	2.1	2.7	5.8
14	5.0	8.8	2.6	2.35	3.15	1.81	2.45	3.5	2.25	2.1	3.45	5.6
15	3.9	4.0	2.6	2.25	2.25	1.74	2.25	3.35	2.25	2.2	8.5	4.3
16	3.8	3.35	2.6	2.65	2.35	1.74	2.2	6.2	2.25	2.25	3.15	4.7
17	3.15	3.4	2.5	2.25	2.6	1.74	2.1	4.8	2.2	2.9	2.8	4.0
18	3.05	7.2	2.5	2.2	7.0	1.74	*1.95	5.6	2.4	2.2	9.3	4.0
19	2.85	6.1	3.15	2.35	2.25	all	1.88	4.4	3.4	2.5	5.0	4.4
20	4.4	7.8	2.85	2.25	2.8	*a35	1.88	3.8	2.5	19.6	3.03	3.35
21	4.3	3.6	7.9	2.2	2.7	15.9	1.81	3.25	2.25	19.5	3.05	5.6
22	2.85	3.35	4.3	2.1	2.9	4.9	1.88	2.95	2.35	3.9	3.45	6.8
23	2.85	3.35	3.2	2.25	2.5	3.5	1.81	3.65	5.8	*2.95	4.4	5.9
24	2.85	3.25	2.7	2.25	2.25	4.0	2.9	10.9	2.95	2.6	4.2	4.9
25	4.0	3.55	2.6	2.25	*2.1	3.05	11.7	12.8	5.15	2.6	7.3	3.8
26	3.4	3.05	2.6	2.2	2.4	2.85	3.5	5.0	3.15	2.85	10.0	3.9
27	4.0	3.05	2.6	2.05	2.85	2.6	2.35	7.6	3.8	2.45	5.0	4.7
28	3.85	2.85	2.6	1.95	2.1	2.5	4.1	4.4	2.85	2.5	5.5	3.35
29	3.35	2.8	2.6	1.95	2.1	2.45	7.4	5.2	4.6	2.35	6.2	3.5
30	2.95	3.05	2.45	1.95	2.05	3.25	7.7	-----	5.4	2.5	4.6	3.7
31	3.25	2.85	-----	2.1	-----	5.5	3.4	-----	6.2	-----	4.7	-----
Total	111.15	143.15	98.80	76.75	78.67	130.00	101.46	134.55	97.75	112.95	136.65	142.90
Mean:												
mgd	3.59	4.62	3.29	2.48	2.62	4.19	3.27	4.64	3.15	3.76	4.41	4.76
cfs	5.55	7.15	5.09	3.84	4.05	6.48	5.06	7.18	4.87	5.82	6.82	7.36
Ac-ft	341	439	303	236	241	399	311	413	300	347	419	439

Calendar year 1955: Max 57 Min 1.74 Mean(mgd) 4.29 Mean(cfs) 6.64 Ac-ft 4,800
Fiscal year 1955-56: Max 35 Min 1.74 Mean(mgd) 3.73 Mean(cfs) 5.77 Ac-ft 4,190

Peak discharge (base, 200 mgd).--Aug. 2 (8 p.m.) 350 mgd (542 cfs), 3.86 ft; Dec. 20 (9 p.m.) 236 mgd (365 cfs), 3.41 ft; Apr. 21 (1 a.m.) 236 mgd (365 cfs), 3.42 ft; May 7 (3 a.m.) 272 mgd (421 cfs), 3.55 ft.

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of records for West Branch Manoa Stream near Honolulu.

West Branch Manoa Stream near Honolulu

Location.--Lat 21°19'50", long 157°48'15", on left bank 100 ft upstream from highway bridge and 4.2 miles northeast of Honolulu Post Office.

Drainage area.--1.1 sq mi.

Records available.--May 1913 to January 1921, August 1925 to June 1956.

Gage.--Water-stage recorder and combination Parshall flume and V-notch weir. Datum of gage is 290.84 ft above mean sea level (Honolulu Board of Water Supply bench mark). Prior to June 17, 1914, staff gage at same site at different datum. June 17, 1914, to Jan. 16, 1921, water-stage recorder at site 150 ft upstream at different datum. Aug. 4, 1925, to Mar. 15, 1928, water-stage recorder at present site at datum 3.40 ft lower.

Average discharge.--37 years (1913-20, 1926-56), 2.52 mgd (3.90 cfs).

Extremes.--Maximum discharge during year, 370 mgd (572 cfs) Aug. 2 (gage height, 3.94 ft), from rating curve extended above 33 mgd by test on model of station site; minimum, 0.16 mgd (0.25 cfs) Dec. 18, 19. 1913-21, 1925-56: Maximum gage height, 10.4 ft Jan. 16, 1921, from floodmarks, site and datum then in use (discharge, 2,100 mgd or 3,250 cfs, estimated from rating curve extended above 40 mgd); minimum discharge, about 0.05 mgd (0.08 cfs) Mar. 16, 22, 1926.

Remarks.--Records good. Small quantity of water diverted above station occasionally for irrigation.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)
(Shifting-control method used July 1-4, July 29 to Aug. 2, Aug. 7, 8, Nov. 5-9, 11-14, 20-25)

0.05	0.07	0.8	6.5
.1	.22	1.0	11.4
.2	.67	1.2	18.7
.3	1.26	1.6	40
.4	2.0	2.0	71
.6	3.8		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	5.3	1.28	5.5	1.32	0.38	0.42	1.22	1.71	5.3	2.55	0.52	4.6
2	4.5	21	7.7	1.24	.26	.57	.91	1.71	3.3	1.50	.42	4.4
3	1.26	11.8	2.2	*1.34	.26	.42	.65	1.16	2.6	1.16	.42	8.3
4	1.78	2.9	5.6	3.4	.30	.38	.79	1.16	2.25	.98	.38	5.1
5	1.49	2.25	1.71	3.15	.28	.34	.73	1.26	1.93	.85	.38	3.4
6	1.25	1.82	1.28	1.42	.22	.30	.67	1.62	1.78	2.0	1.13	6.8
7	1.04	1.35	1.23	.98	.30	.39	.57	3.05	*1.64	.85	8.1	5.0
8	.79	4.7	1.77	.79	.26	.34	.57	1.22	1.50	.73	1.10	3.15
9	.73	*2.4	1.10	.67	1.45	.26	.57	.91	1.50	.67	.79	2.6
10	.67	2.4	.91	.67	2.35	.26	.52	2.7	1.28	.62	2.25	4.9
11	.62	4.8	.85	3.65	3.55	.30	.52	1.28	1.28	.57	3.0	6.0
12	1.06	1.66	.79	2.0	.45	.26	6.3	5.6	1.04	.52	2.7	8.0
13	1.47	2.35	.73	.85	.42	.22	1.97	2.75	.91	.47	1.71	8.4
14	2.3	6.7	.67	.67	1.87	.22	1.10	2.3	.85	.47	1.74	8.0
15	2.1	2.95	.73	.62	.98	.22	.79	1.61	.91	.52	10.8	4.1
16	2.95	1.78	.62	.91	1.21	.19	.73	8.3	.79	.57	2.4	4.2
17	1.22	2.6	.62	.57	2.7	.19	.62	5.1	.67	.80	1.42	3.15
18	1.25	6.3	.57	.47	6.5	.19	.57	4.6	.62	.52	4.3	2.75
19	.85	4.2	1.72	.47	1.60	16.0	.47	3.35	1.46	.55	3.05	2.65
20	2.25	4.1	1.07	.47	.90	*43	.42	2.5	.96	9.0	1.50	1.78
21	2.5	1.78	10.3	.42	1.51	19.1	.38	1.78	.62	13.3	1.28	3.7
22	1.04	1.57	2.6	.38	2.3	5.4	.38	1.50	.67	1.98	1.78	5.5
23	.91	1.57	1.48	.52	1.42	3.05	.34	2.85	2.95	1.22	2.15	5.1
24	.91	1.35	1.04	.62	.96	2.25	3.2	16.0	1.23	.91	1.85	3.6
25	3.6	1.84	.79	.62	*.67	1.86	22.5	23	3.1	.79	5.4	2.25
26	2.1	1.28	.67	.42	.78	1.57	3.7	7.2	2.4	1.06	5.8	2.5
27	5.2	1.22	.62	.38	1.10	1.35	1.75	10.9	4.6	.62	2.95	2.95
28	2.8	1.10	.73	.34	.62	1.22	2.15	5.5	1.71	.62	3.95	1.78
29	1.98	.98	.98	.34	.62	1.04	4.6	6.6	2.85	.57	7.5	1.82
30	1.52	1.23	.85	.34	.47	1.52	6.2	-----	3.6	.57	4.4	2.3
31	1.82	.98	-----	.48	-----	1.7	2.6	-----	3.8	-----	3.65	-----
Total	59.26	106.44	57.43	30.52	36.69	106.44	70.69	129.22	60.10	47.54	86.82	128.78
Mean	1.91	3.43	1.91	0.985	1.22	3.43	2.28	4.46	1.94	1.58	2.87	4.29
mgd	2.96	5.31	2.96	1.52	1.89	5.31	3.53	6.90	3.00	2.44	4.44	6.64
cfs	162	327	176	94	113	327	217	397	184	146	273	395
Ac-ft												

Calendar year 1955: Max 62 Min 0.19 Mean(mgd) 2.68 Mean(cfs) 4.15 Ac-ft 3,000
Fiscal year 1955-56: Max 43 Min 0.19 Mean(mgd) 2.52 Mean(cfs) 3.90 Ac-ft 2,830

Peak discharge (base, 200 mgd)--Aug. 2 (7:30 p.m.) 370 mgd (572 cfs), 3.94 ft; Dec. 20 (9 p.m.) 225 mgd (348 cfs), 3.31 ft; Jan. 25 (2 a.m.) 280 mgd (433 cfs), 3.46 ft.

* Discharge measurement made on this day.

Pukele Stream near Honolulu

Location.--Lat 21°18'35", long 157°47'30", on right bank 200 ft upstream from bridge on Palolo Belt Road, 0.6 mile upstream from confluence with Waiomao Stream, and 4.8 miles east of Honolulu Post Office.

Drainage area.--1.2 sq mi.

Records available.--April 1912 to September 1913, June 1926 to June 1956.

Gage.--Water-stage recorder and V-notch weir. Datum of gage is 344.78 ft above mean sea level (Honolulu Board of Water Supply bench mark). Apr. 16, 1912, to Sept. 30, 1913, staff gage just above present site at different datum.

Average discharge.--30 years (1926-56), 1.27 mgd (1.96 cfs).

Extremes.--Maximum discharge during year, 318 mgd (492 cfs) Dec. 19 (gage height, 4.65 ft), from rating curve extended above 62 mgd as explained below; minimum, 0.17 mgd (0.26 cfs) Nov. 10.

1912-13, 1926-56: Maximum discharge, 1,680 mgd (2,600 cfs) Apr. 11, 1930 (gage height, 7.75 ft, from floodmarks), from rating curve extended above 62 mgd by test on model of station site; minimum, 0.07 mgd (0.11 cfs) Nov. 15-25, 1945.

Remarks.--Records good except those for periods of no gage-height record, which are fair. A 2-inch pipe diverts water from stream above station.

Revisions (fiscal years).--WSP 835: 1930(M).

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.9	0.15	1.7	7.8
1.0	.42	2.0	14.3
1.1	.87	2.5	32
1.2	1.50	3.0	60
1.4	3.35		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.54	0.42	0.50	0.35	0.22	0.35	0.92	0.82	1.37	1.69	0.87	1.58
2	1.00	5.3	.54	.35	.22	.35	.77	.87	1.23	.87	.82	1.73
3	.58	4.0	.50	.35	.22	.32	.77	.87	1.17	.87	.77	2.9
4	a.60	a.70	.54	*.32	.22	.32	.72	.87	1.17	.87	.72	1.83
5	a.58	a.62	.50	.32	.19	.32	.72	.87	1.17	.87	.67	1.50
6	a.58	a.60	.50	.27	.19	.32	.67	1.07	1.11	.82	.72	2.3
7	a.60	a.57	.50	.27	.19	.32	.58	3.0	1.04	.77	2.5	1.87
8	.58	a.65	.63	.27	.19	.29	.54	.98	*.92	.72	.54	1.37
9	.54	a.62	.50	.27	.19	.27	.54	.82	.87	.72	.54	1.23
10	.50	a.58	.50	.27	1.46	.27	.50	1.50	.77	.67	.98	1.49
11	.50	a.58	.46	.29	1.19	.27	.46	.92	.72	.62	.97	1.48
12	.50	.54	.46	.27	.24	.24	4.3	2.15	.67	.58	.62	3.35
13	.50	.58	.46	.27	.24	.24	.97	1.98	.62	.58	.66	5.9
14	.46	1.73	.42	.24	.41	.24	.58	1.11	.58	.54	1.56	5.25
15	.42	.58	.42	.27	.27	.24	.54	.98	.58	.54	2.5	1.83
16	.42	.58	.38	.32	.27	.22	.58	1.11	.54	.50	.82	1.50
17	.38	.62	.38	.27	.27	.22	.62	1.30	.50	.50	.77	1.43
18	.35	1.48	.38	.27	2.65	.19	.62	1.93	.54	.50	5.7	1.37
19	.32	1.06	.42	.27	.38	19.1	.58	1.50	.50	.46	2.65	1.50
20	.41	1.22	.38	.27	.35	*.35	.58	1.30	.46	9.4	.98	1.30
21	.32	.77	.74	.27	.38	14.8	.54	1.17	.46	11.0	.92	1.30
22	.32	.77	.52	.27	.38	2.55	.54	1.17	.50	1.72	1.00	1.62
23	.32	.77	.38	.27	.38	1.17	.50	1.11	1.15	*.82	1.19	1.58
24	.35	.77	.32	.24	.38	1.14	.50	2.25	.50	.82	1.76	1.30
25	.35	.72	.32	.24	.38	1.04	3.0	3.25	.84	.92	2.15	1.17
26	.35	.67	.32	.24	.35	1.04	1.15	2.05	.69	.92	2.95	1.23
27	.69	.62	.35	.22	.81	1.04	.54	3.35	.72	.92	1.80	1.30
28	.46	.54	.35	.22	*.35	.98	.54	1.87	.58	.92	1.50	1.17
29	.38	.54	.35	.24	.35	.92	1.69	1.50	.88	.87	2.05	1.11
30	.38	.50	.35	.24	.35	.92	3.05	-----	1.08	.87	1.75	1.11
31	.42	.50	-----	.22	-----	1.29	1.28	-----	2.15	-----	2.0	-----
Total	14.70	30.20	13.37	8.45	13.67	85.98	29.89	43.67	26.08	42.87	45.43	51.50
Mean;												
mgd	0.474	0.974	0.446	0.273	0.456	2.77	0.964	1.51	0.841	1.43	1.47	1.72
cfs	0.733	1.51	0.690	0.422	0.706	4.29	1.49	2.34	1.30	2.21	2.27	2.66
Ac-ft	45	93	41	26	42	264	92	134	80	132	139	158

Calendar year 1955: Max 47 Min 0.19 Mean(mgd) 1.53 Mean(cfs) 2.37 Ac-ft 1,710

Fiscal year 1955-56: Max 35 Min 0.19 Mean(mgd) 1.11 Mean(cfs) 1.72 Ac-ft 1,250

Peak discharge (base, 90 mgd).--Dec. 19 (10 p.m.) 318 mgd (492 cfs), 4.65 ft; Apr. 21 (1:30 p.m.) 215 mgd (333 cfs), 4.11 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of adjoining good record and records for Waiomao Stream.

Waio Mao Stream above Pukele Stream, near Honolulu

Location.--Lat 21°18'30", long 157°47'10", on left bank 300 ft west of road, 1 mile upstream from confluence with Pukele Stream, and 5 miles east of Honolulu Post Office.

Drainage area.--1.0 sq mi.

Records available.--April 1911 to December 1912, June 1926 to June 1956.

Gage.--Water-stage recorder and V-notch weir. Datum of gage is 373.66 ft above mean sea level (Honolulu Board of Water Supply bench mark). Apr. 12, 1911, to Dec. 31, 1912, staff gage at site 0.3 mile downstream at different datum.

Average discharge.--30 years (1926-56), 1.17 mgd (1.81 cfs).

Extremes.--Maximum discharge during year, 375 mgd (580 cfs) Dec. 19 (gage height, 4.86 ft), from rating curve extended above 58 mgd as explained below; no flow Nov. 2-8, Dec. 9, 10, 13-18.
1911-12, 1926-56: Maximum discharge, 602 mgd (931 cfs) Oct. 15, 1938 (gage height, 5.43 ft), from rating curve extended above 58 mgd by test on model of station site; no flow at times.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Honolulu Board of Water Supply diverts ground water from tunnels in drainage area.

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Dec. 19

Dec. 20 to June 30

0.85	0	1.5	2.9	1.0	0.06	1.8	6.7
.9	.02	1.7	5.4	1.1	.22	2.0	10.6
1.0	.10	1.9	8.6	1.2	.55	2.2	16.5
1.1	.32	2.2	16.5	1.3	1.07	2.4	24.5
1.2	.69	2.6	34	1.4	1.78	2.6	34
1.3	1.22	3.0	56	1.5	2.7	3.0	56
1.4	1.95			1.6	3.85		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
1	al.0	0.15	0.86	0.07	0.06	0.11	1.25	0.72	1.07	2.4	0.28	1.14	
2	1.43	6.4	1.10	.10	0	.34	.94	.88	.68	.55	.18	1.28	
3	.60	4.3	.48	.13	0	.15	.36	.86	.40	.33	.16	2.7	
4	.63	.92	.98	*.34	0	.09	.25	.47	.28	.25	.12	1.15	
5	.58	.52	.41	.46	0	.06	.22	.52	.22	.25	.09	.63	
6	.29	.35	.26	.26	0	.05	.14	1.26	.22	.91	.40	1.52	
7	.36	.26	.17	.17	0	.03	.12	2.95	.20	.36	3.05	1.44	
8	.21	.79	.46	.11	0	.02	.11	.63	.16	.20	.36	.68	
9	.17	*.58	.52	.08	.02	0	.11	.40	.20	.16	.22	.51	
10	.13	.49	.17	.06	2.25	0	.11	2.65	.18	.14	.36	.81	
11	.10	.47	.13	.70	2.45	.09	.14	.75	.22	.12	.77	.78	
12	.10	.23	.11	.32	.59	.02	5.7	1.57	.20	.11	.36	2.5	
13	.65	.26	.10	.19	.26	0	1.56	2.0	.12	.08	.73	2.75	
14	.67	2.9	.07	.11	.99	0	.47	1.00	.12	.07	1.74	2.55	
15	.56	.82	.08	.08	.69	0	.30	.88	.12	.06	2.25	1.07	
16	.58	.41	.06	.43	.41	0	*.33	1.00	.14	.06	.47	.68	
17	.26	.29	.03	.17	.41	0	.28	.83	.11	.19	.30	.58	
18	.26	2.5	.05	.09	3.0	0	.20	1.52	.09	.11	7.0	.78	
19	.15	1.86	.23	.10	.67	21	.16	.94	.20	.25	2.75	a.90	
20	.59	1.52	.21	.10	.32	52	.14	.82	.11	13.3	.63	.47	
21	.32	.48	.60	.06	.23	28.5	.12	.43	.09	16.5	.52	a.55	
22	.17	.32	.88	.05	.41	3.25	.11	.36	.11	2.45	1.09	al.1	
23	.13	.26	.66	.07	.38	1.51	.09	.36	1.69	*1.02	1.69	a.90	
24	.19	.23	.35	.08	.23	1.32	.50	2.8	.72	.55	1.86	a.70	
25	.16	.23	.17	.11	.19	.84	3.65	3.8	.86	.36	2.05	.51	
26	.21	.19	.11	.17	.24	.47	1.65	1.21	.98	.48	3.6	a.60	
27	.92	.19	.10	.11	2.35	.36	.55	2.7	.82	.33	2.3	a.65	
28	.52	.13	.11	.08	*.74	.28	.75	1.24	.51	.22	1.72	.40	
29	.29	.11	.09	.05	.26	.22	3.6	.89	1.07	.22	1.97	.33	
30	.21	.17	.13	.03	.17	.43	4.5	-----	1.71	.28	1.41	.53	
31	.23	.13	-----	.07	-----	2.2	1.82	-----	2.45	-----	1.54	-----	
Total	12.27	29.06	9.48	4.95	17.32	113.34	30.23	36.04	16.05	42.31	41.99	30.99	
Mean:													
mgd	0.396	0.937	0.316	0.160	0.577	3.66	0.975	1.24	0.518	1.41	1.35	1.03	
cfs	0.613	1.45	0.469	0.248	0.893	5.66	1.51	1.92	0.801	2.18	2.09	1.59	
Ac-ft	38	89	29	15	53	348	93	111	49	130	129	95	
Calendar year 1955: Max	72			Min	0		Mean(mgd)	1.56		Mean(cfs)	2.41	Ac-ft	1,750
Fiscal year 1955-56: Max	52			Min	0		Mean(mgd)	1.05		Mean(cfs)	1.62	Ac-ft	1,180

Peak discharge (base, 70 mgd).--Dec. 19 (10 p.m.) 375 mgd (580 cfs), 4.86 ft; Apr. 21 (1:30 a.m.) 110 mgd (170 cfs), 3.74 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby stations.

Palolo Stream near Honolulu

Location--Lat 21°17'35", long 157°48'25", on left bank 250 ft downstream from bridge on Palolo Avenue and 3.9 miles east of Honolulu Post Office.

Drainage area--3.0 sq mi.

Records available--April 1952 to June 1956.

Gage--Water-stage recorder and steel plate in concrete-lined channel. Altitude of gage is 95 ft (from topographic map).

Extremes--Maximum discharge during year, 1,150 mgd (1,780 cfs) Dec. 19 (gage height, 3.90 ft), from rating curve extended above 75 mgd as explained below; minimum, 0.15 mgd (0.23 cfs) Sept. 28, Nov. 6-9.
1952-56: Maximum discharge, 1,560 mgd (2,410 cfs) Nov. 29, 1954 (gage height, 4.52 ft), from rating curve extended above 75 mgd by test on model of station site; minimum, 0.10 mgd (0.16 cfs) Sept. 29, 1953.

Remarks--Records fair except those for periods of no gage-height record, which are poor.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.2	0.12	1.8	9.3
1.3	.24	1.9	17.0
1.4	.50	2.0	33
1.5	1.00	2.2	82
1.6	2.0	2.4	153
1.7	4.5	2.6	275

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.50	0.71	0.96	0.49	0.25	0.50	3.0	1.65	2.55	5.0	1.25	5.9
2	2.95	10.4	1.74	.29	.18	.80	2.2	1.66	2.15	1.78	1.16	5.9
3	1.55	8.8	.76	.32	.17	.50	1.5	1.55	1.78	1.55	1.16	8.8
4	1.78	1.25	1.64	.55	.20	.42	1.2	1.47	1.65	1.35	1.08	5.0
5	1.45	.82	.71	.93	.21	.36	1.1	1.47	1.55	1.25	1.08	3.5
6	1.35	.82	.58	.51	.20	.36	.95	3.25	1.53	2.0	1.41	5.8
7	1.45	.71	.62	.34	.16	.36	.80	6.4	1.30	1.35	7.6	4.5
8	1.35	1.33	1.00	.28	.18	.39	.63	1.76	1.25	1.08	1.32	3.55
9	.94	1.12	.99	.26	.48	.36	.62	1.35	1.25	.94	1.19	2.35
10	.58	1.39	.59	.26	6.0	.37	.80	5.1	1.38	.94	2.3	3.5
11	.50	1.92	.42	1.08	7.4	.36	.60	1.88	1.08	.88	2.55	3.3
12	.59	.86	.42	.58	1.16	.30	27.5	11.2	1.08	.82	1.55	9.4
13	1.33	1.16	.34	.37	.63	.28	5.0	4.7	.94	.71	1.76	10.5
14	1.14	5.1	.32	.30	1.51	.28	2.2	2.35	1.00	.66	4.9	7.8
15	1.08	1.45	.44	.30	1.20	.26	1.9	1.88	1.16	.82	7.1	3.8
16	.79	.94	.28	1.0	.81	.22	1.4	2.0	1.24	.76	1.68	3.2
17	.46	1.19	.26	.36	.97	.22	.94	2.15	1.08	2.0	1.45	2.55
18	.63	4.1	.34	.31	6.4	.21	.88	5.5	1.05	1.65	20	2.75
19	.46	2.4	.82	.32	1.49	87	.82	2.7	.97	2.3	12.0	4.2
20	1.61	2.7	.58	.32	.82	*213	.76	2.2	.82	35.5	2.95	2.55
21	.89	1.25	2.45	.30	.62	93	.71	1.65	.71	41	2.55	2.75
22	.36	.94	2.65	.29	.88	11.6	.71	1.45	1.16	5.6	3.15	5.0
23	.45	.83	1.45	.28	.94	4.5	.67	1.45	4.6	*2.8	4.8	5.0
24	.55	.86	.94	.28	.76	3.5	.68	6.9	1.78	1.55	5.8	3.5
25	.59	.60	.62	.31	*.65	2.6	13.8	9.6	2.65	1.35	6.3	2.75
26	.55	.62	.58	.36	.56	2.1	5.3	7.4	2.85	1.45	9.0	2.6
27	2.7	.75	.42	.29	3.8	1.8	2.35	11.8	2.55	1.35	5.3	4.5
28	1.47	.54	.64	.24	.88	1.6	2.0	4.7	2.0	1.30	5.9	2.95
29	.88	.49	.50	.22	.71	1.5	6.4	3.05	3.75	1.16	7.0	2.75
30	.71	.63	.62	.20	.58	1.8	10.5	-----	4.2	1.25	5.7	2.9
31	.88	.42	-----	.27	-----	4.0	3.05	-----	6.1	-----	6.3	-----
Total	33.52	57.32	24.68	12.21	41.02	434.55	100.77	110.24	59.32	122.13	137.49	133.15
Mean:	1.08	1.85	0.823	0.394	1.37	14.0	3.25	3.80	1.91	4.07	4.44	4.44
mgd	1.67	2.86	1.27	0.610	2.12	21.7	5.03	5.88	2.88	6.30	6.87	6.87
cfs	103	176	76	37	126	1,330	309	338	182	375	422	409
Ac-ft												

Calendar year 1955: Max 258 Min 0.16 Mean(mgd) 5.30 Mean(cfs) 8.20 Ac-ft 5,930
Fiscal year 1955-56: Max 213 Min 0.16 Mean(mgd) 3.46 Mean(cfs) 5.35 Ac-ft 3,880

Peak discharge (base, 220 mgd)--Dec. 19 (11 p.m.) 1,150 mgd (1,780 cfs), 3.90 ft; Apr. 21 (2 a.m.) 282 mgd (436 cfs), 2.61 ft.

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 13-31, Dec. 23 to Jan. 11, Jan. 13-16; discharge estimated on basis of records for Waiomao and Pukele streams.

Maunawili ditch near Waimanalo

Location.--Lat 21°20'45", long 157°45'10", on left bank 80 ft downstream from Aniani Nui Ridge tunnel and 2.1 miles west of Waimanalo.

Records available.--March 1954 to June 1956.

Gage.--Water-stage recorder and sharp-crested weir. Altitude of gage is 390 ft (from topographic map).

Extremes.--1954-56: Maximum daily discharge, 6.2 mgd (9.6 cfs) Feb. 23, 1955; no flow at times.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Ditch diverts water from headwaters of Maunawili Stream for irrigation in vicinity of Waimanalo.

Discharge, in million gallons a day, 1954

Day	Mar.	Apr.	May	June	Day	Mar.	Apr.	May	June	Day	Mar.	Apr.	May	June
1	-	2.3	3.0	3.4	11	-	2.5	2.35	2.7	21	-	2.5	2.5	2.4
2	-	3.0	2.6	2.45	12	-	2.5	2.35	2.7	22	-	2.4	2.55	2.4
3	-	2.8	2.4	3.15	13	-	2.5	2.25	2.6	23	-	2.5	2.6	2.5
4	-	2.8	2.4	3.0	14	-	2.4	2.25	2.6	24	-	2.4	2.6	2.5
5	-	*2.7	2.4	2.95	15	-	2.4	2.2	2.55	25	-	2.6	2.6	2.5
6	-	2.6	2.55	2.85	16	-	2.4	2.2	2.55	26	-	2.7	2.8	2.4
7	-	2.55	2.35	3.0	17	-	3.15	2.4	2.55	27	-	*1.92	*2.8	2.4
8	-	2.55	2.7	2.85	18	-	2.7	2.4	2.55	28	-	2.2	2.7	2.35
9	-	2.55	2.55	2.8	19	-	2.5	2.15	2.5	29	-	4.4	2.6	2.5
10	-	2.55	2.4	2.8	20	-	2.4	2.35	2.5	30	2.55	3.45	2.85	2.35
										31	2.6	-	3.6	-
Total.....											-	78.92	78.45	79.35
Mean, in million gallons a day.....											-	2.63	2.53	2.64
Mean, in cubic feet per second.....											-	4.07	3.91	4.08
Runoff in acre-feet.....											-	242	241	244

* Discharge measurement made on this day.

Discharge, in million gallons a day, fiscal year July 1954 to June 1955

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.35	2.35	3.3	2.6	2.7	0.09	1.56	2.6	0.09	1.39	4.3	3.1
2	2.55	3.0	3.25	2.6	2.6	.06	1.44	2.95	.27	1.39	4.5	3.1
3	2.45	3.4	*3.25	2.7	2.6	.06	1.62	2.6	.38	1.33	3.4	3.0
4	2.8	3.25	3.15	2.7	2.55	.06	1.73	2.55	.48	1.33	3.4	3.1
5	2.5	3.65	3.15	2.7	2.55	.09	2.0	2.8	.40	1.27	3.0	3.0
6	1.60	3.25	3.25	2.6	2.55	.12	1.80	2.8	.34	1.33	3.0	2.95
7	2.35	3.1	3.15	2.6	2.55	.09	1.62	4.2	.34	1.33	2.95	2.95
8	*2.55	3.15	3.15	2.6	2.55	.06	al.6	.29	.30	1.27	2.95	3.0
9	2.55	2.95	3.1	2.8	2.5	.29	al.5	.15	.09	al.3	2.95	2.95
10	2.85	3.25	3.1	3.15	2.5	.68	al.5	.15	.27	al.3	2.95	3.0
11	2.7	3.4	3.0	2.85	2.4	.60	al.5	.15	.57	al.3	2.85	2.8
12	2.6	3.25	3.0	2.85	2.4	.60	al.5	.15	.73	al.3	2.85	2.0
13	2.6	3.15	3.0	3.0	2.4	.60	a2.2	.15	.49	al.3	2.8	2.4
14	2.55	3.1	2.95	3.4	2.6	.68	*a2.7	.15	.60	al.3	2.8	2.85
15	2.6	3.0	2.95	3.1	2.5	.76	2.85	.15	.89	a2.2	2.8	2.8
16	*2.55	2.85	3.0	3.0	2.55	1.06	2.85	.45	.64	a2.0	2.95	2.8
17	2.85	2.8	3.0	3.0	2.4	.73	2.8	.68	.49	a2.6	3.15	2.85
18	2.8	2.8	2.95	2.95	2.4	.64	2.7	.57	.53	a2.5	3.25	2.95
19	2.7	2.6	2.95	3.0	2.4	.60	2.6	.64	.49	a2.5	3.15	2.95
20	2.8	2.85	2.8	3.15	2.4	.57	2.6	.49	.41	*a2.5	3.15	2.8
21	2.6	2.85	2.85	2.8	2.4	1.36	3.2	.80	1.17	2.6	3.15	3.1
22	2.6	2.8	2.95	*2.7	2.4	1.83	.73	3.15	4.2	2.6	3.1	3.1
23	2.6	2.85	2.8	2.6	2.4	1.50	.64	*5.2	1.27	2.55	3.0	3.15
24	2.6	2.8	2.6	2.6	2.4	1.62	.60	3.3	1.06	2.25	2.95	3.1
25	2.6	3.15	2.95	2.7	2.4	1.80	1.80	1.61	1.33	2.05	3.15	3.0
26	2.55	3.4	2.85	2.7	2.4	1.86	2.95	.48	1.44	1.93	3.25	3.0
27	2.55	3.3	2.8	2.6	2.4	2.00	2.8	.25	1.44	2.35	3.5	3.0
28	2.95	3.25	2.7	2.6	5.3	2.15	2.8	.15	1.44	2.15	3.25	2.95
29	1.70	3.15	2.8	2.6	3.0	1.80	2.7	-	1.44	2.4	3.15	3.0
30	2.3	3.15	2.6	2.95	.18	1.62	2.95	-----	1.44	3.3	3.15	2.95
31	2.8	3.25	-----	2.95	-----	1.56	2.7	-----	1.39	-----	3.15	-----
Total.....												
Mean:.....												
mgd.....												
cfs.....												
Ac-ft.....												
Calendar year 1954: Max 75 Min 6.2 Mean(mgd) 27.54 Mean(cfs) 3.51 Ac-ft 301												
Fiscal year 1954-55: Max 6.2 Min 0.06 Mean(mgd) 2.27 Mean(cfs) 3.51 Ac-ft 2,540												

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby streams.

Maunawili ditch near Waimanalo--Continued

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.95	2.4	2.55	2.4	2.25	2.3	0	2.35	2.05	2.5	0	2.55
2	2.95	2.6	2.55	2.4	2.25	2.5	0	2.4	1.93	2.7	0	2.5
3	2.85	2.35	2.5	2.4	2.2	2.4	0	2.2	1.93	2.85	0	2.6
4	2.95	2.6	2.5	2.6	2.2	2.3	0	2.15	1.86	2.7	0	2.5
5	2.85	2.5	2.4	2.3	2.2	2.3	0	2.35	1.86	2.5	.5	2.55
6	2.7	2.35	2.4	2.2	2.2	2.2	0	2.35	2.65	3.0	1.5	2.5
7	2.6	2.4	2.4	2.2	2.2	*2.2	0	2.35	3.0	2.5	*1.6	2.55
8	2.6	2.4	2.85	2.2	2.2	2.25	0	2.35	3.05	2.4	1.56	2.4
9	2.55	2.4	3.0	2.2	2.4	2.25	0	2.35	3.5	2.3	1.50	2.4
10	2.55	2.55	2.95	2.2	3.1	2.35	0	1.49	3.0	2.3	1.94	2.4
11	2.6	2.55	3.0	2.8	2.9	2.35	0	.15	3.1	2.2	2.7	2.4
12	2.6	2.55	3.0	2.5	2.5	2.25	.21	.18	2.95	2.1	2.6	2.4
13	2.6	2.55	2.95	2.3	2.3	2.2	.06	.15	2.85	2.1	2.55	2.3
14	2.6	2.8	2.95	*2.2	2.6	2.2	0	.15	2.8	2.1	2.55	2.85
15	2.55	2.55	2.85	2.25	2.4	2.2	0	.15	2.8	2.2	2.55	*2.7
16	2.55	2.5	2.8	2.5	2.5	2.2	0	.15	2.8	2.4	2.55	2.7
17	2.5	2.5	2.8	2.4	2.6	2.2	0	.15	2.7	2.8	2.55	2.6
18	2.5	*2.7	2.8	2.4	3.2	2.2	0	.15	2.6	2.6	2.8	2.7
19	2.5	2.85	2.95	2.4	2.5	3.4	0	.15	2.55	2.7	2.7	3.7
20	2.5	3.6	2.95	*2.4	2.4	1.68	0	.15	2.4	3.4	2.7	2.05
21	2.55	3.15	3.25	2.4	2.5	.73	0	.12	2.5	3.6	2.8	2.0
22	2.5	2.95	3.6	2.35	2.6	.21	0	.12	2.55	.70	2.6	2.7
23	2.5	2.8	3.5	2.4	2.5	.12	.64	1.40	2.7	.24	2.6	2.7
24	2.5	2.7	3.1	2.35	2.4	.09	1.91	2.2	2.5	.14	2.55	2.6
25	2.5	2.6	2.9	2.35	2.3	.06	3.1	2.15	2.55	.04	2.7	2.55
26	2.5	2.6	2.7	2.25	2.4	.03	*2.5	2.05	2.35	0	2.95	2.55
27	2.5	2.55	2.7	2.25	2.7	0	2.25	2.05	2.0	0	3.0	1.83
28	2.5	2.55	2.5	2.25	2.4	0	2.15	2.0	2.0	0	3.0	2.55
29	2.4	2.55	2.5	2.25	2.4	0	2.2	2.15	2.05	0	2.85	2.5
30	2.4	2.55	2.4	2.25	2.3	0	3.1	-----	2.25	0	2.7	2.5
31	2.5	2.5	-----	2.25	-----	0	2.4	-----	2.4	-----	2.6	-----
Total	80.40	81.40	84.10	72.60	73.60	47.17	20.52	38.11	78.03	55.07	65.20	74.83
Mean:												
mgd	2.59	2.63	2.80	2.34	2.45	1.52	0.662	1.31	2.52	1.84	2.10	2.49
cfs	4.01	4.07	4.33	3.62	3.79	2.35	1.02	2.03	3.90	2.85	3.25	3.85
Ac-ft	247	250	258	223	226	145	63	117	239	169	200	230
Calendar year 1955.	Max	6.2	Min	0	Mean(mgd)	2.23	Mean(cfs)	3.45	Ac-ft	2,500		
Fiscal year 1955-56.	Max	3.6	Min	0	Mean(mgd)	2.11	Mean(cfs)	3.26	Ac-ft	2,370		

* Discharge measurement made on this day.

Note.--No gage-height record Sept. 25 to Oct. 14, Nov. 3 to Dec. 7, Apr. 4 to May 7; discharge estimated on basis of recorded range in stage and records for nearby streams.

Haiku Stream near Heeia

Location.--Lat 21°24'40", long 157°49'40", on left bank 1.7 miles west of Kaneohe Post Office and 1.8 miles southwest of Heeia.

Drainage area.--1.0 sq mi.

Records available.--January 1914 to October 1919, July 1939 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 271.9 ft above mean sea level (levels by city and county of Honolulu). Prior to Apr. 28, 1914, staff gage and Apr. 29, 1914, to Oct. 25, 1919, water-stage recorder, at same site at different datum.

Extremes.--Maximum discharge during year, 395 mgd (611 cfs) Dec. 20 (gage height, 3.82 ft), from rating curve extended above 21 mgd as explained below; minimum, 0.23 mgd (0.36 cfs) Apr. 13.

1914-19, 1939-56: Maximum discharge, 1,150 mgd (1,780 cfs) Mar. 26, 1951 (gage height, 5.39 ft), from rating curve extended above 21 mgd by test on model of station site; minimum, 0.17 mgd (0.26 cfs) Oct. 25, 1946.

Remarks.--Records fair. Suburban Water System diverts ground water from tunnel in drainage area.

Revisions (fiscal years).--WSP 935: 1940.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.9	0.21	1.6	6.6
1.0	.53	1.7	8.4
1.1	1.04	1.8	10.8
1.2	1.68	1.9	14.5
1.3	2.5	2.0	21
1.5	4.8	2.3	54

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.43	0.99	0.89	0.46	0.89	0.53	1.93	2.15	1.65	2.3	0.94	1.10
2	.46	2.1	.78	.46	.89	.53	1.68	2.5	1.42	1.25	1.35	1.04
3	.43	1.62	.78	.46	.84	.50	1.55	*2.35	1.23	1.14	1.36	1.23
4	.43	.78	.84	.50	.89	.46	1.49	2.0	1.10	.96	1.30	1.42
5	.43	.63	.78	.50	.89	.46	1.36	2.45	1.10	.99	1.19	1.36
6	.39	.53	.78	.50	.89	.46	1.36	3.7	1.04	1.31	1.26	1.42
7	.43	.53	.73	.46	.89	.57	1.36	5.6	1.04	1.04	.94	1.93
8	.43	.53	.73	.46	.89	.89	1.36	2.5	1.04	.99	1.78	1.92
9	.89	.53	.68	.46	1.97	.89	1.36	2.1	1.23	.94	1.66	1.45
10	.89	.58	.53	.46	1.17	.99	1.36	2.15	1.10	.99	1.49	1.36
11	.89	.53	.53	.50	1.30	1.10	1.36	2.0	1.04	.94	1.23	1.42
12	.68	.53	.50	.58	1.10	.99	8.5	4.7	1.04	.89	.78	1.55
13	.43	.53	.46	.89	.99	.94	2.3	2.9	.99	.78	.94	*1.73
14	.39	1.42	.71	.89	.99	.94	1.55	2.0	.99	.89	.93	1.49
15	.43	.73	.79	.89	.99	.94	1.36	1.84	.94	.89	.96	1.36
16	.43	.58	.43	.94	.99	.94	1.79	1.76	.94	.78	.89	1.54
17	.43	.53	.43	.94	1.04	.94	1.42	2.0	.89	.87	.81	1.30
18	.43	2.95	.46	*.89	1.60	.99	1.36	2.1	.89	.78	.89	1.30
19	.39	6.1	.46	.89	1.44	25	1.36	1.93	.94	.84	.89	1.35
20	.39	7.0	.43	.89	1.30	52	1.36	1.68	.89	4.6	.80	1.23
21	.50	1.84	.46	.89	1.17	*34.5	1.36	1.68	.84	13.9	.86	1.24
22	.35	1.42	.53	.89	1.17	5.2	1.36	1.68	.84	1.86	1.09	1.36
23	.35	1.10	.53	.89	1.10	2.9	1.36	1.62	.94	1.36	2.05	1.40
24	.39	.78	.53	.89	1.10	2.35	1.42	2.15	.89	1.03	1.13	1.30
25	.39	.78	.50	1.04	1.04	2.0	6.7	13.2	.89	1.03	.84	1.15
26	.39	.78	.46	.94	1.10	1.84	2.35	1.84	.84	2.5	1.00	1.23
27	.43	.78	.46	.94	1.23	1.68	1.68	1.42	.89	1.13	6.9	1.17
28	1.63	.78	.46	.94	1.17	1.55	1.97	1.17	.89	1.00	2.65	1.10
29	1.42	.78	.46	.94	.84	1.49	2.75	1.17	2.75	.98	1.52	1.26
30	1.17	.78	.46	.94	53	1.49	7.6	-----	2.7	1.16	1.23	1.17
31	1.04	.78	-----	.89	-----	2.35	3.45	-----	4.2	-----	1.17	-----
Total	18.16	40.32	17.57	23.11	32.40	148.41	69.17	76.34	38.17	50.19	51.89	41.08
Mean:												
mgd	0.586	1.30	0.586	0.745	1.08	4.79	2.23	2.63	1.23	1.67	1.67	1.37
cfs	0.907	2.01	0.907	1.15	1.67	7.41	3.45	4.07	1.90	2.58	2.58	2.12
Ac-ft	56	124	54	71	99	455	212	234	117	154	159	126
Calendar year 1955: Max	52				Min 0.35	Mean(mgd)	1.78	Mean(cfs)	2.75	Ac-ft	1,990	
Fiscal year 1955-56: Max	52				Min 0.35	Mean(mgd)	1.66	Mean(cfs)	2.57	Ac-ft	1,860	

Peak discharge (base, 100 mgd).--Aug. 20 (2 a.m.) 115 mgd (178 cfs), 2.73 ft; Dec. 20 (4 a.m.) 395 mgd (611 cfs), 3.82 ft; Feb. 12 (7:30 p.m.) 129 mgd (200 cfs), 2.86 ft; Feb. 25 (6:30 a.m.) 207 mgd (320 cfs), 3.27 ft; May 7 (5 a.m.) 115 mgd (178 cfs), 2.74 ft; May 27 (7:30 p.m.) 108 mgd (167 cfs), 2.70 ft.

* Discharge measurement made on this day.

Iolekaa Stream mauka near Heeila

Location.--Lat 21°25'15", long 157°49'50", on left bank 0.7 mile upstream from confluence with Haiku Stream, 1.5 miles southwest of Heeila, and 1.8 miles west of Kaneohe Post Office.

Drainage area.--0.3 sq mi.

Records available.--March 1940 to June 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 320 ft above mean sea level (transit levels by U. S. Navy).

Average discharge.--15 years (1940-42, 1943-56), 0.374 mgd (0.579 cfs).

Extremes.--Maximum discharge during year, 16.3 mgd (25.2 cfs) Dec. 19 (gage height, 1.58 ft), from rating curve extended above 4.0 mgd as explained below; minimum, 0.31 mgd (0.48 cfs) Nov. 16, 17.
1940-56: Maximum discharge, 69 mgd (107 cfs) Oct. 22, 1941 (gage height, 2.40 ft), from rating curve extended above 4.0 mgd by rating for Columbus-type control and test on model of station site; minimum daily, 0.10 mgd (0.16 cfs) Oct. 31 to Nov. 9, Nov. 24, 27, 1946.

Remarks.--Records good except those for period of no gage-height record, which are fair.

Revisions (fiscal years).--WSP 935: 1940.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.5	0.21	0.9	1.55
.6	.35	1.0	2.5
.7	.55	1.1	3.8
.8	.90	1.2	5.5

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.41	0.35	0.41	0.37	0.34	0.32	0.47	0.51	0.58	0.71	0.37	0.41
2	.41	.35	.41	.35	.34	.32	.43	.71	.41	.49	.37	.41
3	.41	.45	.41	.35	.34	.32	.39	.52	.39	.43	*.39	.60
4	.41	.39	.41	.35	.34	.32	.37	.45	.37	.41	.39	.41
5	.41	.37	.39	.35	.34	.32	.37	.79	.37	.39	.39	.41
6	.39	.37	.39	.35	.34	.32	.37	1.15	.37	.47	.42	.41
7	.39	.37	.39	.35	.32	*.32	.35	1.48	.37	.39	2.2	.50
8	.39	.39	.41	.35	.34	.32	.35	.62	.35	.39	.62	.41
9	.39	.39	.39	.35	.35	.32	.35	.49	.38	.39	.47	.41
10	.39	.39	.39	.35	.45	.35	.35	.49	.35	.39	.45	.41
11	.39	.41	.39	.35	.41	.39	.35	.45	.35	.39	.41	.41
12	.39	.41	.37	.35	.34	.34	1.63	.83	.34	.39	.41	.53
13	.39	.41	.37	.35	.34	.32	.72	.59	.34	.37	.39	*.52
14	.39	.70	.37	.35	.34	.32	.49	.49	.34	.37	.41	.41
15	.39	.41	.37	.35	.32	.32	.41	.47	.34	.37	.41	.41
16	.39	.39	.35	.37	.31	.32	.50	.43	.34	.37	.39	.39
17	.39	.41	.35	.35	.34	.32	a.37	.52	.34	.46	.39	.39
18	.39	.99	.35	*.34	.42	.32	a.36	.52	.34	.35	.39	.39
19	.39	1.53	.39	.32	.42	3.25	a.35	.45	.34	.35	.39	.39
20	.39	1.64	.37	.32	.37	5.0	a.35	.43	.37	1.50	.39	.39
21	.41	.62	.41	.32	.37	3.15	a.35	.41	.34	2.8	.39	.41
22	.39	.49	.41	.32	.35	.98	a.35	.39	.35	.76	.49	.47
23	.39	.45	.35	.35	.37	.55	a.35	.39	.42	.51	.65	.41
24	.39	*.42	.35	.34	.35	.47	a.35	.46	.35	.45	.41	.41
25	.39	.41	.35	.38	.34	.43	a.60	.94	.34	.41	.41	.39
26	.39	.41	.35	.34	.35	.41	a.50	.39	.35	.54	.39	.39
27	.39	.41	.35	.34	.41	.39	.41	.39	.34	.41	.79	.39
28	.58	.41	.35	.34	.35	.37	.58	.37	.34	.39	.60	.39
29	.41	.41	.35	.35	.32	.37	.51	.39	1.21	.37	.50	.39
30	.37	.41	.37	.35	.32	.41	1.38	.74	.45	.45	.45	.39
31	.37	.39	-----	.34	-----	.67	.76	-----	.91	-----	.43	-----
Total	12.38	16.43	11.34	10.74	11.05	22.33	15.77	16.52	13.05	16.47	15.50	12.65
Mean:												
mgd	0.399	0.530	0.378	0.346	0.368	0.720	0.509	0.570	0.421	0.549	0.500	0.422
cfs	0.617	0.820	0.585	0.535	0.569	1.11	0.788	0.882	0.651	0.848	0.774	0.653
Ac-ft	38	50	35	33	34	69	48	51	40	51	48	39
Calendar year 1955: Max	5.0			Min	0.28	Mean(mgd)	0.486	Mean(cfs)	0.752	Ac-ft	544	
Fiscal year 1955-56: Max	5.0			Min	0.31	Mean(mgd)	0.476	Mean(cfs)	0.736	Ac-ft	536	

Peak discharge (base, 15 mgd).--Dec. 19 (10:30 p.m.) 16.3 mgd (25.2 cfs), 1.58 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby streams.

Kahaluu Stream near Heeia

Location.--Lat 21°26'20", long 157°51'05", on left bank 40 ft upstream from intake of Libby ditch, 0.5 mile upstream from forest-reserve boundary, and 3.0 miles northwest of Heeia.

Drainage area.--0.4 sq mi.

Records available.--October 1935 to June 1956.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 357.52 ft above mean sea level (levels by Wright, Harvey & Wright).

Extremes.--Maximum discharge during year, 59 mgd (91 cfs) Dec. 20 (gage height, 2.90 ft), from rating curve extended above 9 mgd by test on model of station site; minimum daily, 0.28 mgd (0.40 cfs) June 26-30.

1935-56: Maximum discharge, 290 mgd (449 cfs) Sept. 27, 1937 (gage height, 5.47 ft, control then in use), from rating curve computed from 11 to 240 mgd by Parshall flume formula and extended above; minimum daily, 0.07 mgd (0.11 cfs) Mar. 19, 1947.

Remarks.--Records good except those for periods of fragmentary or no gage-height record, which are fair. Suburban Water System has diverted ground water from tunnel in drainage area since 1948. Continuous records of rainfall are obtained at station.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.1	0.13	0.5	2.1
.2	.43	.7	3.9
.3	.84	1.0	7.4
.4	1.40		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.43	0.43	0.55	0.43	0.51	0.59	0.93	0.59	0.62	0.85	0.43	0.32
2	.39	1.59	.47	.43	.51	.59	.67	.98	.55	.55	.43	.29
3	.39	.67	.47	.43	.47	.55	.63	.63	.55	.51	*.43	.45
4	.39	.47	.51	.47	.47	.55	.63	.59	.55	.47	.43	.32
5	.43	.43	.47	.47	.47	.55	.63	.63	.55	.47	.43	.32
6	.43	.43	.47	.47	.47	.55	.63	1.42	.55	.51	.43	.32
7	.39	.43	.47	.47	.47	.55	.63	1.36	.55	.47	f2.45	.45
8	.35	.43	.47	.47	.51	*.59	.63	.67	.55	.47	a.55	.39
9	.35	.43	.47	.47	1.48	.63	.65	.59	.55	.47	a.45	.32
10	.35	.48	.47	.47	.75	.63	.63	.63	.55	.47	a.39	.32
11	.35	.47	.47	.47	.75	.63	.63	.59	.55	.47	.29	.32
12	.35	.43	.47	.47	.59	.63	2.55	1.22	.55	.47	.29	.35
13	.39	.47	.43	.47	.51	.59	.67	.67	.55	.47	.29	.32
14	.39	1.31	.43	.47	.59	.59	.63	.55	.55	.47	.32	.29
15	.43	.59	.43	.47	.59	.59	.59	.55	.55	.47	.52	.29
16	.43	.51	.43	.51	.55	.59	.67	.55	.55	.47	.29	.29
17	.43	.47	.43	*.51	.59	.59	.63	.70	.55	.53	.29	.29
18	.39	1.01	.47	.51	.63	.59	.59	.55	.55	.47	.29	.29
19	.39	2.35	.43	.51	.59	4.3	.59	.55	.55	.47	.29	.29
20	.39	2.05	.43	.51	.59	6.5	.59	.55	.55	2.5	.29	.29
21	.35	.59	.43	.47	.59	3.8	.59	.55	.55	2.55	.29	.29
22	.39	.47	.47	.47	.59	.71	.59	.55	.55	.55	.39	.32
23	.39	*.43	.47	.55	.55	.63	.59	.55	.55	.47	.52	.32
24	.39	.43	.47	.59	.55	.63	1.18	.59	.55	.47	.35	.32
25	.39	.47	.47	.59	.55	.63	1.94	1.49	.55	.43	.32	.29
26	.43	.47	.43	.55	.59	.63	1.59	.55	.55	.51	.32	.26
27	.43	.47	.43	.51	.94	.63	.67	.55	.55	.43	.43	.26
28	.47	.47	.43	.55	.63	.59	.67	.55	.59	.43	.39	.26
29	.47	.47	.43	.55	.59	.59	.67	.55	1.77	.43	.35	.26
30	.43	.47	.43	.51	.59	.63	.85	-----	.33	.43	.35	.26
31	.47	.47	-----	.51	-----	.80	.67	-----	.95	-----	.35	-----
Total	12.45	20.66	13.70	15.33	18.27	31.65	24.79	20.50	19.04	16.73	13.44	9.37
Mean												
mgd	0.402	0.666	0.457	0.495	0.609	1.02	0.800	0.707	0.614	0.624	0.434	0.312
cfs	0.622	1.05	0.707	0.766	0.942	1.56	1.24	1.09	0.950	0.965	0.671	0.463
Ac-ft	38	63	42	47	56	97	76	63	58	57	41	29

Calendar year 1955: Max 6.5 Min 0.15 Mean(mgd) 0.537 Mean(cfs) 0.831 Ac-ft 600
 Fiscal year 1955-56: Max 6.5 Min 0.26 Mean(mgd) 0.595 Mean(cfs) 0.921 Ac-ft 667
 Peak discharge (base, 30 mgd).--Dec. 20 (12 p.m.) 59 mgd (91 cfs), 2.90 ft; Jan. 26 (7:30 a.m.) 34 mgd (53 cfs), 2.20 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Waihee Stream.

f Fragmentary gage-height record; discharge computed from partly estimated gage-height record.

Waihee Stream near Heeia

Location.--Lat 21°27'05", long 157°31'35", on left bank 70 ft upstream from intake of Kihe ditch, 120 ft downstream from forest-reserve boundary, 3.5 miles (corrected) northwest of Heeia, and 4.4 miles northwest of Kaneohe.

Drainage area.--1.1 sq mi.

Records available.--December 1935 to June 1956.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 193 ft (from topographic map).

Average discharge.--20 years (1936-56), 6.44 mgd (9.96 cfs).

Extremes.--Maximum discharge during year, 186 mgd (288 cfs) Dec. 20 (gage height, 4.57 ft); minimum, 2.75 mgd (4.25 cfs) Sept. 6, Oct. 31 to Nov. 2.

1935-56: Maximum discharge, 465 mgd (719 cfs) Feb. 28, 1939 (gage height, 5.47 ft, control then in use), from rating curve computed from 20 to 230 mgd by Parshall flume formula and extended above; minimum, that of Sept. 6, Oct. 31 to Nov. 2, 1955.

Remarks.--Records good. A 2-inch pipeline diverts water above station for domestic use.

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Aug. 19

Aug. 20 to June 30

1.0	7.6	0.5	1.85	1.2	12.8
1.2	11.1	.6	2.85	1.5	20
1.5	17.7	.7	4.1	2.0	36
		.9	7.1		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	14.0	10.2	3.15	3.6	2.75	3.7	7.3	5.5	6.4	8.7	5.2	6.1
2	14.0	14.6	8.3	3.6	2.85	3.7	5.8	7.0	6.1	6.9	*5.3	5.7
3	13.8	14.3	13.3	3.45	2.85	3.7	5.1	5.7	5.8	6.4	5.8	6.6
4	13.6	14.0	12.6	3.6	2.95	3.7	4.9	5.4	5.8	*6.4	5.7	6.1
5	13.6	13.3	12.0	3.6	3.1	3.7	4.8	5.7	5.8	6.3	5.7	5.8
6	13.8	13.1	6.4	3.6	3.1	3.7	4.6	9.6	5.8	6.3	5.8	5.8
7	13.5	13.1	2.85	3.6	3.1	3.7	4.5	10.9	5.8	6.1	12.0	7.3
8	13.5	12.9	3.1	3.6	3.1	3.7	4.5	6.9	5.8	6.1	5.8	6.1
9	13.3	12.7	3.15	3.7	4.0	*3.85	4.5	6.4	6.0	6.1	5.4	5.7
10	13.3	12.7	2.85	3.7	4.3	3.7	4.5	6.6	5.8	6.1	5.5	5.8
11	13.3	12.7	2.95	3.7	4.4	3.7	4.5	6.3	5.8	6.0	5.7	6.3
12	13.1	12.5	3.1	3.7	3.7	3.6	17.1	9.1	5.8	6.0	5.4	6.8
13	13.1	12.5	3.1	3.7	3.6	3.6	6.8	6.6	5.8	6.0	5.2	6.8
14	13.1	14.8	4.7	3.7	4.4	3.6	4.9	6.1	5.8	6.0	5.2	*6.9
15	13.1	10.6	2.95	3.7	3.7	3.6	4.8	6.1	5.8	6.0	5.2	6.9
16	13.1	9.0	3.1	3.85	3.45	3.6	5.7	6.1	5.8	6.0	5.1	6.9
17	12.9	9.1	3.1	*3.85	3.7	3.6	4.6	7.7	5.8	6.3	5.1	7.1
18	12.9	*10.0	3.1	3.85	5.3	3.6	4.5	6.8	5.8	6.0	5.4	6.9
19	12.9	14.5	3.2	3.85	4.2	18.7	4.4	6.4	5.8	6.0	5.2	6.9
20	10.7	21	3.2	3.85	3.85	33	4.4	6.1	5.8	10.6	5.1	6.9
21	9.5	12.2	3.35	3.7	3.85	24	4.4	6.1	5.8	16.0	5.2	7.1
22	9.8	11.8	3.45	3.85	4.4	7.9	4.4	6.0	5.8	6.9	5.5	7.1
23	10.0	11.5	3.35	4.1	4.2	6.1	4.4	6.0	5.8	5.7	5.8	7.4
24	10.2	11.3	3.35	4.1	4.1	5.7	8.2	6.4	5.8	5.5	5.2	7.1
25	10.2	11.1	3.35	10.8	3.85	5.1	15.4	8.4	6.0	5.5	5.1	6.9
26	10.2	10.9	3.2	16.3	3.95	4.8	13.7	6.0	5.8	5.8	5.1	7.1
27	10.2	11.1	3.35	16.3	4.5	4.5	6.0	5.7	6.3	5.5	6.1	7.1
28	10.4	11.3	3.35	15.1	4.1	4.4	7.6	5.5	6.0	5.5	6.5	6.9
29	10.6	11.3	3.45	14.6	3.85	4.4	6.8	6.4	6.0	5.4	5.8	6.9
30	10.4	6.6	3.45	14.4	3.85	*4.5	7.2	-----	7.8	5.5	5.5	6.9
31	10.6	2.95	-----	8.9	-----	5.2	6.1	-----	9.1	-----	6.6	-----
Total	377.1	369.65	153.85	185.95	113.05	194.35	196.4	193.5	189.3	197.6	177.2	199.9
Mean	12.2	11.9	4.46	6.00	3.77	6.27	6.34	6.67	6.11	6.59	5.72	6.66
mgd	18.9	18.4	6.90	9.29	5.83	9.70	9.81	10.3	9.45	10.2	8.85	10.3
Ac-ft	1,160	1,130	411	571	347	596	603	594	581	606	544	613
Calendar year 1955	Max	43	Min	2.75	Mean(mgd)	10.7	Mean(cfs)	16.6	Ac-ft	12,000		
Fiscal year 1955-56	Max	33	Min	2.75	Mean(mgd)	6.91	Mean(cfs)	10.7	Ac-ft	7,760		

Peak discharge (base, 90 mgd).--Dec. 20 (12 p.m.) 186 mgd (288 cfs), 4.57 ft; Jan. 12 (3 p.m.) 93 mgd (144 cfs), 3.26 ft; Jan. 24 (12 p.m.) 111 mgd (172 cfs), 3.57 ft.

* Discharge measurement made on this day.

Waiahole tunnel at Waiānu, near Waiahole

Location.--Lat 21°29'05", long 157°53'15", on left bank in Waiahole tunnel at intake No. 29, 2.1 miles southwest of Waiahole.

Records available.--December 1950 to June 1956 in reports of Geological Survey. June 1916 to November 1950 in files of Waiahole Water Co.

Gage.--Water-stage recorder and Parshall flume.

Average discharge.--5 years (1951-56), 24.3 mgd (37.6 cfs).

Extremes.--1950-56: Maximum daily discharge, 74.0 mgd (114 cfs) July 28, 1954; minimum daily, 16.0 mgd (24.8 cfs) Jan. 24-29, 1952.

Remarks.--Records good. Tunnel diverts water from headwaters of nearly all streams from Waiahole Valley to Kahana Valley for irrigation in central Oahu. Water may be diverted at various intakes above station.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	27.4	25.7	23.1	22.4	22.4	*23.3	25.8	24.4	33.1	32.2	*25.1	28.8
2	27.4	*38.1	29.7	23.3	22.2	22.6	23.5	26.7	27.2	26.7	25.1	27.8
3	24.6	29.6	23.7	22.4	22.0	22.4	23.3	24.9	25.8	26.0	25.1	33.0
4	24.4	24.6	26.2	23.1	22.0	22.4	23.5	24.6	25.6	25.8	25.1	28.1
5	32.2	24.6	24.4	23.1	22.0	22.2	23.3	24.9	25.3	25.6	25.1	27.2
6	28.2	24.0	23.3	22.4	21.8	22.2	23.1	35.6	25.8	27.8	25.7	27.6
7	25.8	25.7	23.1	22.4	21.8	22.2	23.1	34.2	25.3	25.8	40.5	30.9
8	24.4	23.5	24.2	22.2	21.8	22.2	23.1	25.6	25.1	25.6	39.3	27.4
9	24.4	23.5	23.3	22.2	20.2	22.0	22.9	24.6	31.6	25.1	26.7	26.7
10	24.2	26.9	23.1	22.4	25.2	22.0	22.9	24.9	25.6	25.1	30.4	27.6
11	24.2	25.3	22.9	25.3	28.8	22.0	22.9	27.4	26.5	24.9	34.1	28.5
12	24.0	23.7	22.9	23.3	23.7	22.0	41.4	29.6	25.3	24.9	27.6	29.1
13	24.0	24.6	22.9	22.6	22.6	21.8	25.6	26.7	25.1	25.1	32.6	29.1
14	24.0	42.2	22.6	22.4	29.5	21.8	24.0	26.7	25.1	25.1	29.7	28.6
15	24.2	25.3	22.6	22.4	23.5	21.8	23.5	25.3	24.9	25.6	29.4	26.9
16	25.8	24.0	22.6	22.4	23.1	21.8	26.4	42.7	24.9	26.9	26.2	26.7
17	24.0	24.0	22.4	22.2	27.4	21.8	23.7	40.1	24.9	35.9	26.0	30.0
18	23.7	26.5	22.4	22.2	26.7	21.8	23.3	29.7	25.3	25.6	26.0	29.3
19	23.5	36.5	26.9	22.2	24.2	27.6	23.3	26.2	28.1	26.0	26.0	29.3
20	27.0	45.5	22.9	22.2	23.1	59.7	23.3	25.6	31.4	53.4	25.6	26.7
21	29.5	25.1	23.5	22.2	23.5	40.2	23.1	25.3	25.3	51.6	25.6	27.8
22	24.0	24.4	23.7	22.2	24.9	31.9	23.1	25.1	24.9	29.0	26.9	32.4
23	23.5	24.0	28.4	23.7	24.6	24.0	23.1	25.3	28.2	26.7	36.7	32.6
24	23.7	23.7	23.7	22.6	24.9	26.0	24.1	32.1	26.5	25.8	28.3	27.6
25	26.9	23.7	22.9	22.9	23.1	24.0	30.2	36.5	29.0	26.5	30.2	26.9
26	25.3	23.7	22.6	22.2	26.2	22.9	36.4	27.4	26.5	31.0	31.2	28.0
27	26.0	23.5	22.4	24.9	24.2	22.6	26.2	29.2	32.7	25.8	30.7	28.1
28	26.7	23.3	22.4	23.8	24.2	22.4	28.2	26.0	26.2	25.6	31.6	26.9
29	26.0	23.3	22.9	22.6	23.1	27.5	35.0	38.6	39.2	25.3	37.6	28.4
30	24.6	23.1	23.1	22.2	23.3	27.6	27.4	-----	30.9	25.6	28.6	27.9
31	24.9	23.1	-----	22.9	-----	35.8	25.6	-----	32.7	-----	34.9	-----
Total	788.5	820.7	708.8	705.3	726.0	790.5	794.3	835.9	854.0	852.0	913.6	856.1
Mean:												
mgd	25.4	26.5	23.6	22.8	24.2	25.5	25.6	28.8	27.5	28.4	29.5	28.5
cfs	39.3	41.0	36.5	35.3	37.4	39.5	39.6	44.6	42.5	43.9	45.6	44.1
Ac-ft	2,420	2,520	2,180	2,160	2,230	2,430	2,440	2,570	2,620	2,620	2,800	2,630
Calendar year 1955.	Max	59.7	Min	21.8	Mean(mgd)	26.1	Mean(cfs)	40.4	Ac-ft	29,210		
Fiscal year 1955-56:	Max	59.7	Min	21.8	Mean(mgd)	26.4	Mean(cfs)	40.8	Ac-ft	29,600		

* Discharge measurement made on this day.

Waiahole tunnel wasteway at intake 31, near Waiahole

Location.--Lat 21°28'30", long 157°53'15", on left bank 150 ft below wasteway gates of intake No. 31 of Waiahole tunnel and 2.2 miles southwest of Waiahole.

Records available.--January 1951 to June 1956.

Gage.--Water-stage recorder and Parshall flume.

Average discharge.--5 years (1951-56), 0.216 mgd (0.334 cfs).

Extremes.--1951-56: Maximum daily discharge, 38.4 mgd (59.4 cfs) Feb. 23, 1955; no flow most of time.

Remarks.--Records fair. Station measures releases from Waiahole tunnel.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0				0	0	0	0	0	0		
2	0	.16			0	0	0	0	0	0		
3	0	0			0	0	0	0	0	0		
4	0	0			0	0	0	0	0	0		
5	0	0			0	0	0	0	0	0		
6	0	0			0	0	0	0	0	0		
7	0	0			0	0	0	0	0	0		
8	0	0			0	0	0	0	0	0		
9	0	0			0	0	0	0	.02	0		
10	0	0			0	0	0	0	0	0		
11	0	0			0	0	0	.07	0	0		
12	0	0			0	0	4.96	.11	0	0		
13	0	0			0	0	4.04	0	0	0		
14	0	.02			0	0	0	0	0	0		
15	0	0			0	0	0	0	0	0		
16	0	0			0	0	0	.02	0	0		
17	0	0			0	0	0	.02	0	.01		
18	0	0			0	0	0	0	0	0		
19	0	.02			0	.01	0	0	0	0		
20	.01	1.49			0	18.8	0	0	0	.02		
21	0	0			0	24.5	0	0	0	.05		
22	0	0			0	17.0	0	0	0	0		
23	0	0			0	5.3	0	0	0	0		
24	0	0			0	0	0	.26	0	0		
25	0	0			0	0	0	.84	0	0		
26	0	0			0	0	.60	0	0	0		
27	0	0			0	0	0	0	0	0		
28	0	0			0	0	0	0	0	0		
29	0	0			0	0	0	.02	.32	0		
30	0	0			0	0	0	.02	.02	0		
31	0	0			0	0	0		.02	0		
Total	0.01	1.69	0	0	0.03	65.61	9.60	1.34	0.38	0.08	0	0
Mean:												
mgd	0.0003	0.055	0	0	0.001	2.12	0.310	0.046	0.012	0.003	0	0
cfs	0.0005	0.085	0	0	0.002	3.28	0.480	0.071	0.019	0.005	0	0
Ac-ft	0.03	5.2	0	0	0.1	201	29	4.1	1.2	0.2	0	0
Calendar year 1955:	Max	38.4	Min	0	Mean(mgd)	0.847	Mean(cfs)	1.31	Ac-ft	948		
Fiscal year 1955-56:	Max	24.5	Min	0	Mean(mgd)	0.215	Mean(cfs)	0.333	Ac-ft	241		

Waiahole tunnel at north portal, near Waiahole

Location.--Lat 21°28'15", long 157°53'30", on right bank in Waiahole tunnel at the boundary of Territorial and private lands, 2.6 miles southwest of Waiahole.

Records available.--January 1951 to June 1956 in reports of Geological Survey. May 1916 to December 1950 in files of Waiahole Water Co.

Gage.--Water-stage recorder and Parshall flume.

Average discharge.--5 years (1951-56), 26.1 mgd (40.4 cfs).

Extremes.--1951-56: Maximum daily discharge, 81.0 mgd (125 cfs) July 28, 1954; minimum daily, 7.0 mgd (10.8 cfs) Jan. 24, 25, 1951.

Remarks.--Records good. Tunnel diverts water from headwaters of nearly all streams from Waiahole Valley to Kahana Valley for irrigation in central Oahu. Numerous intakes can divert water above station.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	29.8	26.3	26.3	25.4	25.2	*24.5	27.5	*25.2	35.4	34.1	26.8	30.2
2	30.1	*40.6	33.5	26.3	24.7	23.8	25	28.0	28.6	*28.4	27.3	28.6
3	27.5	33.7	27.0	25.6	24.7	23.8	24.5	26.3	27.3	27.5	27.3	34.3
4	27.3	27.3	29.8	25.9	24.7	23.6	24.1	25.6	27.0	27.3	27.3	29.6
5	33.2	27.3	27.7	25.9	25.0	23.6	23.8	26.1	26.8	27.3	27.3	28.4
6	32.1	26.8	26.6	25.4	25.0	23.4	23.8	37.6	27.3	29.1	27.9	28.9
7	28.4	26.3	26.1	25.4	24.7	24.3	23.6	36.1	26.8	27.5	41.4	32.2
8	27.5	26.3	27.7	25.4	24.7	24.7	23.6	26.8	26.6	27.0	39.3	28.9
9	27.0	26.3	25.4	25.2	33.4	24.5	23.6	25.9	33.5	26.8	28.0	28.2
10	26.8	29.1	24.5	25.4	27.4	24.5	23.6	27.3	27.3	26.8	31.2	28.9
11	26.8	27.7	24.5	27.7	30.8	24.5	23.6	28.4	28.0	26.8	34.5	29.3
12	26.8	26.3	25.2	26.1	25.4	24.5	38.6	31.0	26.8	26.8	28.6	30.1
13	26.8	27.0	25.9	25.4	24.3	24.5	22.5	28.6	26.6	26.8	33.2	30.1
14	26.8	46.2	25.6	25.2	31.0	24.5	24.5	28.0	26.3	26.6	30.8	29.6
15	26.6	28.2	25.6	25.0	25.2	24.3	24.3	26.6	26.3	27.3	30.1	28.4
16	28.2	26.8	25.6	25.0	24.7	24.3	27.7	43.2	26.3	28.4	27.5	28.0
17	26.6	26.8	25.6	25.0	29.1	24.3	24.5	43.2	26.3	39.9	27.3	30.7
18	26.6	28.6	25.6	25.0	28.2	24.3	24.1	31.5	26.8	27.5	27.3	31.0
19	26.3	39.2	28.9	25.0	26.6	35.3	23.8	27.7	29.8	27.7	27.3	30.1
20	29.2	59.6	25.4	24.7	24.5	47.2	23.8	26.8	32.8	56.1	26.8	28.0
21	32.4	27.0	26.6	24.7	25.2	19.4	23.8	26.6	27.0	56.0	26.8	29.3
22	26.6	27.0	27.0	24.7	26.6	15.5	23.6	26.3	26.6	30.8	28.6	33.5
23	26.3	27.0	29.2	26.6	26.1	20.1	23.6	26.3	29.8	28.4	37.0	34.0
24	26.3	26.8	26.8	25.2	26.3	27.5	24.8	32.2	28.0	27.5	29.3	28.9
25	28.9	26.8	25.9	25.9	24.7	25.0	31.6	38.0	30.3	27.3	30.8	28.2
26	28.4	26.8	25.6	25.0	27.6	24.3	37.7	28.6	28.0	33.0	32.0	28.8
27	28.6	26.6	25.4	27.2	27.0	24.1	26.8	30.3	34.2	27.5	32.5	29.3
28	29.1	26.3	25.4	25.6	25.6	23.8	28.2	27.3	27.7	27.0	32.6	28.0
29	28.4	26.3	25.9	25.6	24.7	28.5	36.4	38.6	41.8	26.8	38.5	29.0
30	27.3	26.3	26.1	24.7	24.7	28.9	28.0	-----	33.0	27.0	29.8	28.9
31	27.5	26.1	-----	25.4	-----	37.4	26.3	-----	34.4	-----	36.4	-----
Total	870.2	919.2	796.4	790.6	787.8	790.9	811.4	874.1	903.4	907.0	951.5	891.4
Mean:												
mgd	28.1	29.7	26.5	25.5	26.3	25.5	26.2	30.1	29.1	30.2	30.7	29.7
cfs	43.5	46.0	41.0	39.5	40.7	39.5	40.5	46.6	45.0	46.7	47.5	46.0
Ac-ft	2,670	2,820	2,440	2,430	2,420	2,430	2,490	2,680	2,770	2,780	2,920	2,740
Calendar year 1955:	Max 59.6	Min 10.1	Mean(mgd) 27.5	Mean(cfs) 42.5	Ac-ft 30,770							
Fiscal year 1955-56:	Max 59.6	Min 15.5	Mean(mgd) 28.1	Mean(cfs) 43.5	Ac-ft 31,590							

* Discharge measurement made on this day.

Waiahole Stream at altitude 250 ft, near Waiahole

Location.--Lat 21°28'35", long 157°52'30", on left bank 1.5 miles southwest of Waiahole School and 2.7 miles northwest of Kahaluu.

Drainage area.--1.01 sq mi.

Records available.--July 1955 to June 1956.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 250 ft (from topographic map).

Extremes.--1955-56: Maximum discharge during year, 172 mgd (266 cfs) Dec. 20 (gage height, 3.05 ft); minimum daily, 1.80 mgd (2.79 cfs) Sept. 28, Nov. 3-8.

Remarks.--Records fair except those for period of doubtful gage-height record, which are poor.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.7	2.8	2.4	1.98	*1.89	*4.2	7.3	*4.6	*5.0	6.7	*4.4	*4.5
2	2.5	*4.5	*2.45	1.98	1.89	4.2	5.8	5.1	5.1	*5.1	4.2	4.6
3	2.7	3.8	2.45	1.98	1.80	4.2	*5.4	4.8	4.8	4.8	4.2	5.1
4	2.7	2.9	2.35	2.05	1.80	4.2	5.1	4.6	4.6	4.6	4.0	4.8
5	2.8	2.7	2.35	1.98	1.80	4.2	5.0	4.8	*4.8	4.6	4.0	4.5
6	2.8	2.7	2.25	1.98	1.80	4.0	4.6	9.7	4.6	4.6	4.4	4.5
7	2.7	2.55	2.35	1.98	1.80	3.0	4.6	9.6	4.6	4.5	5.7	4.5
8	2.7	2.7	2.7	1.98	1.80	2.45	4.6	5.6	4.6	4.5	4.5	4.4
9	2.7	2.7	3.55	1.98	5.7	2.45	4.6	5.1	6.4	4.4	4.2	4.2
10	2.7	2.7	3.9	2.2	4.5	2.45	4.5	6.7	5.0	4.4	4.2	4.0
11	2.7	2.55	3.9	2.45	4.0	2.45	4.4	6.2	4.9	4.4	4.0	4.2
12	2.8	2.55	3.05	2.05	4.0	2.45	29.5	8.2	4.8	4.4	4.0	4.2
13	2.8	2.55	2.15	2.05	3.6	2.45	12.1	6.0	4.6	4.4	4.0	4.2
14	2.7	4.5	2.25	2.05	4.0	2.45	6.3	5.1	4.6	4.4	4.0	4.4
15	2.7	3.05	2.15	2.05	4.0	2.45	5.9	4.9	4.6	4.4	4.0	4.0
16	2.8	2.8	2.05	2.05	3.8	2.45	8.8	6.2	4.6	4.4	4.0	4.0
17	2.7	2.7	2.05	1.98	4.2	2.35	6.3	7.2	4.5	8.6	4.0	4.2
18	2.7	2.9	2.05	1.98	4.2	2.35	5.9	5.7	4.6	4.8	4.2	4.0
19	2.7	8.0	3.15	1.98	4.0	11.0	5.8	5.0	4.6	4.5	4.2	4.0
20	2.95	23.5	2.6	1.98	4.0	*4.4	5.8	4.8	4.8	7.6	4.0	4.0
21	2.9	5.1	2.25	1.98	4.0	*39.5	5.4	4.6	4.6	17.0	4.0	4.2
22	2.7	3.3	2.25	1.98	4.0	21.5	5.4	4.6	4.6	5.9	5.8	4.2
23	2.7	2.55	2.3	2.25	3.9	10.6	5.1	4.5	4.6	4.8	4.8	4.9
24	2.7	2.45	2.05	2.15	3.9	5.4	6.7	4.5	4.6	4.5	4.4	4.2
25	2.7	2.45	1.98	2.35	3.9	5.0	9.9	5.5	4.6	4.5	4.2	4.0
26	2.7	2.25	1.98	2.05	4.1	4.6	17.0	4.4	4.5	6.1	4.2	3.9
27	2.7	2.15	1.89	2.05	5.0	4.5	*5.7	4.4	4.8	4.6	4.8	4.2
28	2.8	2.15	1.80	2.15	4.3	4.4	4.9	4.3	4.6	4.5	5.8	5.9
29	2.9	2.05	1.98	2.05	4.2	4.4	5.8	4.5	10.9	4.4	4.5	3.9
30	2.7	2.05	1.98	1.98	4.2	5.5	5.5	-----	7.5	4.4	4.2	3.9
31	2.8	2.35	-----	1.98	-----	8.1	4.9	-----	8.7	-----	4.8	-----
Total	85.15	114.00	72.41	63.68	106.08	223.25	218.4	161.2	159.9	160.8	135.5	127.6
Mean:												
mgd	2.75	3.68	2.41	2.05	3.54	7.20	7.05	5.58	5.16	5.36	4.37	4.25
cfs	4.25	5.69	3.73	3.17	5.48	11.1	10.9	8.60	7.98	8.29	6.78	6.58
Ac-ft	261	350	222	195	326	685	670	495	491	493	416	392
Calendar year 1955: Max	-	-	-	-	-	-	-	-	-	-	-	-
Fiscal year 1955-56: Max	44	-	-	Min	1.80	Mean(mgd)	4.45	Mean(cfs)	6.89	Ac-ft	5,000	-

* Discharge measurement made on this day.

Note.--Doubtful gage-height record Nov. 10 to Dec. 1; discharge estimated on basis of doubtful gage-height record and records for nearby stations. No gage-height record July 1-7; discharge estimated on basis of records for nearby stations.

Punaluu ditch near Punaluu

Location.--Lat 21°33'40", long 157°54'10", on right bank of ditch 800 ft downstream from intake, 1.7 miles southwest of highway bridge at Punaluu, and 3.3 miles southeast of Hauula Post Office.

Records available.--May 1953 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 200 ft (from topographic map).

Extremes.--1953-56: Maximum daily discharge, 16.2 mgd (25.1 cfs) May 20, 26, Aug. 19, 1955, Apr. 21, 1956; minimum daily, 0.02 mgd (0.03 cfs) Jan. 9, 14, 1955.

Remarks.--Records good. Ditch diverts water from Punaluu Stream for irrigation of sugar-cane in the Punaluu district.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	11.2	11.2	9.04	3.35	5.0	3.9	0.11	0.11	0.56	2.4	8.8	13.6
2	11.2	12.6	.60	3.4	5.0	3.75	.11	.11	.34	4.3	*8.4	13.6
3	11.2	12.6	1.27	3.35	5.1	3.75	.10	.15	.34	5.3	5.8	13.6
4	11.2	11.2	1.27	3.4	5.1	3.65	.10	.18	.36	5.3	7.1	12.8
5	11.6	12.0	1.22	3.4	5.1	3.65	.08	.15	.36	5.2	12.0	12.8
6	15.0	12.0	1.01	3.4	5.2	3.65	.08	.14	.34	5.3	12.8	12.8
7	12.8	11.2	.54	3.4	5.2	3.65	.08	.18	.36	5.2	14.5	14.5
8	12.0	11.2	.11	3.5	6.6	*3.65	.10	.18	.36	5.2	12.8	12.8
9	11.2	11.2	2.6	3.5	5.4	3.0	.10	.20	.41	5.1	12.0	12.8
10	11.2	11.2	4.0	3.5	3.75	2.65	.10	.23	.36	5.1	12.8	12.8
11	11.2	11.2	3.75	3.5	4.3	2.65	.18	.20	.34	5.1	13.6	12.8
12	11.2	11.2	3.55	3.5	4.0	2.65	.12	.14	.34	5.1	13.6	12.8
13	11.2	12.0	3.65	3.55	3.9	2.65	.10	.14	2.45	8.6	13.6	12.0
14	11.2	15.0	6.0	3.4	4.3	2.65	.14	.15	3.5	10.5	15.4	*12.0
15	11.2	12.8	7.2	3.35	4.0	2.65	.12	.17	3.5	10.5	13.6	12.0
16	11.2	11.2	7.1	3.5	3.9	1.91	.14	.18	3.5	10.5	12.8	12.0
17	11.2	11.2	7.1	3.5	4.0	1.69	.14	.20	3.5	12.4	12.8	12.0
18	11.2	11.2	7.2	3.5	4.0	1.69	1.18	.17	3.5	10.5	12.0	12.0
19	11.2	16.2	7.4	*3.55	3.9	2.95	2.95	.15	3.75	10.5	12.0	12.0
20	11.2	3.6	7.2	3.55	3.8	5.8	2.95	.15	3.65	14.9	12.0	12.0
21	11.2	.20	7.5	3.55	3.8	5.3	2.95	.15	3.5	16.2	12.0	12.0
22	11.2	.14	8.5	3.55	3.9	4.8	2.95	.14	3.35	11.2	13.2	12.8
23	11.2	.10	5.8	3.65	3.9	4.6	2.85	.14	3.4	9.8	15.4	12.8
24	11.2	.08	3.55	4.7	4.0	4.5	3.1	.14	3.55	9.5	13.6	12.0
25	11.2	.07	3.55	5.1	3.8	4.4	2.65	.11	3.65	9.2	13.6	12.0
26	12.0	.05	3.25	5.0	4.1	4.4	1.85	.11	3.55	10.5	13.6	12.0
27	12.0	.04	3.25	5.6	3.9	4.3	.12	.23	*3.65	9.2	14.5	12.8
28	12.0	.04	3.25	5.1	3.8	4.2	.11	.54	3.55	9.1	15.4	12.0
29	12.0	.04	3.35	5.2	3.75	4.5	.11	.51	3.65	9.0	14.5	12.0
30	11.2	.04	3.35	5.0	3.8	4.8	.11	-----	3.65	8.8	14.5	12.0
31	12.0	.04	-----	5.0	-----	2.7	.11	-----	3.4	-----	14.5	-----
Total	357.8	233.04	117.76	120.55	130.30	111.09	26.09	5.35	70.52	249.5	395.2	376.1
Mean:	11.5	7.52	3.93	3.89	4.34	3.58	0.842	0.184	2.27	8.32	12.7	12.5
mgd	17.8	11.6	6.08	6.02	6.71	5.54	1.30	0.285	3.51	12.9	19.6	19.3
cfs	1,100	715	361	370	400	341	80	16	216	766	1,210	1,150
Ac-ft												
Calendar year 1955: Max	16.2			Min	0.02	Mean(mgd)	5.93	Mean(cfs)	9.18	Ac-ft	6,640	
Fiscal year 1955-56: Max	16.2			Min	0.04	Mean(mgd)	5.99	Mean(cfs)	9.27	Ac-ft	6,720	

* Discharge measurement made on this day.

Punaluu Stream near Punaluu

Location.--Lat 21°33'35", long 157°54'05", on left bank at diversion dam, 1.8 miles southwest of Punaluu and 3.5 miles southeast of Hauula.

Drainage area.--2.8 sq mi.

Records available.--May 1953 to June 1956.

Gage.--Water-stage recorder and masonry control. Altitude of gage is 212 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,760 mgd (2,720 cfs) Aug. 20 (gage height, 5.03 ft), from rating curve extended above 105 mgd by logarithmic plotting; minimum, 0.63 mgd (0.98 cfs) July 23.
1953-56: Maximum discharge, that of Aug. 20, 1955; no flow at times.

Remarks.--Records good except those for period of no gage-height record, which are poor. Records do not include flow of Punaluu ditch.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.2	0.69	1.0	21
.3	1.53	1.2	38
.4	2.7	1.5	79
.6	5.9	2.0	195
.8	10.5		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.43	1.33	13.4	8.3	6.6	12.9	37	18.4	54	29.5	7.2	5.2
2	1.65	8.3	15.4	8.6	6.3	10.5	24	25	25.5	16.5	*7.0	5.1
3	1.43	4.6	11.7	8.1	6.3	9.8	20.5	19.7	21	13.8	9.3	6.3
4	1.43	1.89	12.1	8.1	6.1	9.5	19.1	19.1	19.7	13.4	7.4	4.4
5	7.4	1.61	11.7	8.1	6.1	9.3	17.2	17.2	28	13.0	2.55	3.75
6	25	1.53	11.7	7.9	5.9	9.1	15.9	35.5	19.7	14.0	3.45	3.6
7	2.7	1.24	11.7	7.9	5.9	8.8	14.6	23.5	18.4	11.7	10.8	10.2
8	1.74	1.15	13.6	7.7	4.6	*8.7	14.6	19.1	17.8	11.3	4.4	4.0
9	1.43	1.14	10.1	7.7	*19.8	9.1	13.8	17.8	39.5	10.9	3.15	3.45
10	1.24	1.33	8.1	8.0	9.6	9.3	14.2	17.2	19.1	10.5	4.1	3.8
11	1.15	1.46	8.1	8.6	22.5	9.3	13.4	20	19.6	10.3	5.4	3.6
12	1.15	1.07	8.1	8.1	15.4	9.1	61	28.5	16.5	10.0	5.7	3.6
13	1.15	2.55	8.1	9.3	10.5	8.8	22	21.5	13.8	6.8	4.9	3.45
14	1.24	23	5.9	8.6	21.5	8.8	17.2	21	12.6	4.9	9.6	3.35
15	1.15	3.6	4.7	7.9	12.6	8.8	15.9	19.1	12.6	4.9	4.8	3.0
16	1.24	2.45	4.7	8.1	10.9	8.6	16.5	57	12.1	4.7	3.6	2.85
17	1.07	2.2	4.5	7.7	13.5	8.6	14.6	51	11.7	13.1	3.3	3.1
18	.99	2.95	4.5	7.4	12.3	8.6	13.0	36	12.1	4.9	3.15	3.3
19	.99	90	5.0	*7.4	11.7	19.4	10.5	24.5	20	4.7	2.85	a2.7
20	1.24	176	4.5	*7.4	10.0	*73	10.5	22.5	17.5	28	2.7	a2.3
21	1.33	30	4.6	7.4	10.3	35.5	10.3	19.7	12.6	74	2.7	a3.1
22	.76	*23	7.1	7.4	10.6	19.8	10.0	19.1	11.7	15.3	10.6	a7.0
23	.65	19.4	7.1	8.1	10.9	13.8	10.0	18.4	14.0	10.5	10.2	a7.0
24	.98	17.8	9.1	6.8	11.7	12.6	40	26.5	13.9	9.5	4.9	a4.0
25	1.31	16.5	8.6	6.6	9.8	11.3	30.5	34	16.5	8.6	5.2	a2.6
26	2.25	15.9	8.3	6.1	26	10.3	138	22	16.5	15.7	4.6	a2.4
27	1.59	15.2	8.1	16.6	14.2	9.8	*33.5	20.5	*19.2	8.6	14.3	a5.0
28	1.95	14.6	8.3	8.4	12.1	9.3	27	17.8	14.6	8.1	13.6	a2.8
29	1.74	13.8	8.6	7.7	10.9	13.1	28	45	20	7.7	9.8	a1.8
30	1.16	13.8	8.3	6.8	12.4	25.5	23	-----	18.3	7.4	6.6	a2.0
31	2.15	13.8	-----	6.6	-----	140	20.5	-----	28.5	-----	6.5	-----
Total	73.06	523.20	253.9	249.4	347.0	561.0	756.3	734.6	597.0	402.3	194.35	118.75
Mean:												
mgd	2.36	16.9	8.46	8.05	11.6	18.1	24.4	25.3	19.3	13.4	6.27	3.96
cfs	3.65	26.1	13.1	12.5	17.9	28.0	37.8	39.1	29.9	20.7	9.70	6.13
Ac-ft	224	1,610	779	765	1,060	1,720	2,320	2,250	1,830	1,230	596	364
Calendar year 1955: Max	292											
Fiscal year 1955-56: Max	176											

Peak discharge (base, 500 mgd).--Aug. 20 (12:30 a.m.) 1,760 mgd (2,720 cfs), 5.03 ft; Dec. 31 (10 a.m.) 1,520 mgd (2,350 cfs), 4.70 ft; Jan. 26 (10 a.m.) 930 mgd (1,440 cfs), 3.85 ft; Apr. 21 (3:30 p.m.) 730 mgd (1,130 cfs), 3.43 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby streams.

Discharge measurements at points other than gaging stations

Measurements of streamflow on the island of Oahu made at points other than regular gaging stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. Measurements believed to have been made under base-flow conditions are identified by an asterisk (*) to the left of the discharge figure. These measurements when correlated with the simultaneous discharge of a nearby stream where continuous records are available will give a picture of the low-flow potentiality of stream. The column headed, "Measured previously" shows the fiscal years for which measurements were made at the same, or practically the same, site.

Determinations of peak flow at points other than regular gaging stations are given in a separate table on page 73.

Discharge measurements made at points other than gaging stations on the island Oahu during fiscal year July 1955 to June 1956

Stream	Tributary to	Location	Measured previously (fiscal years)	Date	Discharge	
					Million gallons a day	Cubic feet per second
Makaha Stream.	Farm land...	Lat 21°29'35", long 158°11'20", 300 ft upstream from Makaha (glover) tunnel, near Waianae.		Mar. 6	*1.03	*1.60
Makaha tunnel.	....do.....	Lat 21°29'35", long 158°11'20", at mouth in Makaha Valley, near Waianae.	1947-51, 1953-55	Mar. 6	*.851	*1.32
Makaha mauka ditch.	....do.....	Lat 21°29'20", long 158°11'40", at 4-foot Parshall flume about 2,000 ft below tunnel in Makaha Valley, near Waianae.	1947-51, 1945-55	Mar. 6	.814	1.26
Tunnel 19....	Kanewai Stream.	Lat 21°29'25", long 158°08'35", at weir 28, near Waianae.	1947-51, 1953-55	Mar. 8	*.609	*.942
Tunnel 6....	....do.....	Lat 21°29'25", long 158°08'40", at weir 7, near Waianae.	1911,1923, 1925-27, 1947-51, 1953-55	Mar. 8	*.075	*.116
Kanewai Stream.	Honua Stream	Lat 21°29'15", long 158°08'40", above flume entrance, near Waianae.	1923, 1948-51, 1953-55	Mar. 8	1.07	1.66
Right Branch of West Fork Kalalula Stream.	West Fork Kalalula Stream.	Lat 21°29'40", long 158°08'55", at weir 25, above tunnel 14, near Waianae.	1947-51, 1953-55	Mar. 7	*.056	*.087
Tunnel 14....	Right Branch of West Fork Kalalula Stream.	Lat 21°29'40", long 158°08'55", at weir 24, near Waianae.	1925-27, 1947-51, 1953-55	Mar. 7	*.063	*.098
Right Branch of West Fork Kalalula Stream.	West Fork Kalalula Stream.	Lat 21°29'35", long 158°08'55", at weir 10, near Waianae.	1947-51, 1953-55	Mar. 7	*.181	*.280
Left Branch of West Fork Kalalula Stream.	....do.....	Lat 21°29'35", long 158°08'55", at weir 9, below tunnel 11, near Waianae.	1925-27, 1947-51, 1953-55	Mar. 7	*.134	*.207
Tunnel 15....	....do.....	Lat 21°29'30", long 158°08'55", at weir 13, near Waianae.	1925-27, 1947-55	Mar. 7	*.311	*.481
West Fork Kalalula Stream.	Kalalula Stream.	Lat 21°29'25", long 158°08'55", at weir 14, below tunnel 15, above pipeline diversion, near Waianae.	1923, 1947-55	Mar. 7	*.631	*.977
East Fork Kalalula Stream.	....do.....	Lat 21°29'30", long 158°08'55", at weir 50, near Waianae.	1948-55	Mar. 7	*.016	*.025
Kalalula Stream.	Honua Stream.	Lat 21°29'00", long 158°09'05", at weir 15, near Waianae.	1948-55	Mar. 7	.252	.390
Hiu Stream...	....do.....	Lat 21°28'55", long 158°09'20", at weir 26, above flume outlet, near Waianae.	1948-55	Mar. 8	*.033	*.051
Do.....	....do.....	Lat 21°28'40", long 158°09'15", at weir 17, near Waianae.	1946-51, 1953-55	Mar. 6	*.063	*.098
Kumaipo Stream.	....do.....	Lat 21°29'15", long 158°09'30", at weir 11, below tunnel 16, near Waianae.	1926, 1948-55	Mar. 8	*.229	*.354
Do.....	....do.....	Lat 21°28'55", long 158°09'30", at weir 12, above diversion flume to Hiu Stream, near Waianae.	1947-55	Mar. 8	.465	.720
Punanaula Stream.	....do.....	Lat 21°29'05", long 158°09'40", at weir 16, below tunnel 17, near Waianae.	1926-27, 1948-51, 1953-55	Mar. 8	*.015	*.023
City and county of Honolulu tunnel.	....do.....	Lat 21°28'25", long 158°09'20", 40 ft below tunnel portal, near Waianae.	1948-51, 1953-55	Mar. 6	1.59	2.46
Pua mauka ditch.	Farm land...	Lat 21°28'10", long 158°09'40", at 2-foot Parshall flume below powerplant, near Waianae.	1947-51, 1953-55	Mar. 6	.907	1.40

* Base flow.

Discharge measurement at points other than gaging stations

Discharge measurements made at points other than gaging stations on the island of Oahu during fiscal year July 1955 to June 1956--Continued

Stream	Tributary to	Location	Measured previously (fiscal years)	Date	Discharge	
					Million gallons a day	Cubic feet per second
Pearl Harbor Springs at Puukapu.	Pearl Harbor	Lat 21°23'25", long 157°56'10", 1,000 ft west of old Puukapu gaging-station site, near Pearl City.	1931-48†	Feb. 8	*2.60	*4.02
				Apr. 12	*3.43	*5.31
				May 18	*3.64	*5.63
				June 21	*3.68	*5.69
Left tributary of Kahaluu Stream.	Kahaluu Stream.	Lat 21°26'20", long 157°51'10", first culvert below gaging station, near Heeia.	1949, 1953-55	Aug. 25	*.011	*.017
				Oct. 17	*.031	*.048
				Dec. 8	*.074	*.115
				Feb. 3	*.376	*.581
North Fork Waihee Stream.	Waihee Stream.	Lat 21°26'50", long 157°52'20", at altitude 720 ft, near Heeia.	1955	Mar. 27	*.321	*.496
				Sept. 20	*1.23	*1.91
				Jan. 6	*.898	*1.39
				Apr. 9	*1.21	*1.87
South Fork Waihee Stream.	.....do.....	Lat 21°26'45", long 157°52'10", at altitude 710 ft, about 75 ft below falls, near Heeia.	1955	May 17	*.98	*1.51
				Sept. 20	*1.20	*1.85
				Jan. 6	*1.06	*1.64
				Apr. 4	*.937	*1.45
Upper Right Branch Waihee Stream.	.....do.....	Lat 21°26'55", long 157°52'00", at altitude 350 ft, 20 ft above confluence with Left Branch, near Heeia.	1955	May 17	*.45	*.69
				Sept. 20	*.023	*.036
				Jan. 6	*.130	*.201
				Apr. 4	*.287	*.444
Upper Left Branch Waihee Stream.	.....do.....	Lat 21°27'00" long 157°51'55", at altitude 300 ft, near Heeia.	1955	May 17	*.20	*.31
				Sept. 20	*2.22	*3.44
				Jan. 6	3.26	5.04
				Apr. 4	3.94	6.09
Waihee Stream.	Pacific Ocean.	Lat 21°27'00", long 157°51'45", at altitude 205 ft, 75 ft above bridge, near Heeia.	1955	May 17	3.97	5.22
				Sept. 27	.597	.924
				Oct. 14	.55	.85
				Dec. 30	*.047	*.073
Waihee tunnel flume.	Waihee Stream.	Lat 21°26'55", long 157°52'00", near Heeia.	1955	Sept. 27	.597	.924
				Oct. 14	.55	.85
				Dec. 30	*.047	*.073

* Base flow.

† Period of record at former gaging station.

The following table contains determinations of peak discharge made at crest stage by indirect methods or by current meter or computed from rating curve at points other than regular gaging stations.

Determination of peak discharge at points other than gaging stations during fiscal year July 1955 to June 1956

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (fiscal years)	Date	Discharge	
						Million gallons a day	Cubic feet per second
Opaeula Stream.	Pacific Ocean.	Lat 21°35'06", long 158°06'06", at crest-stage gaging station, $\frac{1}{4}$ mile upstream from Helemano Stream and 0.8 mile south of Haleiwa at Waialua.	5.9	1955	Feb. 25	2,660	4,120

Halawa Stream near Halawa

Location.--Lat 21°09'30", long 156°46'00", on right bank 500 ft downstream from confluence of two main branches, 1.8 miles west of Halawa, and 6 miles northeast of Pukoo.

Drainage area.--4.5 sq mi.

Records available.--August 1917 to July 1932, November 1937 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 200 ft (from topographic map). Prior to June 24, 1923, at site 250 ft upstream at different datum.

Average discharge.--32 years (1918-32, 1938-56), 19.0 mgd (29.4 cfs).

Extremes.--Maximum discharge during year, 4,300 mgd (6,650 cfs) Dec. 20 (gage height, 10.64 ft), from rating curve extended above 45 mgd as explained below; minimum, 1.62 mgd (2.51 cfs) Dec. 19.

1917-32, 1937-56: Maximum discharge, 5,420 mgd (8,390 cfs) Dec. 3, 1950 (gage height, 11.55 ft), from rating curve extended above 45 mgd on basis of slope-area determination at gage height 6.7 ft; maximum gage height, 12.30 ft Apr. 2, 1948; minimum discharge, 0.80 mgd (1.24 cfs) Oct. 13-15, 19, 1917, Feb. 11, 1954.

Remarks.--Records fair. A 2-inch pipeline diverts water about a quarter of a mile above station for domestic use of Halawa village.

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Nov. 10

Nov. 11 to June 30

0.9	2.55	2.0	42	0.9	1.2	1.8	31.5
1.0	3.35	2.5	77	1.0	1.8	2.5	85
1.1	4.4	3.0	130	1.1	2.5	3.0	134
1.2	5.7	3.5	200	1.2	3.5	3.5	201
1.3	7.2	4.0	294	1.3	5.3	4.0	294
1.5	11.3			1.4	7.7	4.5	405
				1.6	17.0	5.0	540

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	36	10.6	10.6	9.6	5.7	8.7	21	11.2	15.6	66	16.8	23.5
2	18.5	63	30	13.3	7.2	15.4	12.4	97	10.5	37.5	6.5	23.5
3	11.7	49	16.6	11.6	5.0	7.9	17.6	48	8.8	21	5.8	39
4	27.5	15.1	29	27.5	4.6	4.9	9.7	18.6	7.7	33.5	4.8	18.6
5	14.5	10.2	33	20	6.1	3.5	7.5	17.0	8.1	18.0	7.5	11.2
6	*15.0	9.1	10.6	10.7	3.9	3.3	6.5	12.9	7.0	13.8	35	21
7	32	7.2	*7.6	7.2	3.35	3.1	6.0	12.5	5.5	13.4	42	42
8	10.2	9.2	6.4	5.7	3.35	5.1	6.0	9.1	4.9	8.4	11.3	14.7
9	8.2	17.2	5.7	5.0	183	2.9	12.4	7.7	4.6	9.1	8.8	15.3
10	7.2	47	5.7	5.0	288	2.35	10.6	6.7	4.8	7.2	12.1	25
11	6.4	83	5.0	12.6	*19.1	10.8	14.4	6.0	18.3	6.7	*17.3	33.5
12	7.3	16.0	5.0	141	9.6	3.4	55	5.5	5.9	6.3	13.9	56
13	13.2	22.5	4.4	63	6.0	2.35	30	4.9	4.2	5.8	13.0	29.5
14	29	73	4.4	10.4	25.5	2.15	10.7	6.2	8.1	4.8	21	23.5
15	29	14.9	7.2	8.2	9.2	1.94	17.0	22	6.0	5.4	9.2	15.8
16	15.8	11.3	8.4	7.2	6.7	1.87	15.2	35	4.6	6.4	6.3	10.5
17	9.7	25.5	5.0	6.4	11.8	1.74	7.7	22	6.2	25	4.9	14.0
18	43	27	12.3	5.7	16.8	1.68	6.0	19.0	4.4	6.0	59	28
19	10.2	30.5	7.2	5.7	9.5	155	4.9	16.0	19.1	6.7	30	23
20	10.3	40	5.0	5.0	12.8	458	4.8	35	6.8	121	9.1	10.5
21	8.2	11.2	8.7	4.4	13.9	186	4.0	14.7	4.0	80	8.5	17.3
22	6.4	9.1	19.0	4.4	17.2	26.5	5.5	8.8	8.8	25	6.7	59
23	6.4	18.2	9.4	5.0	13.4	15.3	*5.0	23.5	29.5	16.2	8.4	32
24	7.2	10.2	6.6	10.4	16.9	23	4.3	98	12.7	8.8	8.4	20
25	24.5	10.2	5.0	6.4	45	13.0	24.5	63	15.6	7.2	28.5	11.2
26	11.8	9.1	4.4	5.0	63	9.1	16.8	73	12.9	35.5	51	9.1
27	21	8.2	3.9	18.9	11.6	7.5	7.2	50	52	8.8	54	9.8
28	132	7.2	4.4	6.4	8.9	6.7	11.7	21	11.6	6.7	20	10.8
29	20	7.2	16.2	6.4	8.2	5.8	39.5	*22	46	6.0	37.5	8.4
30	14.7	8.2	9.5	5.0	21	195	131		67	18.7	20	13.0
31	26.5	8.2		4.9		70	47		29.5		49	
Total	633.9	686.3	305.2	458.0	856.30	1,253.98	571.9	786.3	450.7	634.9	626.3	668.7
Mean:												
mgd	20.4	22.1	10.2	14.8	28.5	40.5	18.4	27.1	14.5	21.2	20.2	22.3
cfs	31.6	34.2	15.8	22.9	44.1	62.7	28.5	41.9	22.4	32.8	31.3	34.5
Ac-ft	1,950	2,110	937	1,410	2,630	3,850	1,760	2,410	1,380	1,950	1,920	2,050

Calendar year 1955: Max 458 Min 1.68 Mean(mgd) 21.3 Mean(cfs) 33.0 Ac-ft 23,860
 Fiscal year 1955-56: Max 458 Min 1.68 Mean(mgd) 21.7 Mean(cfs) 33.6 Ac-ft 24,360

Peak discharge (base, 950 mgd).--Nov. 10 (2:30 a.m.) 4,000 mgd (6,190 cfs), 10.34 ft; Nov. 25 (11:30 p.m.) 1,080 mgd (1,670 cfs), 6.45 ft; Dec. 20 (2:30 a.m.) 4,300 mgd (6,650 cfs), 10.64 ft; Dec. 30 (10:30 p.m.) 2,560 mgd (3,960 cfs), 8.72 ft; Jan. 30 (8 p.m.) 2,320 mgd (3,590 cfs), 8.36 ft.

* Discharge measurement made on this day.

Pulena Stream near Wailau

Location.--Lat 21°07'40", long 156°49'50", on left bank 0.5 mile upstream from confluence with Walaekakua Stream, 3 miles south of Wailau, and 4 miles northwest of Pukoo.

Drainage area.--4.4 sq mi.

Records available.--October 1919 to December 1928, September 1937 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 591 ft above mean sea level (hand levels by Bureau of Reclamation). Prior to Dec. 5, 1928, at site 150 ft upstream at different datum.

Average discharge.--26 years (1920-28, 1938-56), 22.3 mgd (34.5 cfs).

Extremes.--Maximum discharge during year, 3,370 mgd (5,210 cfs) Dec. 20 (gage height, 9.97 ft), from rating curve extended above 220 mgd as explained below; minimum, 4.1 mgd (6.3 cfs) Dec. 18, 19.

1919-28, 1937-56: Maximum discharge, 5,970 mgd (9,240 cfs) Jan. 26, 1948 (gage height, 13.16 ft), from rating curve extended above 220 mgd by test on model of station site; minimum, 3.0 mgd (4.6 cfs) June 28, July 14, 1920, Oct. 8, 1952, Sept. 27, 29, Oct. 10, 1953.

Flood of Jan. 20, 1929, reached a stage of at least 22 ft (discharge, approximately 11,000 mgd, 17,000 cfs).

Remarks.--Records fair prior to Dec. 21, poor thereafter.

Revisions (fiscal years).--WSP 1185: 1938-48(M).

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	24.5	22.5	24	11.9	6.2	7.8	80	18	22	40	12	34
2	17.1	45	48	12.8	5.8	8.3	34	42	14	26	6.5	36.5
3	15.0	54	25.5	16.1	5.2	6.8	24	50	12	20	7.0	59
4	14.0	26.5	24	38	5.2	6.4	14	30	*11	18	8.0	44
5	11.3	21	16.7	45	5.0	6.0	10	15	*17	14	9.0	30.5
6	9.9	17.1	14.4	20.5	4.8	6.0	7.5	12	13	14	15	34
7	9.6	14.4	12.6	12.6	4.8	5.8	6.0	11	12	12	19	37.5
8	8.3	25	11.8	9.9	6.5	6.0	8.5	9.0	11	10	46.2	27
9	8.0	30.5	10.7	9.0	288	5.4	15	7.5	10	13	10.7	31.5
10	9.0	49	9.9	8.5	476	5.2	11	7.0	11	12	42	69
11	7.3	104	9.6	8.3	50	7.1	10	6.5	12	10	26	55
12	9.8	35	9.6	8.6	*27	5.2	100	7.5	9.0	10	18.3	159
13	*39.5	31	8.8	27.5	17.9	5.0	80	6.5	7.0	13	14.0	88
14	35	31	8.3	9.3	56	4.8	34	8.5	11	6.5	34	70
15	54	21.5	10.7	8.3	23.5	4.4	32	15	7.5	9.0	18.4	42
16	24.5	18.7	10.3	7.8	17.1	4.3	24	42	8.0	8.5	14.0	27
17	16.3	35	7.8	7.3	23	4.3	15	17	8.5	11	10.7	24
18	25.5	34	9.8	6.8	25.5	4.1	10	55	7.0	7.0	26.5	21
19	14.1	42	8.3	7.1	30.5	241	8.0	42	14	14	27	21
20	11.9	23.5	*7.3	6.6	28.5	998	*6.0	70	8.5	85	12.4	16.2
21	10.4	18.7	7.6	6.2	24.5	463	12	24	7.0	50	11.9	19.2
22	9.6	15.9	*7.1	6.0	21.5	80	12	14	19	32	10.7	58
23	9.0	24.5	7.1	6.2	16.3	44	10	38	42	22	10.7	48
24	9.3	26.5	6.2	6.6	15.9	32	10	110	22	15	10.7	34
25	17.8	26.5	6.0	9.6	12.6	24	17	75	17	12	25	21
26	11.6	23	6.0	6.8	11.3	15	14	110	14	13	22	16.2
27	46	18.7	6.0	6.4	9.6	11	11	75	28	10	25	19.8
28	145	14.4	8.2	7.9	9.9	8.5	10	36	16	9.5	16.8	16.2
29	49	12.6	17.4	7.6	9.3	7.0	14	32	32	10	55	17.6
30	28.5	13.7	8.0	6.0	8.0	55	200	-----	28	13	34	27
31	42	14.7	-----	8.1	-----	120	60	-----	16	-----	43	-----
Total	738.8	889.9	367.5	359.3	1,245.4	2,181.4	899.0	985.5	464.5	539.5	601.5	1,203.2
Mean:												
mgd	23.8	26.7	12.2	11.6	41.5	70.4	29.0	34.0	15.0	18.0	19.4	40.1
cfs	36.8	44.4	18.9	17.9	64.2	109	44.9	52.6	23.2	27.9	30.0	62.0
Ac-ft	2,270	2,730	1,130	1,100	3,620	6,690	2,760	3,020	1,430	1,660	1,850	3,690

Calendar year 1955: Max 998 Min 4.1 Mean(mgd) 29.5 Mean(cfs) 45.6 Ac-ft 33,100
 Fiscal year 1955-56: Max 998 Min 4.1 Mean(mgd) 28.6 Mean(cfs) 44.3 Ac-ft 32,150

Peak discharge (base, 1,800 mgd).--Nov. 9 (8:30 p.m.) 2,200 mgd (3,400 cfs), 8.20 ft; Dec. 20 (2 a.m.) 3,370 mgd (5,210 cfs), 9.97 ft; Jan. 30 (7:30 p.m.) 2,200 mgd (3,400 cfs), 8.20 ft.

* Discharge measurement made on this day.
 Note.--No gage-height record Dec. 22 to May 7; discharge estimated on basis of recorder graph, discharge measurements, and records for nearby streams.

Waiakeakua Stream near Wailau

Location.--Lat 21°07'30", long 156°49'40", on right bank 0.8 mile upstream from confluence with Pulea Stream, 3.2 miles south of Wailau, and 3.8 miles northwest of Pukoo.

Drainage area.--1.4 sq mi.

Records available.--November 1919 to September 1929, September 1937 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 698 ft above mean sea level (hand levels by Bureau of Reclamation). Prior to Dec. 6, 1949, at datum 0.17 ft higher.

Average discharge.--27 years (1920-29, 1938-56), 7.55 mgd (11.7 cfs).

Extremes.--Maximum discharge during year, 850 mgd (1,320 cfs) Nov. 10, Dec. 20, from rating curve extended above 25 mgd by test on model of station site; maximum gage height, 7.10 ft Dec. 20; minimum discharge, 1.70 mgd (2.63 cfs) Dec. 19, 1919-29, 1937-56; Maximum discharge, 1,730 mgd (2,680 cfs) Jan. 26, Apr. 2, 1948, from rating curve extended above 25 mgd by test on model of station site; maximum gage height, 9.90 ft Jan. 26, 1948; minimum discharge, 1.15 mgd (1.78 cfs) Nov. 1, 1949.

Remarks.--Records fair.

Revisions (fiscal years).--WSP 1249: 1920(M), 1923(M), 1939(M), 1943(M), 1947(M), 1948(P).

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Nov. 10

Nov. 11 to June 30

1.7	1.4	2.5	23	1.8	1.7	2.6	27
1.8	2.5	3.0	55	1.9	3.1	3.0	55
1.9	4.0	3.5	98	2.0	5.0	3.5	98
2.0	6.2	4.0	153	2.1	7.2	4.0	153
2.2	11.3			2.2	9.9	4.5	220
				2.4	17.2		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	12.3	7.3	9.9	5.4	2.95	3.65	9.8	5.2	6.8	9.5	3.5	11.7
2	8.3	31	21	5.1	2.95	7.4	4.6	26.5	5.7	6.1	2.8	12.5
3	6.0	22	9.9	5.1	2.65	3.5	3.65	22	5.0	4.6	2.8	19.0
4	7.3	8.5	11.2	14.7	2.5	3.1	3.1	9.0	*4.6	4.7	2.7	9.8
5	8.5	7.3	6.2	13.9	2.5	2.95	2.8	6.1	*4.8	3.65	3.75	7.5
6	5.5	5.9	5.7	7.3	2.4	2.8	2.7	5.0	4.0	4.9	6.2	11.6
7	9.0	5.5	5.3	5.1	2.4	2.8	4.6	3.65	3.65	*8.7	16.8	
8	4.6	8.1	4.9	4.4	2.8	2.9	2.9	4.0	3.65	3.1	*4.8	8.6
9	4.4	9.3	4.4	3.85	70	2.55	4.1	3.65	3.5	3.95	4.4	10.5
10	4.4	24	4.2	3.85	127	2.4	2.95	3.5	4.2	2.8	7.2	16.7
11	3.7	40	4.2	4.0	11.6	3.3	2.7	3.3	5.1	2.7	6.9	18.4
12	4.8	9.9	4.0	4.6	*6.8	2.4	12.9	3.75	3.3	2.8	5.4	38
13	*6.6	12.3	3.7	19.5	5.4	2.4	7.8	3.1	2.95	3.35	6.0	22
14	10.4	20.5	3.7	4.2	16.1	2.1	4.0	3.55	4.7	2.4	15.4	15.6
15	14.1	7.3	4.9	3.7	6.5	1.98	5.9	5.8	3.1	2.95	6.5	8.6
16	6.2	7.3	4.0	3.7	5.4	1.98	4.6	13.5	3.1	2.85	4.8	7.2
17	5.9	11.9	3.55	3.55	6.6	1.98	3.65	5.8	3.5	5.7	4.4	8.5
18	11.4	19.2	4.2	3.25	9.2	1.84	3.5	16.0	2.95	2.4	28.5	8.4
19	5.5	13.5	*3.55	3.25	15.2	56	3.3	11.2	5.5	3.1	10.7	9.0
20	5.1	16.1	3.25	3.25	8.5	189	*3.05	19.4	2.95	50	5.7	5.7
21	4.2	7.3	5.3	3.1	10.1	84	2.8	7.2	2.7	23	5.2	8.1
22	4.0	6.2	*5.3	2.95	8.9	11.6	3.5	5.4	5.8	7.2	4.6	24.5
23	3.7	9.7	4.4	3.1	6.5	7.2	2.7	15.7	12.7	5.4	4.6	16.7
24	4.0	5.9	3.4	3.65	8.0	6.8	2.7	4.7	5.6	4.4	5.1	8.6
25	8.3	7.0	3.25	3.4	10.7	4.8	3.45	22	4.6	4.0	13.5	6.8
26	4.6	6.5	2.95	3.25	8.9	4.0	3.1	37.5	3.65	7.9	19.2	5.9
27	13.4	5.5	2.95	3.75	4.8	3.65	2.7	27	17.0	3.65	21	6.5
28	63	4.6	4.0	3.25	5.4	3.1	4.2	9.9	4.4	3.3	8.6	5.7
29	15.4	4.6	5.7	2.95	4.4	2.95	7.9	9.9	17.8	3.1	20.5	5.4
30	8.5	4.9	3.7	2.8	4.4	30	42	-----	10.7	3.9	11.5	8.2
31	18.6	5.5	-----	3.5	-----	34	14.0	-----	5.0	-----	20	-----
Total	293.7	354.6	162.70	157.40	381.55	489.03	179.45	350.55	173.00	191.05	272.95	362.5
Mean:												
mgd	9.47	11.4	5.42	5.08	12.7	15.8	5.79	12.1	5.58	6.37	8.80	12.1
cfs	14.7	17.6	8.39	7.86	19.6	24.4	8.96	18.7	8.63	9.86	13.6	18.7
Ac-ft	901	1,090	499	483	1,170	1,500	551	1,080	531	586	838	1,110
Calendar year 1955. Max	189											
Fiscal year 1955-56: Max	189											
Min	1.84											
Mean(mgd)	8.84											
Mean(cfs)	13.7											
Ac-ft	9,900											

Peak discharge (base, 240 mgd).--Nov. 10 (2 a.m.) 850 mgd (1,320 cfs), 7.07 ft; Dec. 20 (2 a.m.) 850 mgd (1,320 cfs), 7.10 ft; Dec. 30 (10:30 p.m.) 370 mgd (572 cfs), 5.26 ft; Jan. 30 (8:30 p.m.) 565 mgd (874 cfs), 6.10 ft.

* Discharge measurement made on this day.

Pelekunu Stream near Pelekunu

Location.--Lat 21°08'20", long 156°52'50", on right bank 0.8 mile upstream from Lanipuni Stream, 1.8 miles south of Pelekunu, and 6.8 miles northwest of Fukoo.

Drainage area.--2.4 sq mi.

Records available.--December 1919 to January 1929, September 1937 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 546 ft above mean sea level (levels by Bureau of Reclamation). Prior to Sept. 15, 1937, at site 250 ft upstream at different datum.

Average discharge.--25 years (1920-28, 1938-47, 1948-56), 10.8 mgd (16.7 cfs).

Extremes.--Maximum discharge during year, 2,000 mgd (3,090 cfs) Dec. 20 (gage height, 4.81 ft), from rating curve extended above 80 mgd by test on model of station site; minimum, 3.3 mgd (5.1 cfs) Nov. 7, 8.
1919-29, 1937-56: Maximum discharge observed, 3,080 mgd (4,770 cfs) Nov. 20, 1940 (gage height, 6.81 ft), from rating curve extended above 80 mgd by logarithmic plotting, but may have been greater Jan. 26, 1948, when flood of undetermined magnitude destroyed station; minimum discharge, 1.46 mgd (2.26 cfs) Nov. 26, 27, 1943.

Remarks.--Records poor.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	7.0	8.0	9.7	4.5	3.65	5.0	13	10	17	18.4	6.4	13.0
2	5.8	13.5	11.9	5.0	3.45	4.8	9.2	40	14	13.9	5.2	12.2
3	5.3	17.4	8.3	5.9	3.45	4.6	8.2	18	*12	10.5	5.6	18.5
4	5.5	9.9	7.8	12.9	3.4	4.4	7.4	16	10.7	10.3	4.5	16.5
5	5.0	8.3	6.0	14.1	3.4	4.4	6.8	10	9.9	8.0	*6.0	14.3
6	4.8	7.0	5.6	7.6	3.4	4.4	6.4	8.0	9.1	7.8	7.9	15.1
7	4.6	6.3	5.1	5.0	3.4	4.3	6.0	7.0	8.3	7.0	8.5	14.7
8	4.4	8.8	5.0	4.4	4.0	4.3	6.6	7.0	7.6	6.3	5.6	12.6
9	*4.6	9.4	4.8	4.3	e40	4.1	11	6.4	7.0	8.3	5.6	14.4
10	5.0	11.0	*4.6	4.1	e80	4.1	7.0	6.0	7.6	7.9	14.4	23
11	4.3	27	4.4	4.1	27	4.6	6.4	6.6	7.3	6.8	13.0	21.5
12	6.4	11.0	4.4	4.3	13.0	4.1	45	5.8	6.6	6.3	11.6	63
13	16.2	9.4	4.1	5.6	9.9	4.0	25	5.4	6.6	6.6	8.8	35.5
14	11.8	9.1	4.1	4.1	21.5	3.9	15	6.2	6.8	6.0	12.1	31
15	24.5	8.6	4.4	4.0	12.6	3.9	21	7.6	6.6	7.5	10.2	21
16	11.0	7.0	4.4	3.9	9.9	3.9	16	12.0	6.3	6.3	9.1	16.0
17	8.6	9.6	4.0	3.9	12.0	3.85	13	9.0	6.3	6.0	7.6	14.3
18	9.9	12.1	4.3	3.85	11.0	3.85	11	26	6.3	6.0	9.5	13.0
19	6.8	13.2	4.4	3.85	11.5	e50	*9.5	20	6.3	6.6	10.2	12.0
20	5.8	8.8	4.0	3.85	10.6	e350	8.3	45	6.3	7.0	7.8	10.5
21	5.5	7.3	3.85	3.75	13.0	e120	7.6	15	6.3	25	8.9	11.0
22	5.1	6.3	3.85	3.65	11.7	35	7.0	10	8.3	13	7.6	17.4
23	5.0	7.8	3.85	3.75	9.4	17	6.3	21	13.5	8.4	6.8	17.5
24	5.0	13.0	3.75	3.85	8.3	12	5.8	50	10.8	7.0	6.8	14.7
25	5.8	12.5	3.75	4.0	7.0	10	7.0	35	8.8	6.4	11.0	12.0
26	5.3	9.6	3.75	3.65	6.3	8.8	5.8	60	7.2	6.6	9.6	10.7
27	22	9.1	3.75	3.65	5.8	8.2	5.0	47	11.0	5.8	8.3	12.0
28	42	6.8	3.9	3.65	5.8	7.8	5.8	23	7.6	5.4	8.0	10.7
29	15.1	6.3	4.8	3.65	5.5	7.4	8.0	21	13.2	5.2	15.3	9.9
30	10.2	6.3	3.9	3.45	5.0	12	25	-----	10.3	7.6	12.3	12.3
31	11.6	6.3	-----	3.75	-----	25	20	-----	7.6	-----	16.2	-----
Total	289.7	306.7	150.45	150.05	364.95	739.70	354.9	554.0	273.2	316.9	280.4	520.3
Mean:												
mgd	9.35	9.89	5.02	4.84	12.2	23.9	11.4	19.1	8.81	10.6	9.05	17.3
cfs	14.5	15.3	7.77	7.49	18.9	37.0	17.6	29.6	13.6	16.4	14.0	26.8
Ac-ft	889	941	462	460	1,120	2,270	1,090	1,700	838	973	861	1,600

Calendar year 1955: Max 350 Min 3.4 Mean(mgd) 15.1 Mean(cfs) 20.3 Ac-ft 14,640
Fiscal year 1955-56: Max 350 Min 3.4 Mean(mgd) 11.8 Mean(cfs) 18.3 Ac-ft 13,200

Peak discharge (base, 300 mgd).--Nov. 9 (8:50 p.m.) discharge unknown (3.53 ft); Dec. 20 (2:30 a.m.) 2,000 mgd (3,090 cfs), 4.81 ft; probably Feb. 2 (time and discharge unknown), 3.31 ft.

* Discharge measurement made on this day.

e Stage-discharge relation indefinite; discharge estimated on basis of records for nearby streams.
Note.--No gage-height record Dec. 22 to Jan. 19, Jan. 25 to Mar. 3, Apr. 20 to May 4; discharge estimated on basis of records for nearby streams.

Lanipuni Stream near Pelekunu

Location.--Lat 21°08'40", long 156°52'30", on left bank 0.4 mile upstream from mouth, 1.5 miles southeast of Pelekunu, and 6.8 miles northwest of Pukoo.

Drainage area.--0.8 sq mi.

Records available.--December 1919 to September 1929, September 1937 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 418 ft above mean sea level (hand levels from Geological Survey bench mark).

Average discharge.--26 years (1920-29, 1938-47, 1948-56), 9.24 mgd (14.3 cfs).

Extremes.--Maximum discharge during year, 530 mgd (820 cfs) Dec. 21 (gage height, 5.49 ft), from rating curve extended above 35 mgd as explained below; minimum, 2.15 mgd (3.35 cfs) Dec. 19.

1919-29, 1937-56: Maximum discharge (corrected), at least 3,000 mgd (4,640 cfs) Jan. 26, 1948 (gage height, at least 12 ft, from debris in shelter), from rating curve extended above 35 mgd by test on model of station site; minimum, 1.45 mgd (2.24 cfs) Jan. 29, 1944.

Remarks.--Records good.

Revisions (fiscal years).--WSP 1249: 1943(M).

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.3	2.25	1.5	37
.4	3.6	2.0	57
.5	5.3	2.5	85
.7	9.9	3.0	123
1.0	20	3.5	174

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	8.0	7.6	13.9	5.3	2.85	3.0	9.5	6.4	8.9	21	5.9	9.9
2	6.4	15.2	14.8	5.9	2.6	3.0	6.1	30	7.4	11.4	4.9	9.4
3	6.4	14.3	9.4	7.7	2.5	2.85	5.1	13.0	*6.6	8.4	5.4	16.0
4	7.3	7.9	8.2	16.1	2.5	2.85	4.9	12.1	5.9	8.5	4.1	12.5
5	5.3	6.6	6.4	16.1	2.35	2.75	4.1	7.6	5.9	6.8	*6.0	10.2
6	4.3	5.7	5.7	8.0	2.35	2.6	3.75	6.4	5.3	7.3	7.6	11.4
7	4.1	5.0	5.0	5.3	2.35	2.75	3.45	5.5	4.6	6.4	7.2	10.8
8	3.6	10.1	4.6	4.4	2.5	2.75	4.3	5.5	4.4	5.3	5.3	11.3
9	*3.8	10.1	4.3	3.95	2.6	2.5	9.3	4.4	4.1	5.9	4.8	11.9
10	3.95	19.6	*3.95	3.95	50	2.6	4.6	4.1	5.0	5.7	15.1	22.5
11	3.15	30.5	3.75	3.6	9.4	4.5	3.75	4.4	6.6	5.1	9.3	18.7
12	6.8	10.5	3.95	8.3	6.4	2.6	31	3.75	3.95	5.7	7.9	35.5
13	16.4	8.9	3.6	13.3	5.3	2.5	15.8	3.6	3.6	5.2	6.4	23
14	13.2	9.0	3.75	5.0	16.7	2.35	7.6	4.3	7.0	4.1	8.7	24.5
15	22.5	8.2	4.4	4.3	7.2	2.25	11.5	5.9	4.1	7.1	6.9	12.0
16	9.9	6.5	4.1	3.95	5.9	2.25	7.6	10.8	3.75	5.7	5.7	8.6
17	7.7	12.1	3.45	3.45	9.1	2.25	5.9	7.0	3.95	4.6	4.6	8.4
18	11.7	13.2	4.7	3.3	7.4	2.25	5.0	23.5	3.45	4.1	13.2	8.1
19	6.4	10.5	3.45	3.8	10.3	45	*4.1	16.5	3.6	5.0	9.5	7.6
20	5.3	7.2	3.15	3.3	8.3	156	3.75	31	3.15	45	6.8	6.6
21	4.6	6.1	3.15	3.0	11.3	76	3.45	10.2	3.0	18.1	9.1	7.4
22	4.1	5.7	3.0	2.85	9.3	13.3	3.6	7.2	10.5	9.9	6.1	15.9
23	4.1	8.2	2.85	3.15	7.0	8.4	3.15	18.2	16.5	7.4	5.5	14.6
24	4.2	13.0	2.85	3.4	5.9	7.6	3.0	36.5	9.6	6.1	8.1	10.2
25	8.6	10.9	2.85	3.4	4.8	6.1	5.9	28.5	8.0	5.3	9.5	7.4
26	5.1	8.6	2.85	3.2	4.3	5.3	4.8	38.5	5.9	5.9	7.4	6.8
27	22	7.6	2.85	2.85	3.75	4.8	3.6	32.5	9.0	4.6	9.0	8.6
28	37.5	6.1	3.6	3.0	3.95	4.3	5.0	14.0	6.1	4.4	7.0	7.0
29	13.0	5.3	6.3	2.75	3.45	3.95	6.7	13.3	9.7	4.1	15.0	7.0
30	8.2	5.5	3.3	2.6	3.15	8.9	16.6	-----	7.8	7.3	11.9	10.9
31	15.5	5.9	-----	3.6	-----	19.8	13.2	-----	5.7	-----	18.0	-----
Total	283.10	301.6	148.15	162.80	238.90	408.05	220.10	404.65	193.05	251.4	249.9	374.7
Mean:												
mgd	9.13	9.73	4.94	5.25	7.96	13.2	7.10	14.0	6.23	8.38	8.06	12.5
cfs	14.1	15.1	7.64	8.12	12.3	20.4	11.0	21.7	9.64	13.0	12.5	19.3
Ac-ft	869	926	455	500	733	1,250	675	1,240	592	772	767	1,150

Calendar year 1955.	Max	156	Min	2.25	Mean(mgd)	9.57	Mean(cfs)	14.8	Ac-ft	10,720
Fiscal year 1955-56:	Max	156	Min	2.25	Mean(mgd)	8.84	Mean(cfs)	13.7	Ac-ft	9,930

Peak discharge (base, 300 mgd).--Nov. 9 (9 p.m.), 370 mgd (572 cfs), 4.80 ft; Dec. 21 (2 a.m.) 530 mgd (820 cfs), 5.49 ft; Jan. 12 (7:30 a.m.) 350 mgd (542 cfs), 4.74 ft.

* Discharge measurement made on this day.

Waikolu Stream below pipeline crossing, near Kalaupapa

Location.--Lat 21°09'50", long 156°56'00", on left bank 0.8 mile upstream from mouth and 3.9 miles southeast of Kalaupapa Post Office.

Drainage area.--4.0 sq mi.

Records available.--June 1919 to July 1932, September 1937 to June 1956. Prior to November 1930, published as Waikolu Stream at pipeline crossing.

Gage.--Water-stage recorder and concrete control. Datum of gage is 253 ft above mean sea level (hand levels by Bureau of Reclamation). Prior to Nov. 18, 1930, water-stage recorder at site 500 ft upstream at different datum. Sept. 20, 1937, to July 1948, water-stage recorder at present site at datum 0.49 ft higher.

Average discharge.--26 years (1919-29, 1938-47, 1949-56), 11.7 mgd (18.1 cfs).

Extremes.--Maximum discharge during year, 1,900 mgd (2,940 cfs) Dec. 20 (gage height, 7.83 ft), from rating curve extended above 25 mgd as explained below; minimum, 5.3 mgd (8.2 cfs) Dec. 18, 19, Jan. 25.

1919-32, 1937-56: Maximum discharge, 3,700 mgd (5,720 cfs) Jan. 26, 1948 (gage height, about 10.25 ft), from rating curve extended above 25 mgd by test on model of station site; minimum, 1.3 mgd (2.0 cfs) Nov. 1, 2, 1925, June 5, 1926.

Remarks.--Records good. Kalaupapa water-supply system diverts water above station.

Revisions (fiscal years).--WSP 1155: 1932(M), 1938-48(M).

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.8	4.5	2.7	61
1.9	7.2	3.0	97
2.0	10.7	3.5	182
2.2	20.5	4.0	290
2.4	34	4.5	415

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	10.4	9.6	11.5	6.9	6.1	6.1	7.2	8.2	12.4	42	13.5	8.6
2	9.6	13.9	15.4	8.2	6.1	5.8	6.7	7.1	*9.0	16.6	8.6	8.2
3	9.0	18.6	10.0	9.0	6.1	5.8	6.4	17.6	7.9	11.1	*8.2	11.4
4	9.6	9.3	9.0	18.6	6.1	5.8	6.7	15.3	7.6	14.6	7.9	13.3
5	9.0	8.6	8.2	16.8	6.1	5.8	6.7	9.6	7.6	10.0	8.6	9.6
6	8.6	8.2	7.9	9.6	6.1	5.8	6.4	7.6	7.6	12.8	11.4	11.1
7	8.2	7.9	7.6	7.9	6.1	5.8	6.1	7.6	7.2	12.9	9.3	10.0
8	*7.9	9.0	7.2	6.9	6.4	5.8	6.4	15.5	6.9	8.6	8.6	9.0
9	8.2	14.2	*6.9	6.7	5.3	5.8	8.3	9.7	6.9	9.6	8.2	9.6
10	8.2	12.7	6.9	6.4	13.3	5.8	6.9	6.7	7.2	9.0	11.3	18.8
11	8.2	39	6.9	6.4	10.3	6.4	6.4	6.9	8.2	9.3	13.9	15.4
12	9.0	10.4	6.9	6.9	7.9	6.1	42	7.2	7.2	8.6	9.3	45
13	24	9.3	6.9	7.6	6.9	5.8	28	6.9	6.9	7.6	8.6	26.5
14	17.4	9.6	6.9	6.7	*9.9	5.8	9.6	6.7	9.7	6.9	9.0	26
15	24	10.0	6.9	6.4	9.2	5.6	14.7	7.4	7.6	6.9	8.6	12.3
16	11.1	9.6	6.9	6.4	7.2	5.6	11.9	15.1	6.9	7.2	7.9	9.0
17	9.3	14.0	6.9	6.4	10.6	5.6	6.9	8.8	6.7	6.9	7.6	8.6
18	12.1	12.5	6.9	6.4	9.6	5.6	*6.4	34.5	6.7	6.7	10.0	8.6
19	9.0	18.6	6.9	6.7	7.6	7.0	6.1	40	6.4	6.9	13.8	8.2
20	8.6	9.0	6.9	6.4	9.0	298	5.8	7.1	6.4	102	7.9	7.9
21	8.2	8.2	6.9	6.4	15.1	185	5.8	10.0	6.4	28	11.0	7.6
22	7.9	7.9	6.9	6.4	13.9	15.1	5.8	7.9	12.0	17.1	8.2	10.7
23	7.9	9.3	6.7	6.4	9.0	9.0	5.8	12.5	26.5	11.4	7.2	13.7
24	7.9	19.4	6.7	6.4	7.6	7.9	5.8	42	15.7	8.6	7.2	11.6
25	7.9	15.6	6.7	6.4	6.9	7.2	6.1	32	9.3	7.6	8.6	8.6
26	8.2	12.1	6.7	6.4	6.7	6.9	6.9	42	9.7	7.6	9.0	7.6
27	19.8	9.0	6.7	6.1	6.4	6.7	6.7	33	10.5	7.2	8.2	7.6
28	37	8.2	6.7	6.1	6.1	6.7	7.9	13.6	9.0	7.6	7.6	7.9
29	10.7	7.6	6.9	6.1	6.1	6.4	11.8	14.4	10.7	7.6	10.0	7.9
30	9.6	7.2	7.2	6.1	6.1	7.6	109	-----	10.5	17.5	10.5	10.7
31	15.8	7.6	-----	6.1	-----	6.9	25	7.2	7.2	-----	13.2	-----
Total	360.3	364.1	227.7	232.2	407.2	758.2	402.2	580.7	280.5	436.4	292.9	371.0
Mean:												
mgd	11.6	11.7	7.59	7.49	13.6	23.8	13.0	20.0	9.05	14.5	9.45	12.4
cfs	17.9	18.1	11.7	11.6	21.0	36.8	20.1	30.9	14.0	22.4	14.6	19.2
Ac-ft	1,110	1,120	699	713	1,250	2,270	1,230	1,780	861	1,340	899	1,140
Calendar year 1955	Max	298	Min	5.6	Mean(mgd)	16.6	Mean(cfs)	25.7	Ac-ft	18,630		
Fiscal year 1955-56	Max	298	Min	5.6	Mean(mgd)	12.8	Mean(cfs)	19.8	Ac-ft	14,410		

Peak discharge (base, 450 mgd).--Nov. 10 (2:30 a.m.) 566 mgd (876 cfs), 5.03 ft; Dec. 20 (1:30 a.m.) 1,900 mgd (2,940 cfs), 7.83 ft; Jan. 30 (7 p.m.) 645 mgd (1,310 cfs), 5.69 ft; Feb. 2 (10 a.m.) 715 mgd (1,110 cfs), 5.37 ft.

* Discharge measurement made on this day.

Waialala Springs near Kalae

Location.--Lat 21°10'20", long 157°00'05", on left bank on highway from Kalae to Kalau-papa Pali, 0.8 mile northeast of Kalae and 5.7 miles northeast of Kaunakakai Post Office.

Records available.--September 1940 to June 1956.

Gage.--Water-stage recorder and sharp-crested V-notch weir. Altitude of gage is 1,600 ft (from topographic map).

Average discharge.--15 years (1941-56), 0.016 mgd (0.025 cfs).

Extremes.--1940-56: Maximum daily discharge, 0.275 mgd (0.425 cfs) Mar. 11, 1942; minimum daily, 0.001 mgd (0.002 cfs) Feb. 8-16, 1956.

Remarks.--Records good except those for period of no gage-height record, which are poor. Maui County Water Works diverts entire flow for domestic supply, from tail bay at station.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.015	0.013	0.012	0.011	0.010	0.009	0.010	0.012	0.010	0.012	0.012	0.008
2	.015	.013	.012	.011	.010	.009	.010	.008	.010	.012	.012	.008
3	.016	.013	.012	.011	.010	.009	.010	.002	.010	.012	.011	.008
4	.016	.013	.012	.011	.010	.009	.010	.002	.010	.012	.011	.008
5	.015	.013	.012	.011	.009	.009	.010	.002	.010	.011	.011	.008
6	.013	.013	.011	.011	.009	.009	.010	.002	.010	.011	.012	.008
7	.014	.013	.011	.011	.010	.009	.010	.002	.011	.011	.012	.008
8	.014	.013	.011	.011	.009	.009	.009	.001	.011	.010	.011	.008
9	.014	.013	.011	.011	.009	.009	.009	.001	.011	.010	.012	.008
10	.014	.014	.011	.011	.012	.009	.009	.001	.012	.010	.012	.008
11	.013	.013	.011	.010	.011	.009	.009	.001	.011	.010	.013	.007
12	.013	.013	.011	.010	.010	.009	.009	.001	.011	.010	.013	.007
13	.013	.013	.011	.010	.009	.009	.009	.001	.012	.009	.011	.007
14	.013	.012	.011	.010	.009	.009	.009	.001	.011	.009	.012	.007
15	.013	.012	.011	.010	.009	.009	.009	.001	.011	.009	.011	.007
16	.013	.012	.011	.010	.009	.009	.009	.001	.011	.009	.011	.007
17	.013	.012	.011	.010	.009	.009	.009	.007	.011	.009	.011	.007
18	.013	.012	.012	.010	.009	.009	.009	.011	.010	.009	.011	.007
19	.013	.012	.011	.010	.009	.009	.009	.011	.010	.009	.010	.007
20	.013	.012	.011	.010	.009	.003	.009	.011	.010	.012	.010	.007
21	.013	.012	.011	.010	.009	.002	.009	.011	.010	.012	.010	.007
22	.013	.012	.011	.010	.009	.007	.009	.010	.011	.012	.010	.007
23	.013	.012	.012	.010	.009	.011	.010	.010	.011	.011	.010	.007
24	.013	.012	.011	.010	.009	.011	.010	.010	.011	.011	.009	.007
25	.013	.012	.011	.010	.009	.010	.010	.010	.011	.011	.008	.007
26	.013	.012	.010	.010	.009	.010	.010	.010	.011	.010	.008	.007
27	.013	.012	.011	.010	.009	.010	.009	.010	.010	.010	.008	.007
28	.013	.012	.011	.010	.009	.010	.009	.010	.010	.010	.008	.007
29	.013	.012	.011	.010	.009	.010	.009	.010	.010	.010	.008	.007
30	.013	.012	.011	.009	.009	.010	.012	-----	.010	.012	.008	.007
31	.013	.012	-----	.009	-----	.010	.013	-----	.010	-----	.008	-----
Total	0.419	0.386	0.336	0.318	0.281	0.275	0.297	0.167	0.328	0.315	0.324	0.220
Mean:												
mgd	0.014	0.012	0.011	0.010	0.009	0.009	0.010	0.006	0.011	0.010	0.010	0.007
cfs	0.022	0.019	0.017	0.016	0.014	0.014	0.016	0.009	0.017	0.016	0.016	0.011
Ac-ft	1.3	1.2	1.0	1.0	0.9	0.8	0.9	0.5	1.0	1.0	1.0	0.7

Calendar year 1955: Max 0.022 Min 0.002 Mean(mgd) 0.014 Mean(cfs) 0.022 Ac-ft 16

Fiscal year 1955-56: Max 0.016 Min 0.001 Mean(mgd) 0.010 Mean(cfs) 0.016 Ac-ft 11

Note.--No gage-height record Mar. 14 to May 11; discharge estimated on basis of records for nearby streams.

Kaunakakai Stream at Kaunakakai

Location.--Lat 21°06'10", long 157°00'50", on left bank 0.6 mile upstream from Molokai Ranch pipeline crossing, 1.3 miles northeast of Kaunakakai Post Office, and 1.7 miles upstream from mouth.

Drainage area.--6.48 sq mi.

Records available.--December 1949 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 240 ft (from topographic map).

Average discharge.--6 years (1950-56), 1.60 mgd (2.48 cfs).

Extremes.--Maximum discharge during year, 1,060 mgd (1,640 cfs) Dec. 20 (gage height, 6.86 ft); no flow most of time.
1949-56: Maximum discharge, 1,120 mgd (1,730 cfs) Mar. 13, 1951 (gage height, 7.10 ft), from rating curve extended above 130 mgd; no flow most of time.

Remarks.--Records fair.

Revisions (fiscal years).--WSP 1289: 1950-51.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.2	0	2.7	18.5
1.3	.33	3.0	33
1.4	.69	3.3	54
1.6	1.49	3.6	85
1.8	2.45	3.9	132
2.1	5.2	4.2	193
2.4	10.2		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1					0	0	0	3.3		0		0
2					0	0	0	15.7		0		0
3					0	0	0	13.4		0		0
4					0	0	0	5.3		0		0
5					0	0	0	2.9		0		0
6					0	0	0	0		0		0
7					0	0	0	0		0		0
8					0	0	0	0		0		0
9					6.2	0	0	0		0		0
10					<u>99</u>	0	0	0		0		0
11					2.8	0	0	0		0		0
12					0	0	0	0		0		0
13					0	0	6.7	0		0		0
14					0	0	3.75	0		0		0
15					0	0	0	0		0		0
16					0	0	1.52	0		0		0
17					0	0	0	0		0		0
18					0	0	0	0		0		0
19					0	0	0	0		0		0
20					0	<u>182</u>	0	<u>27.5</u>		.66		0
21					0	130	0	3.5		<u>1.48</u>		0
22					0	15.2	0	0		0		0
23					0	3.8	0	0		0		0
24					0	.05	0	1.02		0		0
25					0	0	0	10.0		0		0
26					0	0	0	8.9		0		0
27					0	0	0	9.2		0		0
28					0	0	0	5.6		0		0
29					0	0	0	.15		0		0
30					0	0	<u>48</u>	-----		0		0
31					-----	0	<u>25</u>	-----		-----		-----
Total	0	0	0	0	108.0	331.05	84.97	106.47	0	2.14	0	0.09
Mean	0	0	0	0	3.60	10.7	2.74	3.67	0	0.071	0	0.003
mgd	0	0	0	0	5.57	16.6	4.24	5.68	0	0.110	0	0.005
cfs	0	0	0	0	331	1,020	261	327	0	6.6	0	0.3
Ac-ft	0	0	0	0								

Calendar year 1955: Max 182 Min 0 Mean(mgd) 2.09 Mean(cfs) 3.23 Ac-ft 2,350
Fiscal year 1955-56: Max 182 Min 0 Mean(mgd) 1.73 Mean(cfs) 2.68 Ac-ft 1,950

Peak discharge (base, 500 mgd).--Nov. 10 (3:30 a.m.) 530 mgd (820 cfs), 5.19 ft; Dec. 20 (2 a.m.) 1,060 mgd (1,640 cfs), 6.86 ft; Jan. 30 (8:30 p.m.) 530 mgd (820 cfs), 5.21 ft.

* Discharge measurement made on this day.

Right Branch of East Fork Kawela Stream near Kamalo

Location.--Lat 21°06'50", long 156°54'30", on left bank at Molokai Ranch pipeline intake, 4.7 miles northwest of Kamalo and 7.6 miles east of Kaunakakai.

Drainage area.--0.2 sq mi.

Records available.--September 1946 to June 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 3,624.86 ft above mean sea level (Territorial Survey bench mark).

Average discharge.--9 years (1947-56), 1.56 mgd (2.41 cfs).

Extremes.--Maximum discharge during year, 189 mgd (292 cfs) Dec. 21 (gage height, 4.85 ft), from rating curve extended above 2.5 mgd as explained below; no flow for many days.
1946-56: Maximum discharge, 882 mgd (1,360 cfs) Jan. 26, 1948 (gage height, 7.97 ft), from rating curve extended above 2.5 mgd by test on model of station site; no flow for many days.

Remarks.--Records fair. Molokai Ranch diverts low flow from gage pool.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

2.3	0	2.9	2.15
2.4	.03	3.1	5.1
2.5	.17	3.3	12.5
2.6	.45	3.5	25.5
2.7	.86	4.0	76
2.8	1.43		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.50	0.40	3.65	0.49	0	0	1.06	0.49	3.2	3.2	*1.44	1.12
2	.83	1.97	4.7	2.0	0	0	.09	7.1	.96	2.6	.11	1.04
3	.05	4.40	1.55	3.05	0	0	0	3.9	.24	1.10	.58	4.4
4	.56	.32	1.14	6.7	0	0	0	4.4	.01	.68	.04	3.2
5	*.06	0	.22	8.9	0	0	0	1.07	0	.40	.34	2.15
6	0	0	0	1.86	0	0	0	.32	0	.08	1.69	3.25
7	0	0	0	.51	0	0	0	.03	0	.35	1.12	2.3
8	0	1.89	0	.03	0	0	0	0	0	.09	.24	.99
9	0	3.4	0	0	*17.2	0	.27	0	0	2.2	.10	2.75
10	.23	2.85	0	0	29	0	.16	0	0	2.15	2.35	6.8
11	.01	7.3	0	0	1.29	0	0	0	.01	1.68	2.05	5.6
12	1.85	.56	0	0	.25	0	12.3	.52	0	.86	1.62	13.8
13	8.7	.88	0	0	.01	0	8.7	.48	0	.39	.34	8.3
14	5.1	1.11	0	0	2.55	0	1.46	.14	0	.03	1.39	5.0
15	6.2	1.80	0	0	1.39	0	3.4	1.04	0	.87	.72	1.22
16	1.90	.90	0	0	.56	0	*2.15	3.7	0	.67	.58	.45
17	.56	2.25	0	0	4.2	0	.30	1.54	0	.09	.03	.35
18	2.75	1.51	0	0	2.6	0	0	7.6	0	0	.69	.98
19	.28	2.05	.10	0	1.21	13.7	0	11.0	0	0	1.67	.79
20	.01	.23	.10	0	2.1	8.2	0	14.0	0	16.0	.14	.38
21	0	0	0	0	4.8	31	0	1.30	0	4.3	.06	.56
22	0	0	0	0	3.3	2.05	0	.52	.16	2.15	*.07	4.3
23	0	1.28	0	0	1.27	.48	0	3.25	4.4	1.01	0	4.7
24	0	6.3	0	0	.56	.14	0	12.7	3.2	.11	0	3.3
25	0	6.2	0	0	.21	.06	0	8.0	1.32	0	1.68	.68
26	.35	2.45	0	0	0	0	0	12.5	1.12	0	1.19	.10
27	9.6	1.07	0	0	0	0	0	9.0	2.2	0	.50	.71
28	10.4	.25	.04	0	0	0	0	*2.35	1.56	0	.20	1.44
29	1.80	0	1.09	0	0	0	.17	3.95	3.5	0	3.75	.27
30	1.21	.45	0	0	1.08	30	0	-----	1.78	.76	1.70	2.15
31	1.76	.15	-----	0	-----	.37	5.2	-----	.18	-----	3.55	-----
Total	57.49	51.12	13.04	21.54	72.48	100.88	65.26	110.88	23.62	41.72	29.94	81.08
Mean:	1.85	1.65	0.435	0.695	2.42	3.25	2.11	3.82	0.762	1.39	0.966	2.70
mgd	2.66	2.55	0.673	1.08	3.74	5.03	3.26	5.91	1.18	2.15	1.49	4.18
cfs	176	157	40	66	222	310	200	340	72	128	92	249
Ac-ft												

Calendar year 1955: Max 52 Min 0 Mean(mgd) 1.88 Mean(cfs) 2.91 Ac-ft 2,110
Fiscal year 1955-56: Max 52 Min 0 Mean(mgd) 1.83 Mean(cfs) 2.83 Ac-ft 2,050

Peak discharge (base, 100 mgd).--Nov. 9 (8 p.m.) 121 mgd (187 cfs), 4.36 ft; Dec. 21 (2 a.m.) 189 mgd (292 cfs), 4.85 ft; Jan. 30 (7:30 p.m.) 121 mgd (187 cfs), 4.37 ft.

* Discharge measurement made on this day.

Punaula Stream near Pukoo

Location.--Lat 21°05'40", long 156°48'40", on right bank 1.5 miles northwest of Pukoo and 5.5 miles northeast of Kamalo.

Drainage area.--0.4 sq mi.

Records available.--March 1947 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 1,200 ft (from topographic map).

Average discharge.--9 years, 0.813 mgd (1.26 cfs).

Extremes.--Maximum discharge during year, 320 mgd (495 cfs) Nov. 10 (gage height, 6.21 ft), from rating curve extended above 3.3 mgd as explained below; minimum, 0.03 mgd (0.05 cfs) Nov. 7, 8, Dec. 15-19.

1947-56: Maximum discharge, 330 mgd (511 cfs) Apr. 2, 1948 (gage height, 6.35 ft), from rating curve extended above 3.3 mgd by test on model of station site; minimum, 0.01 mgd (0.02 cfs) Mar. 13, 1947, Feb. 19, 1954.

Remarks.--Records good except those for period of no gage-height record, which are fair.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.47	0.03	1.1	4.1
.5	.05	1.3	7.7
.6	.16	1.6	14.7
.7	.36	1.9	24
.8	.76	2.2	35.5
.9	1.41	2.6	53
1.0	2.6		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.50	0.38	0.81	0.59	0.21	0.16	1.11	0.26	0.46	1.05	0.46	1.41
2	.71	4.0	3.25	.46	.25	1.01	.23	4.3	.28	.62	*.12	1.48
3	.27	3.1	1.11	.48	.09	.23	.15	2.9	.21	.33	.12	1.79
4	.84	.36	1.48	2.85	.05	.13	.09	1.35	.16	.24	.08	.76
5	.61	.26	.33	2.3	.05	.09	.07	.36	.16	.21	.19	.46
6	.48	.21	.21	.50	.04	.09	.06	.19	.13	.27	.56	.82
7	*1.72	.16	.15	.23	.03	.07	.05	.15	.12	.36	2.75	2.55
8	.28	.64	*.12	.12	.05	.08	.10	.11	.11	.19	.46	.46
9	.21	.91	.13	.09	16.1	.06	.42	.09	.12	.36	.30	.57
10	.21	3.4	.12	.08	20.5	.05	.17	.08	.13	.23	.27	1.58
11	.16	6.2	.12	.13	.51	.15	.16	.09	.41	.19	.53	3.65
12	.24	.46	.17	.16	.21	.08	2.7	.24	.15	.16	.36	3.85
13	1.29	1.51	.12	2.1	*.13	.05	1.35	.15	.09	.19	.36	2.15
14	2.1	3.1	.09	.16	1.42	.04	.23	.16	.54	.15	1.15	1.48
15	1.74	.39	.19	.11	.38	.03	.28	.97	.21	.16	.39	.50
16	.50	.26	.24	.09	.23	.03	.30	1.35	.12	.16	.21	.28
17	.24	.88	.09	.07	.21	.03	.13	.88	.16	1.07	.15	.37
18	1.40	.99	.23	.05	.85	.03	.07	2.4	.13	.21	4.3	.75
19	.24	1.26	.19	.05	2.05	31.5	a.06	1.16	.75	.18	1.31	1.16
20	.19	2.45	.15	.05	.98	39.	a.05	2.65	.21	7.9	.28	.56
21	.15	.30	.09	.05	1.16	11.6	a.05	.50	.12	5.0	.21	.75
22	.12	.23	.26	.04	1.09	.60	a.08	.24	.30	.93	.16	3.45
23	.09	.92	.46	.05	.54	.21	.06	1.61	2.1	.42	.16	1.93
24	.11	.30	.17	.12	.72	.69	.05	6.6	.51	.23	.17	.67
25	.54	.82	.11	.24	1.62	.24	.11	2.9	.41	.17	1.55	.28
26	.40	.87	.07	.09	1.59	.16	.26	4.6	.36	.72	2.95	.21
27	2.2	.53	.06	.06	.33	.12	.13	2.0	3.05	.21	3.1	.23
28	7.9	.23	.07	.05	.30	.08	.13	.61	.42	.16	.73	.26
29	2.35	.21	.67	.09	.24	.07	1.40	.79	3.2	.17	2.95	.24
30	.77	.33	.26	.05	.16	5.3	10.1	-----	2.2	.48	1.12	1.14
31	2.55	.30	-----	.17	-----	2.7	1.85	-----	.33	-----	2.6	-----
Total	32.11	35.96	11.52	11.68	52.09	94.68	22.00	39.69	17.65	22.72	30.05	35.59
Mean:												
mgd	1.04	1.16	0.384	0.377	1.74	3.05	0.710	1.37	0.569	0.757	0.969	1.19
cfs	1.61	1.79	0.594	0.583	2.69	4.72	1.10	2.12	0.880	1.17	1.50	1.84
Ac-ft	99	110	35	36	160	291	68	122	54	70	92	109

Calendar year 1955: Max 39 Min 0.03 Mean(mgd) 1.02 Mean(cfs) 1.58 Ac-ft 1,140

Fiscal year 1955-56: Max 39 Min 0.03 Mean(mgd) 1.11 Mean(cfs) 1.72 Ac-ft 1,240

Peak discharge (base, 70 mgd).--Nov. 10 (2 a.m.) 320 mgd (495 cfs), 6.21 ft; Dec. 19 (11 p.m.) 296 mgd (458 cfs), 5.79 ft; Jan. 30 (7:30 p.m.) 118 mgd (183 cfs), 3.57 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby streams.

Discharge measurements at points other than gaging stations

Measurements of streamflow on the island of Molokai made at points other than regular gaging stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. Measurements believed to have been made under base-flow conditions are identified by an asterisk (*) to the left of the discharge figure. These measurements when correlated with the simultaneous discharge of a nearby stream where continuous records are available will give a picture of the low-flow potentiality of stream. The column headed, "Measured previously" shows the fiscal years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at points other than gaging stations on the island of Molokai during fiscal year July 1955 to June 1956

Stream	Tributary to	Location	Measured previously (fiscal years)	Date	Discharge	
					Million gallons a day	Cubic feet per second
Kahawaiiki Stream.	Wailau Stream.	Lat 21°10'00", long 156°49'50", at Wailau Stream, near Wailau.		Jan. 20	*2.86	*4.42
				Mar. 4	*3.67	*5.68
				May 9	*3.72	*5.75
Wailau Stream.	Pacific Ocean.	Lat 21°10'00", long 156°49'50", at mouth, near Wailau.		Sept. 17	*22.9	*35.4
				Jan. 20	*31.0	*47.9
				Mar. 4	*39.8	*61.6
				May 9	*26.8	*41.5
Pelekunu Stream.	....do.....	Lat 21°09'25", long 156°52'45", at altitude 100 ft, near Pelekunu.	1946	Jan. 19	*19.6	*30.4
				Mar. 3	*26.0	*40.3
				May 5	*16.2	*25.1
Waikolu Stream.	....do.....	Lat 21°08'35", long 156°55'15", at altitude 1,000 ft, above first fall, near Kalaupapa.	1930	Jan. 17	*1.97	*3.05
				Mar. 2	*3.12	*4.82
Right Branch Waikolu Stream.	Waikolu Stream.	Lat 21°08'35", long 156°55'10", at altitude 1,000 ft, at first fall, near Kalaupapa.		Jan. 17	*.229	*.354
				Mar. 2	*.460	*.711
Second Right Branch Waikolu Stream.	....do.....	Lat 21°08'40", long 156°55'10", at altitude 990 ft, at second fall, near Kalaupapa.		Jan. 17	*.284	*.409
				Mar. 2	*.502	*.776
Waikolu Stream.	Pacific Ocean.	Lat 21°08'45", long 156°55'15", at altitude 900 ft, at proposed site for gaging station, downstream from second fall, near Kalaupapa.		Jan. 17	*3.31	*5.12
				Mar. 2	*3.43	*5.30
Do.....	....do.....	Lat 21°09'05", long 156°55'35", at altitude 700 ft, near Kalaupapa.	1920†, 1921-23, 1939	Jan. 17	*4.77	*7.38
				Mar. 2	*5.89	*9.11
Do.....	....do.....	Lat 21°10'20", long 156°56'00", at mouth, near Kalaupapa.		Jan. 18	*13.1	*20.2
				Mar. 2	*14.9	*23.0
				May 3	*14.5	*22.4

* Base flow.

† Period of record at former gaging station near Kalaupapa.

Oheo Stream below diversion dam, near Kipahulu

Location.--Lat 20°41'05", long 156°04'10", on left bank just downstream from old diversion dam, 2 miles northwest of Kipahulu and 2.5 miles upstream from mouth.

Drainage area.--5.8 sq mi.

Records available.--February 1927 to September 1929, December 1931 to June 1956. Published as "at elevation 1,550 ft, near Kipahulu" 1927-29.

Gage.--Water-stage recorder. Datum of gage is 1,546 ft above mean sea level (by vertical angles). Prior to Sept. 6, 1929, at site 100 ft upstream at different datum.

Average discharge.--21 years (1927-29, 1932-35, 1940-56), 37.2 mgd (57.6 cfs).

Extremes.--Maximum discharge during year, 9,100 mgd (14,100 cfs) Dec. 20 (gage height, 17.5 ft, from floodmark), from rating curve extended above 750 mgd by critical-depth measurement of peak flow and by test on model of station site; minimum, 0.02 mgd (0.03 cfs) Oct. 23, 24.
1927-29, 1931-56: Maximum discharge, that of Dec. 20, 1955; no flow at times.

Remarks.--Records good except those for period of no gage-height record, which are poor. Small diversion below station for domestic supply and livestock.

Revisions (fiscal years).--WSP 1155: 1932-35(M), 1937-40(M).

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Dec. 20

Dec. 20 to June 30

0	0	0.6	1.95	0.2	0.23	2.0	48.5
.1	.03	.8	4.1	.3	.60	2.5	86
.2	.13	1.0	7.5	.4	1.21	3.0	133
.3	.34	1.3	15.3	.5	2.1	4.0	255
.4	.70	1.6	27.5	.6	3.2	5.0	425
.5	1.20	2.0	48.5	.8	5.9	6.0	710
				1.0	9.7	8.0	1,240
				1.3	17.0	10.0	3,700
				1.6	28.5		

Note.--Same as following table above 2.0 ft.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct. ¹	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	14.0	6.2	32.5	39.5	1.09	79	1.1	*10	306	4.8	0.55	32.5
2	1.36	99	42	25.5	2.95	137	.60	3.15	41	12.2	.42	101
3	.39	217	9.0	14.2	.28	9.9	.55	55	6.0	*6.5	.55	214
4	.24	14.0	7.6	9.9	.24	3.1	.90	58	6.3	2.1	.35	73
5	30	16.4	4.4	84	.13	1.41	.55	3.2	178	.65	.40	44
6	8.3	11.7	1.53	29	.08	.97	.50	.86	93	.46	7.2	31.5
7	6.3	2.8	2.35	6.8	.07	.70	.45	.51	6.1	.38	95	71
8	.84	5.7	*3.05	1.85	.11	.54	.40	.38	4.8	.69	38	31.5
9	1.65	82	.58	7.8	.10	1.35	10	55	123	123	38.5	27.5
10	14.2	72	.37	.66	25.5	.46	9.0	55	1.21	139	149	82
11	1.67	67	.26	.50	39.5	.34	1.1	155	.80	72	218	52
12	19.3	12.0	.22	2.55	15.6	.24	200	4.5	.65	61	168	186
13	117	3.55	.18	4.5	1.10	.18	500	2.25	.55	58.5	155	146
14	30.5	24	.33	.48	185	.16	50	8.9	.74	2.65	260	82
15	45	20.5	11.5	.31	28.5	.13	9.0	249	.42	26	81	19.4
16	46	7.4	3.75	.28	16.6	.10	3.0	283	.35	36	21.5	12.2
17	17.4	32	.22	.24	98	.07	1.5	326	.42	100	4.6	6.9
18	37	19.0	.18	.13	27	.04	.80	662	18.2	4.2	13.4	7.6
19	5.5	172	.11	.09	15.9	.04	.60	104	113	2.55	7.2	8.4
20	40	131	.25	.07	30	*2,200	.50	180	11.5	23	2.2	5.2
21	3.35	10.1	17.9	.04	202	700	.60	8.7	.96	63	.92	1.45
22	.92	4.9	27	.03	178	70	.65	4.8	13.4	9.5	*.65	30.5
23	.54	18.7	7.9	.03	35.5	10	.50	187	25.5	3.4	.65	54
24	7.4	46	1.08	.11	84	3.0	.45	682	36.5	.92	4.9	69
25	65	31.5	.58	1.91	26	1.5	600	926	111	.65	30	8.9
26	72	33	.76	.22	28.5	.80	70	638	64	61	49	2.2
27	239	8.0	.86	6.8	4.3	.60	10	363	*184	9.6	16.5	8.2
28	271	2.7	.47	.47	47	.40	2.5	98	27	1.08	22	10.8
29	145	1.20	91	30.5	28	1.0	6.0	248	302	4.5	54	1.40
30	23	10.9	19.0	.96	459	.60	6.5	-----	108	.86	25	4.1
31	63	4.5	-----	4.1	-----	2.5	3.5	-----	19.6	-----	46	-----
Total	1,324.84	1,186.75	294.86	313.02	1,576.05	3,226.13	1,491.25	5,314.57	1,663.90	810.19	1,510.49	1,424.25
Mean	42.7	38.3	9.83	10.1	52.5	104	48.1	183	53.7	27.0	48.7	47.5
mgd	66.1	59.3	15.2	15.6	81.2	161	74.4	283	83.1	41.8	75.4	73.5
cfs	4,070	3,640	905	961	4,840	9,900	4,580	16,310	5,110	2,490	4,640	4,370
Ac-ft												
Calendar year 1955	Max	2,200	Min	0.03	Mean(mgd)	42.8	Mean(cfs)	66.2	Ac-ft	47,980		
Fiscal year 1955-56	Max	2,200	Min	0.03	Mean(mgd)	55.0	Mean(cfs)	85.1	Ac-ft	61,820		

Peak discharge (base, 1,600 mgd).--Dec. 20 (3 a.m.) 9,100 mgd (14,100 cfs), 17.5 ft; Feb. 25 (6:30 p.m.) 3,400 mgd (5,260 cfs), 9.80 ft.

* Discharge measurement made on this day.

Note.--No gage-height record from Dec. 20 to Feb. 1; discharge estimated on basis of records for nearby streams.

Right Branch Kahalawe Stream near Kipahulu

Location.--Lat 20°41'05", long 156°03'00", on left bank at old ditch intake, 2 miles north of Kipahulu.

Records available.--February 1927 to April 1937, April 1938 to June 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 885 ft above mean sea level (by vertical angles). Prior to Apr. 21, 1938, at same site at datum 8 ft lower.

Average discharge.--26 years (1927-34, 1935-36, 1938-56), 3.53 mgd (5.46 cfs).

Extremes.--Maximum discharge during year, 420 mgd (650 cfs) Feb. 11 (gage height, 3.67 ft), from rating curve extended above 54 mgd as explained below; minimum, 0.83 mgd (1.28 cfs) Dec. 18, 19, Jan. 8.

1927-37, 1938-56: Maximum discharge, 2,300 mgd (3,560 cfs) Apr. 29, 1937 (gage height, 15.74 ft, datum then in use), from rating curve extended above 54 mgd by test on model of station site; minimum, 0.15 mgd (0.23 cfs) Dec. 18, 1929.

Remarks.--Records good.

Revisions (fiscal years).--WSP 1219: 1935(M), 1937(M).

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.9	0.62	1.5	6.8
1.0	1.01	1.7	12.4
1.1	1.54	2.0	28.5
1.2	2.3	2.3	54
1.3	3.3	2.6	99
1.4	4.8		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	5.0	2.55	3.95	3.1	1.41	3.55	2.7	5.5	3.05	2.05	1.20	4.3
2	1.95	9.0	6.0	2.6	4.4	9.5	1.41	1.73	2.3	1.73	1.10	8.6
3	1.66	9.6	2.85	2.35	1.41	2.85	1.25	3.45	1.95	*1.47	1.81	10.6
4	1.66	4.6	3.1	8.7	1.25	2.3	2.25	2.55	1.80	1.35	1.15	3.45
5	2.8	5.0	4.9	5.1	1.05	1.95	1.25	1.47	10.6	1.25	1.44	2.95
6	2.15	3.35	2.1	2.6	.92	1.80	1.10	1.25	10.2	1.15	4.6	3.75
7	4.7	2.2	2.55	1.95	.92	1.66	.97	1.10	2.4	1.01	7.7	6.2
8	1.80	2.1	6.5	1.80	1.25	1.54	.92	1.01	2.7	1.23	8.4	4.9
9	2.55	5.7	2.05	1.47	1.20	3.25	7.3	.97	1.95	2.25	3.5	3.6
10	3.1	7.6	1.80	1.41	4.9	1.54	6.8	16.4	1.60	4.1	4.5	4.8
11	1.73	5.9	1.60	1.95	7.9	1.30	2.45	23	1.47	2.7	9.9	3.5
12	4.2	2.7	1.54	8.0	3.75	1.25	11.9	1.66	1.35	3.7	5.6	7.9
13	9.7	2.2	1.41	5.8	1.54	1.10	22	1.35	1.25	2.0	15.1	7.9
14	3.7	6.9	1.89	1.87	4.9	1.10	2.4	1.46	1.35	1.30	12.3	4.9
15	2.85	3.1	2.95	1.60	1.66	1.05	1.66	7.8	1.20	1.99	4.5	2.95
16	5.4	2.4	2.0	2.05	1.86	.97	1.41	7.2	1.15	7.5	2.65	2.75
17	3.4	2.8	1.47	2.25	7.5	.92	1.25	3.9	1.15	7.9	2.1	3.2
18	3.3	5.1	1.41	1.35	2.85	.87	1.10	18.7	1.56	1.54	6.1	4.6
19	2.1	16.1	1.21	*1.20	2.65	.96	1.05	3.35	3.1	1.56	2.45	3.8
20	7.2	16.6	1.88	1.15	2.2	85	1.01	8.3	1.35	5.1	3.55	4.0
21	2.1	3.9	3.4	1.10	4.7	1.15	2.15	2.1	1.15	14.7	1.87	2.45
22	1.80	2.55	4.6	1.01	4.5	2.95	1.25	2.8	2.45	2.3	1.60	6.4
23	1.60	2.65	2.35	1.10	2.2	1.87	1.01	8.4	2.45	1.66	1.47	5.3
24	1.95	3.3	1.47	1.55	6.9	1.54	.97	18.0	1.98	1.35	1.56	3.6
25	4.8	3.8	1.30	3.25	4.9	1.35	22.5	27	2.95	1.20	5.0	2.3
26	*5.3	3.0	1.41	1.30	13.6	1.20	6.1	16.2	2.15	2.25	5.9	2.05
27	10.9	2.1	1.25	2.45	3.7	1.10	2.65	6.2	3.8	1.35	2.4	2.7
28	12.8	1.95	2.2	2.6	5.5	1.05	1.41	*3.25	1.73	1.59	2.3	2.55
29	15.8	1.80	6.7	1.90	3.95	2.55	3.3	3.45	21.5	5.4	8.2	1.95
30	4.9	3.05	2.2	1.25	24.5	1.41	3.5	-----	16.0	1.41	3.55	2.9
31	8.1	2.2	-----	1.80	-----	4.4	1.87	-----	6.7	-----	7.1	-----
Total	141.00	145.80	80.04	77.41	129.97	165.88	117.89	199.55	116.34	86.09	140.60	130.85
Mean	4.55	4.70	2.67	2.50	4.33	5.35	3.80	6.88	3.75	2.87	4.54	4.36
mgd	7.04	7.27	4.13	3.87	6.70	8.28	5.88	10.6	5.80	4.44	7.02	6.75
cfs	433	447	246	238	399	509	362	612	357	264	431	402
Ac-ft												

Calendar year 1955: Max 85 Min 0.87 Mean(mgd) 3.87 Mean(cfs) 5.99 Ac-ft 4,330
Fiscal year 1955-56: Max 85 Min 0.87 Mean(mgd) 4.18 Mean(cfs) 6.47 Ac-ft 4,700

Peak discharge (base, 200 mgd).--Dec. 20 (9:30 p.m.) 400 mgd (619 cfs), 3.61 ft; Jan. 13 (12:30 a.m.) 233 mgd (361 cfs), 3.12 ft; Jan. 25 (2:30 a.m.) 248 mgd (384 cfs), 3.13 ft; Feb. 11 (6 a.m.) 420 mgd (650 cfs), 3.67 ft; Mar. 30 (11:30 p.m.) 203 mgd (314 cfs), 3.00 ft.

* Discharge measurement made on this day.

Makapipi ditch near Nahiku

Location.--Lat 20°48'20", long 156°06'25", on right bank at entrance to tunnel No. 1, 1.8 miles south of Nahiku and 4.8 miles southeast of Keanae.

Records available.--July 1948 to June 1956.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 1,300 ft above mean sea level (by vertical angles).

Average discharge.--8 years, 3.05 mgd (4.72 cfs).

Extremes.--1948-56: Maximum daily discharge, 7.8 mgd (12.1 cfs) Nov. 21, 1951; minimum daily, 0.56 mgd (0.87 cfs) Feb. 11, 12, 14, 15, 1953.

Remarks.--Records excellent except those for period of no gage-height record, which are fair.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.7	5.2	3.45	1.65	1.20	3.35	3.25	3.95	6.9	4.3	2.9	3.4
2	2.7	5.0	3.55	1.71	1.03	3.1	3.25	3.8	8.5	5.0	2.8	4.5
3	2.65	5.2	3.6	1.71	.99	2.85	3.1	3.75	6.0	5.2	2.8	5.2
4	2.65	5.0	3.7	2.1	.97	2.6	2.9	3.7	5.2	5.2	2.7	5.2
5	2.6	4.7	3.7	2.3	1.11	2.4	2.8	3.55	5.0	5.1	2.65	5.2
6	2.45	4.3	3.6	2.6	1.06	2.2	2.65	3.35	4.5	4.9	3.05	5.6
7	2.4	4.1	3.55	2.9	1.06	2.05	2.55	3.25	4.2	4.7	4.9	5.6
8	2.5	3.95	3.45	3.2	1.01	1.95	2.45	3.2	3.95	4.6	5.2	5.2
9	2.2	4.6	3.55	3.55	.97	1.81	3.15	3.25	3.75	4.5	5.2	5.0
10	2.1	5.1	3.1	3.4	1.15	1.71	3.0	3.2	3.55	4.4	5.6	5.2
11	1.99	5.2	2.9	3.35	1.06	1.65	2.6	3.55	3.4	4.3	6.0	5.6
12	2.05	5.2	2.7	3.2	1.01	1.60	3.15	3.3	3.2	4.5	6.0	5.6
13	3.6	4.6	2.6	2.9	.97	1.50	3.55	3.7	3.0	4.6	6.0	5.6
14	2.85	4.4	2.55	2.8	1.24	1.45	3.75	3.6	2.9	4.7	6.0	5.6
15	2.8	4.3	2.55	2.6	1.20	1.39	3.6	3.9	2.8	4.6	6.0	5.6
16	2.9	4.1	2.35	2.45	1.15	1.34	3.55	3.7	2.65	4.5	5.6	5.2
17	3.05	4.6	2.2	2.3	1.15	1.29	3.45	4.0	2.6	4.5	5.1	4.9
18	3.4	4.3	2.2	*2.15	1.20	1.24	3.45	4.1	2.8	4.3	4.8	4.6
19	3.55	4.3	2.05	1.99	1.34	1.28	3.25	4.3	2.8	4.0	4.6	4.3
20	3.6	5.1	1.99	1.93	1.45	2.95	2.9	4.5	2.65	4.3	4.8	4.0
21	3.6	4.6	1.95	1.81	2.75	2.4	2.7	4.3	2.6	4.5	4.3	3.9
22	3.7	4.1	1.95	1.71	3.9	2.2	2.6	4.1	2.7	4.6	4.2	3.9
23	3.55	3.9	1.87	1.65	3.45	1.87	2.4	4.0	3.05	4.6	*3.9	3.9
24	3.4	3.9	1.81	1.60	3.4	1.76	2.2	5.0	3.1	4.3	3.8	4.7
25	*3.35	3.7	1.76	1.55	3.55	1.71	2.4	7.1	3.55	3.95	3.75	4.3
26	3.25	3.6	1.71	1.50	3.75	1.65	4.7	7.0	3.45	3.9	3.6	3.95
27	4.2	3.55	1.71	1.33	3.7	1.65	5.1	6.9	3.75	3.7	3.55	3.8
28	5.6	3.45	1.65	1.27	3.6	1.60	4.5	6.9	3.6	3.55	3.4	3.75
29	5.2	3.35	1.71	1.34	3.55	1.60	4.0	*6.9	4.3	3.25	3.25	3.55
30	4.7	3.25	1.71	1.29	3.45	1.65	4.2	-----	4.7	3.05	3.2	3.55
31	5.6	3.2	-----	1.17	-----	3.25	4.1	-----	4.5	-----	3.2	-----
Total	100.69	133.85	76.93	66.81	57.42	61.03	101.25	125.65	117.65	131.60	132.85	140.40
Mean	3.25	4.32	2.56	2.16	1.91	1.97	3.27	4.33	3.80	4.39	4.29	4.68
mgd	5.03	6.68	3.96	3.34	2.96	3.05	5.06	6.70	5.88	6.79	6.64	7.24
cfs	309	411	236	205	176	187	311	386	361	404	408	431
Ac-ft												
Calendar year 1955: Max	6.5				Min 0.97	Mean(mgd)	3.30	Mean(cfs)	5.11	Ac-ft	3,690	
Fiscal year 1955-56: Max	7.1				Min 0.97	Mean(mgd)	3.40	Mean(cfs)	5.26	Ac-ft	3,820	

* Discharge measurement made on this day.

Note.--No gage-height record Feb. 12-28; discharge estimated on basis of recorded range in stage and records from nearby streams.

Hanawi Stream near Nahiku

Location.--Lat 20°48'35", long 156°06'50", on left bank 200 ft upstream from Koolau ditch intake and trail, 1.8 miles southwest of Nahiku, and 4.5 miles southeast of Kanae.

Drainage area.--0.8 sq mi.

Records available.--January 1914 to January 1916, November 1921 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 1,318 ft above mean sea level (by vertical angles). Jan. 9, 1914, to Jan. 6, 1916, at site 50 ft downstream in same pool at datum 0.12 ft lower.

Average discharge.--34 years (1922-56), 13.8 mgd (21.4 cfs).

Extremes.--Maximum discharge during year, 1,950 mgd (3,020 cfs) Jan. 26 (gage height, 8.69 ft), from rating curve extended above 260 mgd as explained below; minimum, 1.55 mgd (2.40 cfs) Dec. 15, 16.

1914-16, 1921-56: Maximum discharge, about 3,600 mgd (5,570 cfs) Jan. 18, 1916 (gage height, 11.6 ft at present site), by test on model of station site; minimum, 1.1 mgd (1.7 cfs) Feb. 19, 20, 1944.

Remarks.--Records good. Water used for irrigation in central Maui.

Revisions (fiscal years).--WSP 1045: 1922-43(M).

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.2	1.38	2.5	56
.3	1.94	3.0	85
.4	2.6	3.5	125
.5	3.35	4.0	176
.7	5.3	4.5	250
1.0	10.1	5.0	370
1.3	15.3	5.5	600
1.6	21.5	6.0	990
2.0	34		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	4.0	7.4	*13.9	4.3	1.83	2.8	56	4.5	33	35	5.7	13.3
2	3.35	8.0	12.0	6.4	1.83	2.6	3.7	4.0	15.3	135	5.3	35.5
3	3.2	14.0	8.0	6.2	1.77	2.45	2.6	34.5	11.5	33	13.5	48
4	5.1	9.1	6.9	19.3	1.72	2.25	2.4	40	11.1	11.1	6.7	23.5
5	3.45	7.2	5.3	14.0	1.72	2.2	2.25	5.1	11.8	6.4	8.5	17.6
6	3.25	5.6	5.1	12.0	1.66	2.15	2.15	4.5	10.8	22.5	15.0	18.3
7	2.9	4.5	4.9	6.8	1.66	2.0	2.05	6.7	10.4	11.9	60	11.7
8	2.7	6.7	4.1	4.9	1.66	1.94	2.15	9.0	11.3	15.9	43	10.1
9	2.75	25.5	3.65	4.1	1.66	1.94	35	3.6	10.3	74	21	12.0
10	3.0	46	3.5	3.5	8.9	1.83	6.3	3.35	8.8	98	24	26.5
11	2.6	27	3.35	3.35	2.6	1.83	2.55	6.6	9.0	42	49	20.5
12	4.6	12.6	3.35	3.05	1.94	1.77	177	6.1	7.8	38.5	39	81
13	41	7.7	3.5	2.9	1.77	1.66	171	3.6	7.2	36	37	77
14	8.5	5.9	3.8	2.7	3.25	1.66	6.9	5.5	10.9	8.8	54	59
15	9.1	8.4	8.1	2.6	2.45	1.66	3.35	12.3	6.9	18.2	10.8	18.3
16	9.5	6.7	4.9	2.55	2.55	1.60	2.8	20.5	6.0	7.8	7.8	8.8
17	6.3	18.8	3.8	2.45	5.4	1.66	2.45	62	7.8	7.2	*6.3	7.7
18	14.3	7.5	6.1	2.4	4.3	1.94	2.25	330	7.8	5.1	9.0	7.3
19	7.3	6.1	4.1	2.4	4.9	6.1	2.15	58	5.9	5.0	12.5	7.3
20	9.3	9.1	3.35	2.35	13.3	332	2.05	140	5.1	33	14.8	7.2
21	*4.4	5.4	3.05	2.25	42	160	2.0	18.3	4.8	22	7.5	6.3
22	3.5	5.0	3.0	2.2	22	5.8	1.94	27	15.0	22	5.7	6.9
23	3.1	6.9	2.8	2.35	8.0	2.4	1.94	35	12.0	10.5	5.2	11.3
24	3.4	21.5	2.75	2.2	9.5	2.25	2.0	179	17.4	7.0	6.2	28
25	6.5	8.8	2.7	2.25	5.1	2.0	3.6	618	15.6	5.9	7.6	8.8
26	5.5	15.2	2.75	2.15	3.6	1.94	368	369	7.2	5.6	6.9	7.0
27	38	8.0	2.75	2.0	3.35	1.94	30	139	6.9	5.0	5.2	6.5
28	40	5.7	3.5	1.94	3.35	1.94	6.2	51	6.4	4.5	4.9	5.7
29	25	5.0	11.0	1.94	2.9	1.94	12.7	45	32.5	4.3	8.9	5.3
30	9.8	5.4	5.1	1.88	3.3	2.6	4	-----	14.9	6.3	10.0	17.6
31	47	6.0	-----	1.88	-----	155	4.5	-----	6.3	-----	12.8	-----
Total	332.40	336.7	151.30	131.19	169.97	711.85	924.38	2,241.15	347.7	737.5	523.8	613.8
Mean:												
mgd	10.7	10.9	5.04	4.23	5.67	23.0	29.8	77.3	11.2	24.6	16.9	20.5
cfs	16.6	16.9	7.80	6.54	8.77	35.6	46.1	120	17.3	38.1	26.1	31.7
Ac-ft	1,020	1,030	464	403	522	2,180	2,840	6,880	1,070	2,260	1,610	1,880
Calendar year 1955: Max	332			Min	1.60	Mean(mgd)	16.3	Mean(cfs)	25.2	Ac-ft	18,200	
Fiscal year 1955-56: Max	618			Min	1.60	Mean(mgd)	19.7	Mean(cfs)	30.5	Ac-ft	22,160	

Peak discharge (base, 850 mgd).--Dec. 20 (3 a.m.) 1,540 mgd (2,380 cfs), 7.71 ft; Dec. 31 (10 p.m.) 1,540 mgd (2,380 cfs), 7.68 ft; Jan. 12 (8 p.m.) 930 mgd (1,440 cfs), 5.86 ft; Jan. 26 (6:30 p.m.) 1,950 mgd (3,020 cfs), 8.69 ft; Feb. 25 (9 p.m.) 1,380 mgd (2,140 cfs), 7.33 ft.

* Discharge measurement made on this day.

Kapaula Stream near Nahiku

Location.--Lat 20°48'50", long 156°07'05", on right bank 40 ft upstream from intake to Koolau ditch, 300 ft upstream from ditch trail, 1.8 miles southwest of Nahiku, and 4 miles southeast of Keanae.

Records available.--November 1921 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 1,346 ft above mean sea level (by vertical angles).

Average discharge.--34 years (1922-56), 10.7 mgd (16.6 cfs).

Extremes.--Maximum discharge during year, 1,160 mgd (1,790 cfs) Jan. 26 (gage height, 6.70 ft), from rating curve extended above 220 mgd as explained below; minimum, 0.26 mgd (0.40 cfs) Jan. 8.
1921-56: Maximum discharge, 1,780 mgd (2,750 cfs) Apr. 6, 1938 (gage height, 8.40 ft), from rating curve extended above 220 mgd by logarithmic plotting; minimum, 0.2 mgd (0.3 cfs) Nov. 23-25, 1933, Oct. 2-5, 1938.

Remarks.--Records good. Water used for irrigation in central Maui.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.35	0.19	1.5	16.8
.4	.38	2.0	44
.5	1.08	2.5	83
.7	3.35	3.0	140
.9	6.5	3.5	218
1.2	13.4	4.0	320
1.4	14.7		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.55	5.7	*12.6	3.7	0.73	1.53	23	2.85	18.3	27	4.3	9.6
2	1.86	6.9	9.4	6.2	.73	1.30	1.65	3.95	8.7	106	4.2	28.5
3	1.85	10.9	6.0	6.2	.73	1.08	.80	21.5	4.5	23.5	8.1	41
4	3.7	7.2	4.7	17.7	.68	1.01	.59	23	3.5	8.4	5.0	18.0
5	2.25	6.2	3.25	13.3	.66	.94	.45	4.2	4.2	3.95	6.4	15.0
6	1.99	4.0	3.3	11.5	.59	.87	.33	3.8	3.0	16.8	13.3	15.0
7	1.53	3.0	3.0	5.9	.59	.87	.29	7.6	3.0	10.0	54	9.8
8	1.42	5.1	2.45	3.1	.52	.80	.51	6.8	3.6	12.2	37	8.1
9	1.77	23.5	1.98	2.65	.59	.80	29	2.2	3.8	51	17.5	9.5
10	1.98	37	1.75	2.3	15.2	.80	5.4	1.83	3.1	71	20	22.5
11	1.64	24.5	1.64	2.2	2.5	.87	1.35	4.5	4.1	31	36.5	15.6
12	4.2	10.2	1.53	1.75	1.01	.80	85	5.6	3.5	31	26.5	62
13	37	5.6	1.86	*1.75	.80	.73	50	2.45	3.45	27	27.5	59
14	9.2	4.1	2.3	1.42	2.75	.73	4.6	4.4	8.0	6.8	31.5	45
15	9.0	6.6	7.2	1.30	1.86	.66	2.3	10.9	3.8	11.5	7.6	15.3
16	9.3	5.0	3.6	1.19	1.98	.66	1.64	12.8	3.25	7.1	5.0	6.6
17	5.8	15.3	2.45	1.08	6.3	.87	1.30	45	5.0	5.5	3.95	5.6
18	11.2	7.0	5.1	1.01	3.65	1.05	1.08	168	6.2	3.25	7.4	5.5
19	5.6	5.1	2.75	1.01	5.6	7.5	.94	33.5	3.8	3.0	9.0	5.2
20	7.4	8.1	1.98	1.01	14.0	135	.80	78	3.0	26.5	12.3	4.8
21	*3.15	3.0	1.64	.94	34.5	44	.73	14.5	2.65	20.5	5.0	3.65
22	2.3	2.65	1.42	.94	19.2	5.1	.66	21.5	9.1	16.5	3.35	4.3
23	1.86	5.7	1.30	1.19	8.1	1.98	.59	28	10.8	8.9	2.9	8.1
24	2.1	17.3	1.19	1.01	8.3	1.53	.62	109	12.1	4.1	4.1	21
25	6.2	7.3	1.08	1.19	3.45	1.19	4.9	288	13.9	3.0	6.2	6.5
26	5.1	13.0	1.30	1.01	2.1	1.01	189	195	5.4	2.9	4.8	3.8
27	33	6.3	1.30	.94	1.86	.94	15.3	98	4.9	2.45	3.0	3.25
28	35	3.8	2.35	.87	2.3	.87	3.3	30.5	4.0	2.3	2.65	3.1
29	18.6	3.0	8.7	.80	1.75	.90	9.7	27	25	1.98	6.5	2.9
30	9.0	3.65	5.0	.73	2.25	4.7	2.8	-----	12.0	4.7	8.0	12.7
31	38	4.6	-----	.73	-----	75	3.85	-----	3.7	-----	11.3	-----
Total	275.54	271.30	104.12	96.62	145.26	296.09	442.48	1,252.38	203.35	549.83	394.85	470.90
Mean:												
mgd	8.99	8.75	3.47	3.12	4.84	9.55	14.3	43.2	6.56	18.3	12.7	15.7
cfs	13.8	13.5	5.37	4.83	7.49	14.8	22.1	66.8	10.1	26.3	19.6	24.3
Ac-ft	846	833	320	297	446	909	1,360	3,840	624	1,690	1,210	1,450

Calendar year 1955: Max 184 Min 0.52 Mean(mgd) 11.4 Mean(cfs) 17.6 Ac-ft 12,730
Fiscal year 1955-56: Max 288 Min 0.29 Mean(mgd) 12.3 Mean(cfs) 19.0 Ac-ft 13,820

Peak discharge (base, 450 mgd).--Dec. 20 (2:30 a.m.) 476 mgd (736 cfs), 4.60 ft; Dec. 31 (9:30 p.m.) 950 mgd (1,470 cfs), 6.06 ft; Jan. 26 (6 p.m.) 1,160 mgd (1,790 cfs), 6.70 ft; Feb. 25 (7 p.m.) 719 mgd (1,110 cfs), 5.37 ft.

* Discharge measurement made on this day.

Koolau ditch at Nahiku weir, near Nahiku

Location.--Lat 20°48'55", long 156°07'15", on right bank between Kapaula and Waiohue Streams, 1.8 miles southwest of Nahiku and 3.8 miles southeast of Keanae.

Records available.--February 1919 to June 1956. Gage-height records collected in this vicinity since 1904 are contained in files of East Maui Irrigation Co.

Gage.--Water-stage recorder and sharp-crested weir. Datum of gage is 1,289.14 ft above mean sea level, datum of 1929. Prior to Apr. 28, 1922, staff gage at same site and datum.

Average discharge.--37 years, 21.9 mgd (33.9 cfs).

Extremes.--1919-56: Maximum daily discharge, 60 mgd (93 cfs) Feb. 18, 24, 1956; no flow at times.

Remarks.--Records excellent. Flow regulated by spillways and gates. Ditch diverts water from nearly all streams from the Makapipi west to the Alo. Water used for irrigation in central Maui.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	17.5	35	*43	16.5	6.8	14.7	47	17.6	50	32	23	37
2	14.7	38	37	22	7.1	13.4	21	19.5	44	52	22	47
3	14.4	46	30	22	6.6	12.1	16.1	44	34.5	52	30.5	50
4	19.6	36.5	27	46	6.3	11.2	13.7	47	32	44	24.5	50
5	15.2	34.5	23	42	6.3	10.2	12.4	21.5	37	34.5	27.5	50
6	14.1	26.5	22.5	39.5	6.3	9.6	11.5	19.5	34.5	37	42	50
7	12.7	22.5	21	28	6.1	9.0	10.5	24.5	32	42	52	44
8	11.8	25.5	18.7	20.5	6.1	8.8	10.8	28	33	34.5	50	44
9	12.1	49	16.8	18.3	6.3	8.2	48	18.3	32	50	50	44
10	13.0	54	15.8	16.5	26	7.9	27.5	16.5	28.5	*51	47	50
11	11.8	52	14.7	15.4	9.9	7.9	15.1	28	30	50	50	47
12	17.4	45	14.1	14.1	7.4	7.6	41	26	28.5	52	50	50
13	52	34.5	14.4	*13.4	6.6	7.4	54	18.7	25	47	50	52
14	31	28	15.1	12.4	14.1	7.1	27	25	34.5	39.5	50	50
15	32.5	34.5	27	11.8	10.5	6.8	19.1	39.5	24.5	47	44	47
16	32	28.5	18.7	11.2	10.2	6.6	16.1	50	22.5	37	39.5	42
17	25.5	47	15.1	10.5	18.4	6.8	14.1	43	25.5	34.5	32.5	37
18	40	32	21	9.9	15.1	7.4	12.4	60	28	26.5	37	34.5
19	27	31	15.4	9.6	17.7	7.6	11.5	57	24.5	24.5	42	32
20	32	41	13.4	9.3	34	52	10.8	58	21.5	35	44	30.5
21	20.5	26	12.4	9.0	51	52	10.2	52	19.4	50	32	26.5
22	17.2	22	11.8	9.0	52	21	9.6	54	27.5	44	26.5	27
23	15.4	27	11.5	9.3	34.5	12.1	9.0	52	37	39.5	24	37
24	15.4	44	10.8	8.8	36	10.8	9.0	60	39.5	30	26.5	50
25	27	31	10.5	9.0	24.5	9.9	18.8	57	47	25.5	32	37
26	24	39.5	10.5	8.8	19.8	9.0	49	54	30.5	24	28.5	29.5
27	48	27.5	10.5	7.9	18.0	8.8	42	31.5	31	21.5	23	26.5
28	36.5	23	12.7	7.6	18.3	8.5	22.5	16.4	26.5	19.8	21.5	24.5
29	19.1	19.8	27	7.4	15.8	7.9	36.5	32	42	18.7	30.5	23
30	39.5	21.5	18.7	7.1	17.9	11.1	18.7	-----	44	25	32	40
31	50	22.5	-----	6.8	-----	44	19.4	-----	29.5	-----	42	-----
Total	758.9	1,044.8	560.1	477.6	515.6	417.4	684.3	1,070.5	993.9	1,120.0	1,126.0	1,209.0
Mean:												
mgd	24.5	33.7	18.7	15.4	17.2	13.5	22.1	36.9	32.1	37.3	36.3	40.3
cfs	37.9	52.1	28.9	23.8	26.6	20.9	34.2	57.1	49.7	57.7	56.2	62.4
Ac-ft	2,330	3,210	1,720	1,470	1,580	1,280	2,100	3,290	3,050	3,440	3,460	3,710
Calendar year 1955:	Max 57			Min 6.1		Mean(mgd) 27.3		Mean(cfs) 42.2		Ac-ft 30,570		
Fiscal year 1955-56:	Max 60			Min 6.1		Mean(mgd) 27.3		Mean(cfs) 42.2		Ac-ft 30,640		

* Discharge measurement made on this day.

Waiohukue Stream near Nahiku

Location.--Lat 20°49'05", long 156°07'40", on left bank 200 ft upstream from intake to Koolau ditch, 300 ft upstream from ditch trail, 2.2 miles southwest of Nahiku, and 3.5 miles southeast of Keanae.

Drainage area.--1.5 sq mi.

Records available.--October 1921 to June 1956.

Gage.--Water-stage recorder.

Average discharge.--34 years (1922-56), 7.62 mgd (11.8 cfs).

Extremes.--Maximum discharge during year, 440 mgd (681 cfs) Jan. 26 (gage height, 5.19 ft), from rating curve extended above 100 mgd by slope-area determinations at gage heights 4.57 and 5.60 ft; minimum, 1.92 mgd (2.97 cfs) Jan. 21-24.
1921-56: Maximum discharge, 760 mgd (1,180 cfs) Apr. 7, 1938 (gage height, 6.24 ft), from rating curve extended above 50 mgd by logarithmic plotting; minimum, 1.36 mgd (2.10 cfs) Oct. 9, 10, 1953.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Water used for irrigation in central Maui.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.5	1.61	1.4	16.5
.6	2.25	1.6	24
.7	3.05	1.8	33.5
.8	4.1	2.0	44
1.0	7.0	2.5	76
1.2	11.1	3.0	117

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.45	4.5	9.8	3.6	2.25	2.9	10	2.9	12.2	16.0	4.4	6.7
2	2.95	6.3	5.6	4.3	2.25	2.7	2.6	3.05	7.2	4.9	4.1	13.4
3	3.05	8.2	4.8	4.2	2.15	2.65	2.3	10.0	5.9	13.5	6.4	17.1
4	4.5	6.2	4.8	10.5	2.1	2.65	2.15	8.8	5.3	6.2	4.5	9.6
5	3.25	4.9	4.0	7.1	2.1	2.55	2.05	2.9	5.6	4.6	5.0	9.2
6	2.95	4.2	4.0	6.2	2.05	2.5	1.98	3.2	4.8	10.9	10.9	10.7
7	2.7	3.9	*3.9	4.1	2.05	2.5	1.98	6.9	4.5	7.0	32.5	6.5
8	2.65	4.8	3.7	3.55	1.98	2.4	2.25	4.8	4.2	7.5	18.2	7.5
9	2.9	11.5	3.45	3.45	1.98	2.3	16.4	2.7	4.1	21	11.8	7.9
10	3.1	14.5	3.35	3.25	9.0	2.3	3.85	2.65	3.8	26	14.0	12.6
11	2.8	11.7	3.25	3.35	2.5	2.3	2.5	3.45	4.2	13.5	16.2	9.8
12	4.0	7.2	3.15	3.15	2.15	2.25	35	7.5	3.55	14.9	13.7	25.5
13	16	4.9	3.25	3.05	2.05	2.15	17.9	2.95	3.6	12.1	14.9	23
14	8.0	4.5	3.45	3.05	3.55	2.1	2.9	4.8	5.7	5.4	15.7	18.7
15	7.8	6.4	6.3	2.95	2.7	2.05	2.55	6.9	3.55	7.4	6.4	9.3
16	8.0	4.8	3.8	2.95	2.5	2.05	2.3	8.5	3.45	6.0	5.6	6.0
17	5.0	9.0	3.25	2.9	3.55	2.2	2.15	17.5	3.9	5.7	5.1	6.2
18	9.0	4.9	4.5	2.8	2.95	2.5	2.1	62	5.5	4.4	8.1	6.2
19	5.0	5.5	3.25	2.7	3.85	5.0	2.05	13.3	3.9	4.2	7.0	5.9
20	6.0	8.5	3.05	2.65	6.0	50	1.98	28.5	3.45	15.1	9.1	5.6
21	4.5	4.2	2.9	2.65	15.6	15	1.98	8.0	3.15	13.0	5.0	4.9
22	3.5	4.0	2.8	2.55	8.6	3.0	1.92	10.3	6.5	10.3	4.5	5.3
23	3.1	5.8	2.7	2.7	5.3	2.6	1.92	12.9	6.2	6.3	*4.3	7.7
24	3.4	9.1	2.65	2.65	6.0	2.5	1.98	49	7.3	4.5	5.9	12.5
25	6.0	5.4	2.65	2.7	3.7	2.4	2.9	117	9.7	4.0	7.1	5.3
26	4.7	6.9	2.8	2.65	3.05	2.4	100	80	4.6	4.0	5.4	4.8
27	14.9	4.4	2.7	2.5	3.4	2.3	6.0	*41	5.0	3.7	4.2	4.5
28	15.0	3.8	3.05	2.5	3.55	2.2	2.95	15.9	4.4	3.55	4.1	4.5
29	8.6	3.7	5.1	2.4	3.05	2.4	7.8	15.8	14.8	3.35	6.2	4.2
30	5.8	4.1	3.7	2.3	3.55	4.5	2.95	-----	6.7	6.7	6.6	8.7
31	18.8	4.2	-----	2.3	-----	30	3.15	-----	4.0	-----	7.3	-----
Total	191.40	192.0	115.70	107.70	115.51	167.35	250.54	553.20	170.75	309.80	274.2	279.8
Mean	6.17	6.19	3.86	3.47	3.85	5.40	8.08	19.1	5.51	10.3	8.85	9.33
mgd	9.55	9.58	5.97	5.37	5.96	8.36	12.5	29.6	8.53	15.9	13.7	14.4
cfs	587	589	355	331	354	514	769	1,700	524	951	841	859
Ac-ft												

Calendar year 1955: Max 77 Min 1.98 Mean(mgd) 6.95 Mean(cfs) 10.8 Ac-ft 7,790
Fiscal year 1955-56: Max 117 Min 1.92 Mean(mgd) 7.45 Mean(cfs) 11.5 Ac-ft 8,370

Peak discharge (base, 300 mgd).--Jan. 26 (6:30 p.m.) 440 mgd (681 cfs), 5.19 ft; Feb. 25 (6:30 p.m.) 420 mgd (650 cfs) 5.08 ft.

* Discharge measurement made on this day.

Note.--No gage-height record July 10-25, Dec. 17 to Jan. 3; discharge estimated on basis of records for nearby streams.

West Kopliiula Stream near Keanae

Location.--Lat 20°49'10", long 156°08'15", on left bank 600 ft upstream from Koolau ditch crossing and highway bridge and 3 miles southeast of Keanae Post Office.

Drainage area.--3.9 sq mi.

Records available.--January 1914 to September 1917, October 1921 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 1,292.30 ft above mean sea level, datum of 1929. Prior to Dec. 9, 1935, at several sites within 200 ft of present site at various datums.

Average discharge.--34 years (1915-17, 1922-34, 1936-56), 17.8 mgd (27.5 cfs).

Extremes.--Maximum discharge during year, 1,760 mgd (2,720 cfs) Feb. 25 (gage height, 6.28 ft), from rating curve extended above 75 mgd as explained below; minimum, 1.06 mgd (1.64 cfs) Dec. 16, 17.
1914-17, 1921-56: Maximum discharge, 5,050 mgd (7,810 cfs) Jan. 26, 1948 (gage height, about 9.5 ft), from rating curve extended above 75 mgd by logarithmic plotting; minimum, 0.6 mgd (0.9 cfs) Sept. 15-17, 1917.

Remarks.--Records good except those above 50 mgd and those for periods of no gage-height record, which are poor. Water used for irrigation in central Maui.

Revisions (fiscal years).--WSP 755: 1931-32.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

-0.1	0.60	1.3	36
0.0	1.20	1.7	66
.1	2.1	2.1	109
.3	4.8	2.5	165
.6	10.9	3.0	260
.9	19.2	4.0	550

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.65	8.9	13.8	5.5	1.54	2.3	40	4.0	15.2	28.5	7.6	11.5
2	2.2	9.0	11.9	8.1	1.45	2.0	6.0	3.8	10.2	11.5	8.2	25
3	2.3	12.4	8.1	8.5	1.45	1.90	3.25	30	7.7	27.5	11.2	33.5
4	5.0	8.8	6.3	19.1	1.36	1.72	2.4	37	6.5	13.1	7.3	19.6
5	2.4	7.1	5.0	15.5	1.36	1.63	2.3	6.8	6.3	7.3	9.8	15.6
6	2.3	5.2	4.6	14.1	1.28	1.54	1.90	5.5	5.4	18.8	14.4	15.4
7	1.90	4.4	4.2	8.6	1.28	1.45	1.81	4.8	4.8	12.6	40	10.4
8	1.81	7.5	3.6	5.4	1.28	1.45	2.2	4.1	5.4	14.6	31.5	9.4
9	2.1	25	3.15	4.4	1.28	1.36	28.5	3.0	5.2	55	19.0	10.6
10	2.4	31	2.9	3.6	26	1.36	7.6	2.9	4.0	70	17.8	19.7
11	1.90	20.5	2.75	3.45	3.75	1.63	3.6	6.0	4.6	28.5	34.5	15.6
12	5.2	13.9	2.65	4.2	1.90	1.54	202	15	4.4	25	22.5	60
13	30.5	8.6	4.0	3.6	1.45	1.36	105	4.0	3.8	28.5	21.5	59
14	9.9	6.1	5.75	2.9	2.9	1.20	11.1	5.0	9.1	11.4	28.0	43
15	11.0	8.9	9.2	2.55	2.55	1.20	5.6	10	4.2	14.9	11.4	18.7
16	11.2	6.7	5.4	2.3	2.65	1.13	3.9	18	3.6	9.1	8.1	10.9
17	7.3	18.6	3.6	2.3	8.1	1.57	3.3	50	5.9	7.9	6.5	8.9
18	12.6	8.6	6.2	*2.1	5.1	1.72	2.4	300	4.8	5.8	9.6	7.7
19	7.5	6.8	4.2	2.2	6.6	13.1	2.1	50	4.0	5.4	12.3	7.1
20	8.8	8.4	3.15	2.1	18.9	382	1.90	120	3.45	24.5	13.2	6.3
21	4.0	4.5	2.65	2.1	27.5	93	1.63	17	3.15	19.0	7.3	5.6
22	3.05	4.4	2.55	2.0	18.0	11.0	1.54	25	9.1	19.7	5.9	6.1
23	2.55	11.0	2.3	2.3	9.3	5.0	1.4	31	9.8	12.6	5.2	9.7
24	3.15	18.7	2.3	2.1	9.8	3.6	1.5	150	12.6	*7.9	6.0	18.5
25	*7.5	10.3	2.2	2.3	5.0	2.65	3.5	550	12.9	6.3	7.3	7.1
26	6.7	16.4	2.4	2.0	3.6	2.4	350	320	5.4	5.8	5.8	5.4
27	27.5	10.0	2.65	1.81	3.6	2.55	25	100	4.5	5.2	4.2	4.5
28	28	6.5	3.85	1.72	3.05	2.2	4.0	51	4.5	5.2	4.2	4.4
29	19.4	5.2	11.9	1.63	2.4	2.1	11.4	19.9	17.5	4.2	6.4	3.9
30	11.1	5.6	6.2	1.54	2.75	2.4	3.5	-----	11.7	8.0	10.4	13.8
31	39	6.8	-----	1.54	-----	70	5.0	-----	5.8	-----	12.1	-----
Total	282.91	323.8	149.45	141.54	177.18	620.06	842.93	1,923.8	215.50	615.3	411.2	486.7
Mean:	9.13	10.4	4.98	4.57	5.91	20.0	27.2	66.3	6.95	20.5	13.3	16.2
mgd	14.1	16.1	7.71	7.07	9.14	30.9	42.1	103	10.8	31.7	20.6	25.1
cfs	868	994	459	434	544	1,900	2,590	5,900	661	1,890	1,260	1,490
Ac-ft												

Calendar year 1955. Max 382 Min 1.13 Mean(mgd) 14.2 Mean(cfs) 22.0 Ac-ft 15,940
Fiscal year 1955-56: Max 550 Min 1.13 Mean(mgd) 16.9 Mean(cfs) 26.1 Ac-ft 18,990

Peak discharge (base, 1,000 mgd)--Dec. 20 (3:30 a.m.) 1,180 mgd (1,830 cfs), 5.37 ft; Dec. 31 (10 p.m.) 1,120 mgd (1,730 cfs), 5.32 ft; Feb. 25 (time unknown) 1,760 mgd (2,720 cfs), 6.28 ft.

* Discharge measurement made on this day.

Note.--No gage-height record Jan. 1-3, Jan. 23 to Feb. 27; discharge estimated on basis of records for East Wailuaiki and Hanawi Streams and recorded range in stage.

East Wailuaiki Stream near Keanae

Location.--Lat 20°49'05", long 156°08'25", on left bank 1,000 ft upstream from Koolau ditch crossing and trail and 3 miles southeast of Keanae Post Office.

Drainage area.--3.7 sq mi.

Records available.--December 1913 to October 1917, July 1922 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 1,329 ft above mean sea level (by vertical angles). Dec. 21, 1913, to Oct. 23, 1917, at site 50 ft downstream.

Average discharge.--36 years (1915-17, 1922-56), 19.8 mgd (30.6 cfs).

Extremes.--Maximum discharge during year, 2,080 mgd (3,220 cfs) Feb. 25 (gage height, 8.20 ft), from rating curve extended above 310 mgd as explained below; minimum, 1.42 mgd (2.20 cfs) Nov. 9, Dec. 16.

1913-17, 1922-56: Maximum discharge, 3,060 mgd (4,730 cfs) Apr. 6, 1938 (gage height, 9.26 ft), from rating curve extended above 310 mgd by logarithmic plotting; minimum, 0.85 mgd (1.32 cfs) Oct. 10, 1953.

Remarks.--Records good except those for period of no gage-height record, which are fair. Water used for irrigation in central Maui.

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Feb. 25				Feb. 26 to June 30			
0.4	1.37	3.0	88	0.5	1.46	1.2	7.3
.6	2.5	3.5	138	.6	1.94	1.5	12.5
.9	4.9	4.0	213	.7	2.5	2.0	27
1.2	9.1	4.5	310	.8	3.2	2.5	51
1.5	15.1	5.0	425	1.0	4.9		
2.0	29.5	5.5	570				
2.5	52						

Note.--Same as preceding table above 2.5 ft.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	4.4	10.8	22.5	6.1	1.90	2.7	27	5.0	18.8	45	8.0	15.7
2	3.7	12.1	15.1	9.1	1.90	2.5	4.2	4.7	11.5	205	9.6	44
3	3.8	20	9.5	9.0	1.79	2.3	3.0	34	8.5	43	13.4	60
4	9.5	12.9	8.0	31	1.74	2.2	2.5	48	7.0	15.4	7.5	29
5	4.1	9.3	6.1	20.5	1.64	2.1	2.2	9.4	6.9	7.6	11.4	22
6	3.7	7.1	5.9	16.6	1.64	2.0	1.96	8.0	5.7	32	20	23
7	3.3	6.0	*5.6	8.5	1.64	1.96	1.90	7.3	5.6	15.4	86	12.5
8	3.05	11.6	4.7	5.7	1.58	1.9	2.75	6.2	5.8	20.5	60	11.9
9	3.45	40	4.4	5.0	1.53	1.85	a60	3.6	5.4	81	27	14.3
10	3.9	61	4.0	4.3	43	1.85	a7.0	3.0	4.5	116	28	33.5
11	3.35	33.5	4.0	4.2	4.5	2.2	a4.0	6.0	5.4	50	53	23
12	11.4	22	3.85	4.0	2.25	2.15	a240	22	4.5	45	41	102
13	60	11.4	6.0	3.9	1.85	1.79	a110	4.9	4.3	40	38	98
14	12.8	7.8	5.8	3.35	3.4	1.64	a10	7.7	11.4	11.5	45	71
15	14.6	12.8	13.8	3.2	3.3	1.53	a6.0	15.0	4.4	21.5	11.3	25.5
16	14.3	9.2	5.9	3.15	3.05	1.48	a4.5	15.2	4.0	9.8	8.4	11.3
17	9.0	26	4.2	3.0	10.0	2.5	*3.3	63	6.6	8.9	7.3	9.8
18	20	10.0	9.4	2.85	5.6	2.4	2.85	352	5.4	6.4	13.1	8.5
19	10.4	8.2	4.7	2.85	12.6	12.1	2.65	80	4.2	6.0	16.3	7.9
20	12.3	11.7	4.0	2.7	22.5	284	2.45	154	3.85	45	19.5	7.4
21	5.5	6.1	3.6	2.55	47	84	2.3	26.5	3.45	31.5	8.1	5.1
22	4.5	5.7	3.3	2.65	23	11.8	2.2	31	15.5	28.5	6.3	7.0
23	4.0	14.9	3.15	2.9	9.6	4.6	2.0	35.5	11.8	13.4	*5.7	14.2
24	5.1	30.5	2.9	2.55	13.5	3.35	2.1	141	19.1	7.8	7.9	34.5
25	12.9	12.4	2.85	3.0	5.4	2.7	4.8	640	18.7	6.1	9.7	7.8
26	10.2	21.5	3.35	2.55	3.85	2.4	167	404	5.7	5.8	7.1	6.3
27	52	10.9	3.85	2.25	3.95	2.3	13.6	153	5.0	5.3	5.2	5.7
28	51	7.1	5.9	2.15	3.8	2.0	4.8	55	5.5	4.7	5.0	5.4
29	31.5	6.1	17.5	2.0	3.15	2.0	17.3	31.5	30.5	4.4	10.0	5.1
30	14.0	7.1	1.96	3.5	3.5	3.55	4.5	-----	12.9	10.6	12.2	24.5
31	71	9.0	-----	1.90	-----	46	6.6	-----	5.2	-----	14.9	-----
Total	472.75	474.7	200.95	175.46	244.16	497.85	725.46	2,366.5	267.10	945.1	617.9	745.9
Mean:	15.2	15.3	6.70	5.66	8.14	16.1	23.4	81.6	8.62	31.5	19.9	24.9
mgd	23.5	23.7	10.4	8.76	12.6	24.9	36.2	126	13.3	48.7	30.8	36.5
cfs	1,450	1,460	617	538	749	1,530	2,250	7,260	820	2,900	1,900	2,290
Ac-ft												
Calendar year 1955.	Max 354			Min 1.48		Mean(mgd) 19.3		Mean(cfs) 29.9		Ac-ft 21,590		
Fiscal year 1955-56:	Max 640			Min 1.48		Mean(mgd) 21.1		Mean(cfs) 32.6		Ac-ft 23,700		

Peak discharge (base, 600 mgd).--Dec. 20 (2 a.m.) 1,080 mgd (1,670 cfs), 6.66 ft; Dec. 31 (10 p.m.) 800 mgd (1,240 cfs), 6.10 ft; Jan. 26 (7 p.m.) 1,030 mgd (1,590 cfs), 6.60 ft; Feb. 18 (2:30 p.m.) 930 mgd (1,440 cfs), 6.40 ft; Feb. 25 (8 p.m.) 2,080 mgd (3,220 cfs), 8.20 ft; Apr. 2 (2 a.m.) 640 mgd (990 cfs), 5.67 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for West Wailuaiki Stream.

West Wailuaiki Stream near Keanae

Location.--Lat 20°49'20", long 156°08'35", on left bank 500 ft upstream from Koolau ditch crossing and trail bridge and 2.8 miles south of Keanae Post Office.

Drainage area.--3.6 sq mi.

Records available.--January 1914 to October 1917, November 1921 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 1,343.6 ft above mean sea level (by vertical angles).

Average discharge.--34 years (1922-56), 24.1 mgd (37.3 cfs).

Extremes.--Maximum discharge during year, 2,340 mgd (3,620 cfs) Feb. 25 (gage height, 9.88 ft), from rating curve extended above 420 mgd as explained below; minimum, 1.31 mgd (2.03 cfs) Nov. 9.

1914-17, 1921-56: Maximum discharge, 4,500 mgd (6,960 cfs) Jan. 14, 1923 (gage height, about 13.5 ft, from floodmarks); from rating curve extended above 420 mgd by logarithmic plotting; minimum, 0.3 mgd (0.5 cfs) July 26, 1922.

Remarks.--Records good. Water used for irrigation in central Maui.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.4	1.20	2.6	81
.6	2.4	3.0	121
.8	4.0	3.5	185
1.0	6.3	4.0	270
1.2	9.5	5.0	510
1.4	14.2	6.0	855
1.8	29.5	7.0	1,190
2.2	51		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.95	11.6	19.3	6.0	1.80	2.9	22.5	6.0	19.6	46	9.2	16.8
2	3.3	11.5	13.6	8.7	1.87	2.6	4.2	5.7	12.9	218	10.9	48
3	3.55	18.7	9.0	8.5	1.80	2.3	3.3	47	9.9	56	14.5	72
4	7.9	11.9	7.5	31	1.69	2.25	2.85	61	8.3	19.8	9.2	35.5
5	3.65	8.8	6.2	20.5	1.58	2.1	2.6	9.7	7.8	9.9	12.5	24
6	3.85	7.2	5.8	17.5	1.52	2.05	2.3	8.5	6.9	31.5	20	23.5
7	3.0	6.2	5.4	9.4	1.47	2.05	2.25	7.4	6.3	19.8	89	13.1
8	2.75	10.1	4.7	6.9	1.42	2.2	3.15	6.7	6.3	24.5	71	11.5
9	2.9	43	4.3	5.9	1.42	2.05	49	4.7	6.0	98	36.5	14.7
10	3.6	65	4.1	5.0	54	2.0	9.8	4.4	5.3	135	29.5	36
11	2.9	37	3.85	5.3	5.3	2.9	5.0	7.2	5.9	59	57	26.5
12	8.3	21	3.65	6.0	2.75	2.7	225	21	5.2	52	46	116
13	68	10.5	5.8	5.5	2.2	2.0	112	5.8	5.0	54	42	114
14	14.3	8.1	5.6	4.7	3.0	1.74	11.6	7.1	11.3	15.2	51	82
15	14.1	10.8	11.5	4.0	3.2	1.69	6.6	13.4	5.2	24.5	13.9	31.5
16	13.8	8.3	5.8	3.65	3.3	1.58	5.2	13.1	4.7	12.2	10.1	13.9
17	8.8	29.5	4.3	3.3	8.1	2.4	4.4	62	6.9	10.5	8.5	11.3
18	17.3	9.7	7.9	3.05	4.9	2.75	3.75	485	5.9	8.1	14.6	9.5
19	10.1	8.1	5.3	3.0	11.9	9.4	*3.4	100	5.0	7.4	17.3	8.8
20	10.6	9.5	4.4	*2.85	25	385	3.15	198	4.5	47	19.7	8.1
21	5.7	6.2	3.85	2.7	45	96	2.9	27.5	4.2	34.5	*9.6	7.0
22	4.7	5.7	3.6	2.7	22.5	12	2.85	38	15.4	32.5	7.8	7.5
23	4.2	14.5	3.3	3.0	9.7	5.7	2.7	32	12.6	16.5	6.9	13.1
24	5.3	30	3.15	2.7	12.4	4.4	2.6	144	19.6	9.3	8.3	31
25	11.3	13.0	2.9	2.9	5.9	3.65	4.9	866	19.0	7.6	9.6	8.6
26	10.0	20	3.5	2.6	4.6	3.3	115	585	7.0	7.4	7.6	7.2
27	58	11.2	4.0	2.25	4.4	3.25	11.2	156	6.0	6.8	5.9	6.3
28	57	7.5	5.7	2.25	4.0	2.75	5.6	68	5.9	5.9	5.7	5.9
29	35	6.3	16.1	2.05	3.25	2.55	14.7	36	28.5	5.6	11.3	5.7
30	14.2	6.8	7.0	2.0	3.4	3.35	5.2	-----	15.0	11.2	13.3	23
31	86	8.6	-----	1.87	-----	14.4	6.9	-----	6.8	-----	14.3	-----
Total	497.85	476.3	191.10	187.77	253.37	586.01	656.60	3,026.2	288.8	1,085.7	682.7	832.0
Mean	16.1	15.4	6.37	6.06	8.45	18.9	21.2	104	9.32	36.2	22.0	27.7
mgd	24.9	23.8	9.86	9.38	13.1	29.2	32.8	161	14.4	56.0	34.0	42.9
cfs	1,530	1,460	586	576	778	1,800	2,020	9,290	886	3,330	2,100	2,550
Ac-ft												

Calendar year 1955. Max	435	Min	1.42	Mean(mgd)	21.4	Mean(cfs)	33.1	Ac-ft	23,950
Fiscal year 1955-56: Max	866	Min	1.42	Mean(mgd)	23.9	Mean(cfs)	37.0	Ac-ft	26,910

Peak discharge (base, 1,200 mgd).--Dec. 20 (2:30 a.m.) 1,500 mgd (2,320 cfs), 7.78 ft; Feb. 18 (2:30 p.m.) 1,340 mgd (2,070 cfs), 7.37 ft; Feb. 25 (8:30 p.m.) 2,340 mgd (3,620 cfs), 9.88 ft.

* Discharge measurement made on this day.

West Wailuanui Stream near Keanae

Location.--Lat 20°49'40", long 156°08'55", on left bank 150 ft upstream from Koolau ditch crossing and intake and 2.2 miles south of Keanae Post Office.

Drainage area.--0.7 sq mi.

Records available.--December 1913 to May 1917, July 1922 to June 1956.

Gage.--Water-stage recorder and Columbus-type control. Altitude of gage is 1,268 ft (from topographic map). Dec. 19, 1913, to May 22, 1917, water-stage recorder at site 100 ft downstream at different datum.

Average discharge.--34 years (1922-56), 9.00 mgd (13.9 cfs).

Extremes.--Maximum discharge during year, 830 mgd (1,280 cfs) Feb. 25 (gage height, 5.76 ft), from rating curve extended above 130 mgd; minimum, 0.61 mgd (0.94 cfs) Nov. 7-9.

1913-17, 1922-56: Maximum discharge, 1,730 mgd (2,680 cfs) Jan. 25, 1948 (gage height, 7.32 ft), from rating curve extended above 130 mgd; minimum, 0.2 mgd (0.3 cfs) July 16-21, 1922.

Remarks.--Records good except those for period of no gage-height record, which are fair. Water used for irrigation of sugarcane in central Maui.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.7	0.61	1.8	22.5
.8	.91	2.0	35.5
.9	1.28	2.3	60
1.0	1.77	2.6	95
1.1	2.6	3.0	151
1.2	3.9	3.5	245
1.4	7.7	4.0	355
1.6	13.5		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.72	6.1	12.6	2.1	0.78	1.32	3.95	1.96	7.1	19.4	3.6	6.6
2	1.52	7.4	5.9	3.6	.78	1.20	1.32	1.96	5.7	78	4.1	14.2
3	1.61	9.9	3.9	3.55	.75	1.16	1.16	25	4.4	*24	6.2	22.5
4	4.7	6.8	3.35	12.4	.72	1.08	1.04	31	3.6	9.4	3.2	13.2
5	2.6	4.4	2.5	6.9	.69	1.04	1.00	5.3	3.35	4.4	4.5	11.1
6	1.96	3.5	2.3	6.7	.66	1.00	.94	5.3	2.7	15.1	11.5	13.1
7	1.42	2.85	2.2	3.35	.63	.97	.94	6.3	2.4	7.2	42	6.7
8	1.28	5.0	1.83	2.4	.61	.94	1.49	4.3	2.2	6.3	24.5	6.3
9	1.42	12.9	*1.70	2.1	.66	.91	17.5	2.5	2.1	26	15.4	7.5
10	1.77	19.0	1.57	1.83	20.5	.91	3.65	1.83	1.77	46	15.6	13.0
11	1.37	14.3	1.47	1.89	1.84	1.04	1.67	2.2	1.96	22.5	18.3	8.4
12	4.3	10.0	1.42	1.89	1.08	.97	90	12.5	1.67	19.3	18.0	35.5
13	20	4.9	2.05	1.89	.91	.84	57	2.4	1.83	15.6	16.4	38
14	5.1	3.6	2.05	1.62	1.39	.78	6.9	4.4	4.7	6.7	17.8	21
15	6.5	6.1	6.0	1.47	1.47	.75	2.85	6.9	1.77	9.3	6.3	13.3
16	5.3	4.1	2.2	1.42	1.24	.72	1.89	8.2	1.57	6.2	4.7	6.7
17	3.9	8.6	1.67	1.32	3.75	1.19	1.62	22	2.1	5.2	3.6	5.7
18	8.3	4.2	4.0	1.24	1.77	1.00	1.42	189	2.8	3.5	8.5	4.7
19	4.5	4.1	1.83	1.20	5.8	15.6	*1.28	52	1.96	2.95	8.5	4.2
20	4.5	5.9	1.62	1.16	4.7	149	1.20	95	1.57	17.3	9.6	3.75
21	2.3	2.7	1.42	1.08	16.8	48	1.12	15.1	1.42	16.3	4.1	a2.5
22	1.89	2.4	1.32	1.12	8.2	7.1	1.08	13.8	5.3	11.7	3.2	a3.6
23	1.72	4.7	1.28	1.20	4.7	2.1	1.04	14.8	5.0	6.7	2.85	a6.6
24	2.5	8.3	1.20	1.12	7.1	1.62	1.04	61	7.2	3.9	4.6	a14
25	7.5	5.6	1.16	1.12	2.5	1.32	1.62	300	10.1	3.1	6.1	a4.5
26	5.4	6.6	1.28	1.00	1.83	1.20	51	185	2.95	2.7	3.9	a3.4
27	16.7	4.1	1.42	.94	1.83	1.12	4.1	66	2.6	2.5	2.5	a2.8
28	17.9	2.95	1.89	.91	1.77	3.00	2.5	28.5	2.4	2.1	2.5	a2.5
29	9.6	2.6	4.4	.84	1.47	1.00	10.0	15.3	15.4	1.96	6.1	a2.3
30	8.7	2.95	2.3	.81	1.67	1.40	2.05	-----	5.3	5.4	6.6	a11
31	32	5.6	-----	.81	-----	6.8	2.85	-----	2.5	-----	6.6	-----
Total	187.78	190.15	79.83	70.98	98.60	255.08	277.22	1,177.55	117.42	400.71	291.35	308.65
Mean												
mgd	6.06	6.13	2.66	2.29	3.29	8.23	8.94	40.6	3.79	13.4	9.40	10.3
cfs	9.58	9.48	4.12	3.54	5.09	12.7	13.8	62.8	5.86	20.7	14.5	15.9
Ac-ft	576	584	245	218	303	783	851	3,610	560	1,230	894	947

Calendar year 1955: Max 154 Min 0.61 Mean(mgd) 8.48 Mean(cfs) 13.1 Ac-ft 9,490
Fiscal year 1955-56: Max 300 Min 0.61 Mean(mgd) 9.44 Mean(cfs) 14.6 Ac-ft 10,600

Peak discharge (base, 300 mgd).--Dec. 20 (3 a.m.) 580 mgd (897 cfs), 4.92 ft; Feb. 18 (2:30 p.m.) 405 mgd (627 cfs), 4.24 ft; Feb. 25 (8 p.m.) 850 mgd (1,280 cfs), 5.76 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby streams.

East Wailuanui Stream near Keanae

Location.--Lat 20°49'25", long 156°08'40", on left bank 125 ft upstream from Koolau ditch intake, 250 ft upstream from trail, and 2.5 miles south of Keanae.

Drainage area.--0.6 sq mi.

Records available.--January 1914 to October 1917, November 1921 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 1,287 ft above mean sea level (by vertical angles). Jan. 1, 1914, to Oct. 23, 1917, at site 500 ft upstream at different datum.

Average discharge.--34 years (1922-56), 5.58 mgd (8.63 cfs).

Extremes.--Maximum discharge during year, 390 mgd (603 cfs) Feb. 25 (gage height, 3.98 ft), from rating curve extended above 100 mgd; minimum, 0.45 mgd (0.70 cfs) Nov. 9, 1914-17, 1921-56: Maximum discharge, 1,050 mgd (1,620 cfs) Feb. 12, 1925 (gage height, 6.96 ft), from rating curve extended above 100 mgd; minimum, 0.1 mgd (0.2 cfs) Apr. 11, 1926.

Remarks.--Records good except those for period of no gage-height record, which are fair. Water used for irrigation in central Maui.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.3	0.33	1.1	22
.4	.89	1.5	45
.5	2.05	2.0	86
.6	3.8	2.5	140
.8	9.1	3.0	210

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.05	3.45	12.3	1.92	0.61	1.27	4.3	1.9	5.5	13.7	2.85	5.9
2	1.77	5.6	5.0	3.0	.61	1.17	1.27	1.9	*4.0	52	3.45	12.8
3	1.70	9.6	3.4	3.15	.61	1.07	1.07	18	3.25	12.3	5.2	14.9
4	4.8	5.9	3.25	11.9	.55	.97	.97	24	2.7	4.1	2.55	9.8
5	1.77	3.9	2.35	5.3	.55	.89	.89	5.0	2.55	2.7	3.75	10.2
6	1.51	2.85	2.2	5.2	.55	.89	.81	4.8	2.2	12.7	11.6	13.1
7	1.39	2.55	2.05	2.55	.49	.89	.81	5.5	2.05	4.6	3.9	5.8
8	1.27	4.8	1.77	1.91	.49	.81	1.18	3.5	1.91	4.1	20.5	5.8
9	1.51	9.3	1.63	1.77	.49	.81	16.7	2.3	1.77	7.8	12.2	7.2
10	1.77	15.2	1.51	1.51	6.9	.73	3.4	1.7	1.63	21.5	14.6	12.2
11	1.39	12.5	1.39	1.51	.89	.89	1.63	2.0	1.63	11.4	13.2	8.7
12	3.65	8.9	1.27	1.39	.67	.81	14.6	10	1.39	15.6	16.8	17.3
13	15.6	3.9	2.05	1.27	.61	.73	7.6	2.2	1.53	5.5	15.4	16.1
14	3.4	3.05	1.91	1.17	1.22	.67	1.91	3.8	3.7	3.4	14.2	13.9
15	6.1	5.5	5.4	1.07	1.27	.67	1.51	5.0	1.63	7.3	4.2	6.6
16	4.6	3.6	2.05	.97	1.07	.61	1.27	6.0	1.39	4.4	3.25	4.0
17	3.55	6.8	1.51	.89	3.6	1.13	1.17	18	1.93	4.0	2.85	3.8
18	8.9	3.25	3.45	.89	1.93	.99	1.07	100	2.4	2.55	7.5	3.4
19	4.1	3.5	1.63	.81	6.0	1.58	.97	36	1.63	2.2	7.2	3.25
20	4.6	5.6	1.27	*.81	3.75	14.7	.97	70	1.39	14.2	9.9	3.25
21	2.35	2.7	1.17	.89	17.9	5.5	.89	11	1.27	13.0	3.6	2.7
22	2.05	2.35	1.07	.89	8.4	1.63	.89	10	4.8	7.5	2.7	3.05
23	1.77	4.0	1.07	1.07	4.3	1.17	.81	11	4.3	4.1	2.35	6.6
24	2.1	6.5	.97	.89	7.4	1.07	.97	40	6.7	2.7	4.2	13.8
25	7.3	5.1	.89	.89	2.55	.89	1.39	150	10.3	2.2	5.2	3.4
26	4.8	5.2	1.07	.81	1.91	.89	60	100	2.85	2.05	3.25	2.85
27	14.9	3.05	1.17	.73	1.77	.81	4.2	44	2.35	1.91	2.55	2.55
28	14.3	2.35	1.81	.73	1.77	.73	3.65	20	2.35	1.63	2.45	2.35
29	6.8	2.25	3.65	.67	1.51	.73	9.1	10	15.6	1.51	5.3	2.2
30	5.4	2.55	1.91	.67	1.63	1.59	2.0	-----	5.1	5.5	7.1	11.6
31	16.3	3.15	-----	.67	-----	6.9	2.7	-----	2.35	-----	5.8	-----
Total	155.50	158.95	72.17	57.90	82.00	54.19	150.70	717.6	104.35	247.95	254.70	229.10
Mean	5.02	5.13	2.41	1.87	2.73	1.75	4.86	24.7	3.37	8.26	8.22	7.64
mgd	7.77	7.94	3.73	2.89	4.22	2.71	7.52	36.2	5.21	12.8	12.7	11.6
cfs	477	486	221	178	252	166	462	2,200	320	761	782	703
Ac-ft												
Calendar year 1955: Max	63	Min	0.49	Mean(mgd)	4.82	Mean(cfs)	7.46	Ac-ft	5,400			
Fiscal year 1955-56: Max	150	Min	0.49	Mean(mgd)	6.24	Mean(cfs)	9.65	Ac-ft	7,010			

Peak discharge (base, 300 mgd).--Jan. 26 (6 p.m.) 350 mgd (542 cfs), 3.75 ft; Feb. 25 (time unknown) 390 mgd (603 cfs), 3.98 ft.

* Discharge measurement made on this day.

Note.--No gage-height record Jan. 30 to Mar. 2; discharge estimated on basis of records for West Wailuanui, East and West Wailuaiki Streams.

Taro patch feeder ditch at Keanae

Location.--Lat 20°51'40", long 156°09'00", on left bank 25 ft downstream from intake, 500 ft downstream from highway bridge over Palauhulu Stream at Keanae, 4.2 miles northwest of Nahiku, and 4.8 miles southeast of Kailua.

Records available.--September 1934 to June 1956.

Gage.--Water-stage recorder and Parshall flume.

Average discharge.--21 years (1935-56), 2.26 mgd (3.50 cfs).

Extremes.--1934-56: Maximum daily discharge, 7.9 mgd (12.2 cfs) June 30, 1941, Feb. 10, 1955; minimum daily, 0.05 mgd (0.08 cfs) Mar. 5, 1939.

Remarks.--Records excellent except those for period of no gage-height record, which are good. Ditch diverts water from Palauhulu Stream, 80 ft above station, for irrigation of taro lands at Keanae.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.85	2.1	2.55	1.80	1.85	1.90	2.25	2.35	1.71	2.65	2.15	*2.35
2	1.90	2.3	2.3	1.80	1.85	1.90	2.05	3.05	1.66	5.2	2.1	2.65
3	1.85	2.5	2.05	1.80	1.85	1.90	1.99	3.0	1.61	2.6	2.3	3.0
4	2.05	2.15	1.99	2.55	1.85	1.90	1.99	3.1	1.57	2.25	2.15	2.65
5	1.85	2.1	1.95	2.3	1.90	1.85	1.99	2.45	1.61	2.1	2.2	2.6
6	1.80	1.90	1.85	2.2	1.90	1.85	1.99	2.55	1.90	2.5	2.5	2.6
7	1.75	1.99	1.80	a2.0	1.90	1.85	1.99	2.7	1.85	2.55	3.7	2.35
8	1.71	2.2	1.80	a1.9	1.90	1.85	1.99	3.55	1.80	2.2	5.15	2.3
9	1.71	2.9	1.80	a1.9	1.90	1.85	3.35	2.6	1.75	2.6	2.8	2.3
10	1.71	3.3	1.80	a1.8	2.7	1.85	2.3	2.45	1.66	3.6	2.6	2.7
11	1.66	2.7	1.75	a1.8	1.90	1.85	2.05	2.4	1.66	2.9	2.95	2.5
12	1.90	2.3	1.75	a1.7	1.95	1.80	4.1	3.15	1.61	2.9	3.0	3.25
13	3.25	1.90	1.75	1.71	1.95	1.80	3.75	2.6	1.57	2.65	2.9	3.4
14	2.05	1.85	1.75	1.71	1.95	1.80	2.3	2.7	1.66	2.25	2.95	2.95
15	2.1	1.85	1.85	1.71	1.95	1.80	2.05	3.05	1.57	2.55	2.4	2.55
16	2.1	1.80	1.75	1.71	1.95	1.80	1.99	3.05	1.52	2.3	2.35	2.3
17	1.90	2.25	1.66	1.71	1.95	1.80	1.99	3.9	2.3	2.35	2.3	2.3
18	2.3	1.90	1.80	1.75	1.95	1.80	1.95	7.8	2.5	2.2	2.4	2.3
19	1.99	1.90	1.71	1.90	2.15	1.75	1.95	3.75	2.5	2.15	2.55	2.25
20	1.95	2.05	1.61	1.90	2.4	3.5	1.99	5.2	2.45	2.7	2.55	2.15
21	1.80	1.85	*1.57	1.90	2.9	2.55	1.99	3.0	2.4	2.75	2.3	2.1
22	1.75	1.80	1.57	1.90	2.6	1.90	2.05	3.4	2.65	2.4	2.15	2.1
23	1.71	1.85	1.52	1.90	2.1	1.80	1.99	3.15	2.55	2.3	2.15	2.25
24	1.66	2.3	1.61	1.85	2.15	1.85	2.05	6.4	2.65	2.2	2.15	2.65
25	1.99	1.85	1.80	1.90	1.95	1.80	2.3	6.8	2.75	2.15	2.25	2.15
26	1.90	2.05	1.80	1.90	1.90	1.85	4.6	3.15	2.35	2.15	2.15	2.1
27	3.0	1.90	1.80	1.85	1.90	1.90	3.05	*3.1	2.3	2.1	2.1	2.1
28	3.05	2.1	1.80	1.85	1.90	1.90	2.55	2.3	2.3	2.1	2.05	2.05
29	2.45	2.1	1.99	1.85	1.90	1.95	3.0	1.90	2.8	2.05	2.2	1.99
30	1.99	2.1	1.80	1.85	1.95	1.99	2.45	-----	2.55	2.15	2.3	2.5
31	3.3	2.1	-----	1.85	-----	2.8	2.45	-----	2.3	-----	2.35	-----
Total	64.08	65.94	54.53	58.25	60.95	60.69	74.49	98.60	64.06	75.75	76.15	73.44
Mean:	2.07	2.13	1.82	1.86	1.96	1.96	2.40	3.40	2.07	2.52	2.46	2.45
mgd	3.20	3.30	2.82	2.91	3.14	3.03	3.71	5.26	3.20	3.90	3.81	3.79
cfs	197	202	167	179	187	186	229	303	197	232	234	225
Ac-ft												
Calendar year 1955: Max	7.9				Min 1.39	Mean(mgd)	2.41	Mean(cfs)	3.73	Ac-ft	2,700	
Fiscal year 1955-56: Max	7.8				Min 1.52	Mean(mgd)	2.26	Mean(cfs)	3.50	Ac-ft	2,540	

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby stations and recorded range in stage.

Koolau ditch near Keanae

Location--Lat 20°49'55", long 156°10'30", on right bank on west side of Keanae Valley, 2.8 miles southwest of Keanae Post Office and 5.1 miles southeast of Kailua.

Records available--January 1910 to December 1912, November 1917 to June 1956. Gage-height records collected in this vicinity since 1904 are contained in files of East Maui Irrigation Co.

Gage--Water-stage recorder. Jan. 1, 1910, to Dec. 31, 1912, staff gage at same site and datum.

Average discharge--38 years (1918-56), 67.0 mgd (104 cfs).

Extremes--1910-12, 1917-56: Maximum daily discharge, 172 mgd (266 cfs) Apr. 19, 1935; no flow at times.

Remarks--Records good. Flow regulated by gates and spillways. Ditch diverts water at altitude 1,200 ft from nearly all streams from the Makapipi west to the Alo for power and irrigation in central Maui. No diversion above station except from several spillways.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	47	110	132	52	20	35	108	53	136	85	85	114
2	39	115	125	83	20	31	47	56	123	125	85	132
3	36	127	92	80	20	29.5	37	123	98	127	110	131
4	74	105	83	138	18.7	28	31	136	83	128	83	137
5	45	103	63	134	18.7	26	28	77	91	92	95	142
6	39	79	63	126	18.7	24.5	26	60	75	100	133	136
7	33	63	58	82	18.2	24.5	24.5	72	71	126	125	133
8	31	87	49	58	17.4	23	28.5	85	72	109	127	127
9	33	*137	45	51	17.4	23	*127	48	69	131	131	131
10	41	133	41	45	108	21.5	89	43	58	127	134	135
11	33	132	39	47	37	26	43	68	67	127	134	136
12	69	132	37	47	24.5	23	97	87	56	127	129	125
13	142	108	52	41	20	21.5	119	56	54	132	131	127
14	110	83	49	37	39	20	60	74	103	122	131	127
15	117	109	102	35	33	18.7	53	124	56	134	130	137
16	112	90	58	33	31	18.7	43	129	49	115	109	126
17	86	135	43	31	73	23	37	105	69	105	91	112
18	118	98	81	29.5	51	24.5	33	125	65	75	104	104
19	96	98	47	29.5	64	23	31	122	59	67	128	95
20	100	113	41	28	121	137	28	128	49	91	138	91
21	58	67	*36	26	138	117	26	127	45	132	100	75
22	47	63	33	26	138	58	26	137	75	135	75	82
23	43	100	35	29.5	102	39	24.5	*133	107	128	67	109
24	48	128	31	28	112	33	23	125	117	91	79	139
25	97	102	29.5	28	62	28	54	125	133	71	113	98
26	95	125	31	26	47	26	120	139	78	67	89	79
27	128	95	35	24.5	45	26	77	119	77	58	63	67
28	131	71	47	23	45	23	57	91	68	53	56	67
29	108	58	100	23	39	21.5	102	137	115	49	105	58
30	126	69	63	21.5	44	27	51	-----	116	78	110	128
31	132	76	-----	21.5	-----	97	67	-----	73	-----	130	-----
Total	2,412	3,099	1,738.5	1,484.0	1,542.6	1,096.9	1,717.5	2,904	2,507	3,107	3,320	3,398
Mean:												
mgd	77.8	100	58.0	47.9	51.4	35.4	55.4	100	80.9	104	107	113
cfs	120	155	89.7	74.1	79.5	54.8	85.7	155	125	161	166	175
Ac-ft	7,400	9,510	5,340	4,550	4,730	3,370	5,270	8,910	7,690	9,540	10,190	10,430
Calendar year 1955:	Max 142			Min 17.4		Mean(mgd) 74.3		Mean(cfs) 115		Ac-ft 83,270		
Fiscal year 1955-56:	Max 142			Min 17.4		Mean(mgd) 77.4		Mean(cfs) 120		Ac-ft 86,930		

* Discharge measurement made on this day.

Honomanu Stream near Keanae

Location.--Lat 20°50'10", long 156°11'15", on left bank at Spreckels ditch intake, 3 miles southwest of Keanae and 4.5 miles southeast of Kailua.

Drainage area.--3.3 sq mi.

Records available.--November 1913 to June 1956.

Gage.--Water-stage recorder, orifice and concrete control. November 1913 to Apr. 14, 1950, at site 500 ft upstream at different datum.

Average discharge.--40 years (1916-56), 15.1 mgd (23.4 cfs).

Extremes.--Maximum and minimum discharges for the fiscal years 1950-56 are contained in the following table:

Fiscal year	Maximum				Minimum		
	Date	Discharge		Gage height (feet)	Date	Discharge	
		(mgd)	(cfs)			(mgd)	(cfs)
1950†							
1951	Nov. 25, 1950	420	650	7.64	June 2, 1951	a0.60	0.93
1952	Feb. 19, 1952	1,090	1,690	8.97	Oct. 18, 1951	.38	.59
1953	Mar. 4, 1953	1,090	1,690	8.97	Feb. 6, 11, 12, 1953	a.25	.39
1954	Apr. 18, 1954	420	650	7.60	Oct. 10, 1953	.15	.23
1955	Dec. 10, 1954	980	1,520	8.84	Nov. 25, 28, 1954	a.38	.59
1956	Feb. 25, 1956	2,310	3,570	10.73	Dec. 19, 1955	.43	.66

† Station destroyed by landslide; maximum and minimum not determined, a Minimum daily.

1913-56: Maximum discharge, 2,310 mgd (3,570 cfs) Feb. 25, 1956 (gage height, 10.73 ft), from rating curve extended above 13 mgd by computation of flow through orifice and over dam; minimum, 0.08 mgd (0.12 cfs) Mar. 24, 1928.

Remarks.--Records good except those above 13 mgd after Apr. 14, 1950, and those for periods of no gage-height record, which are poor. Water used for irrigation in central Maui.

Discharge, in million gallons a day, fiscal year July 1949 to June 1950

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.92	19.7	1.76	0.74	4.0	60	4.0	2.5	2.5	22	22	6.2
2	12.1	7.9	1.64	.68	2.3	45	40	2.7	1.7	10	16	6.7
3	2.85	5.0	1.52	.64	2.0	50	9.0	1.7	1.5	5.6	11	6.4
4	1.58	3.7	1.46	.60	1.5	15	4.5	1.0	1.3	5.0	22.5	4.0
5	1.92	3.3	1.35	1.3	60	6.0	3.0	.90	1.1	4.8	11.5	3.1
6	6.7	3.3	1.46	1.6	9.0	4.5	2.5	.86	25	11	12.1	3.5
7	6.6	2.45	1.15	5.0	5.6	3.5	2.2	.92	2.7	9.6	28	2.7
8	2.6	3.3	.99	2.2	5.0	3.0	1.9	.86	1.5	5.0	58	34.5
9	3.35	5.1	.92	2.4	4.0	2.5	1.6	.80	1.3	5.4	51.5	9.6
10	1.90	20	1.40	8.0	3.5	2.1	1.4	.76	40	27	29.5	7.4
11	8.3	12.8	1.07	3.0	4.5	1.9	12	1.0	30	56	29.5	7.1
12	9.5	5.5	2.75	9.0	50	2.1	10	2.0	6.6	19	11.2	4.0
13	10.8	4.1	6.0	8.8	50	14	3.0	25	4.0	30	10.3	3.1
14	6.6	3.7	2.5	4.0	12	11	1.7	3.3	3.0	9.0	5.4	2.6
15	31.5	5.3	4.0	2.2	7.0	4.0	1.4	3.0	2.0	5.4	4.9	2.35
16	8.1	5.1	2.6	2.0	21	9.0	1.2	5.0	1.6	8.2	12	2.15
17	5.0	5.3	1.8	1.7	25	4.0	1.1	35	1.3	14.4	16.7	2.5
18	5.1	12.2	1.3	1.6	16	3.5	1.0	90	1.1	15.8	69	1.90
19	3.35	11.3	1.1	1.8	10	3.2	.90	9.0	1.0	86	12.8	2.05
20	2.35	15.0	1.0	1.5	5.0	3.0	.82	7.0	110	16.0	29	2.55
21	2.95	7.2	.90	1.3	3.5	2.3	.80	30	160	8.2	18.3	3.8
22	2.35	9.7	2.5	1.2	3.0	1.8	1.78	70	16	13.3	9.0	4.6
23	2.1	5.7	1.7	1.1	2.7	1.5	1.3	13	14	74	24	8.8
24	3.05	7.9	1.1	1.2	2.5	1.3	1.0	7.0	70	53	43	8.7
25	10.7	9.3	1.2	1.0	2.0	1.2	.90	4.5	35	13.0	29	9.8
26	105	4.1	1.0	.90	17	2.5	.74	2.8	7.0	12.7	29.5	11.0
27	31	3.45	1.0	1.0	35	10	.70	2.2	9.0	88	16.4	4.9
28	4.6	2.85	.99	.90	16	11	1.66	5.2	15	120	6.4	5.4
29	21	2.35	.86	.72	27	10	4.5	-	150	50	85.2	4.0
30	14.0	2.1	.80	.66	20	10	8.0	-----	50	29	4.0	2.5
31	10.1	1.97	-----	.63	-----	7.0	2.2	-----	25	-----	3.5	-----
Total	337.97	210.67	49.73	69.37	466.1	315.9	124.60	328.00	790.2	806.4	651.2	177.90
Mean mgd	10.9	6.80	1.66	2.24	15.5	10.2	4.02	11.7	25.5	26.9	20.4	5.93
cfs	16.9	10.5	2.57	3.47	24.0	15.8	6.22	18.1	39.5	41.6	31.6	9.18
Ac-ft	1,040	647	153	213	1,430	969	382	1,010	2,430	2,470	1,940	546

Calendar year 1949. Max 124 Min 0.53 Mean(mgd) 7.88 Mean(cfs) 12.2 Ac-ft 8,830
Fiscal year 1949-50: Max 160 Min 0.60 Mean(mgd) 11.8 Mean(cfs) 18.3 Ac-ft 13,230

Peak discharge (base, 700 mgd).--No peak above base.

* Discharge measurement made on this day.

Note.--No gage-height record Sept. 15 to Oct. 28, Nov. 1 to Apr. 14 when landslide destroyed station.

ISLAND OF MAUI
Honomanu Stream near Keanae--Continued
Discharge, in million gallons a day, fiscal year July 1950 to June 1951

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	7.5	4.3	4.9	1.25	1.90	8.2	7.0	1.8	13	38	*1.70	0.69
2	4.4	10.6	3.45	2.35	1.58	22	5.0	1.9	8.0	16.0	1.51	.80
3	2.5	4.9	1.77	1.14	1.51	11.0	4.0	1.8	6.0	4.9	2.15	.80
4	2.45	4.0	1.38	.97	4.3	16.7	3.5	1.5	5.0	4.0	1.58	.69
5	5.8	2.7	1.58	14.6	2.05	15.8	3.2	2.5	9.0	6.1	1.38	12.2
6	5.7	7.8	1.90	8.7	1.51	90	3.8	1.8	8.5	5.7	2.95	2.85
7	3.1	10.7	2.7	3.5	1.38	70	3.0	1.4	5.5	6.4	3.5	1.58
8	3.1	3.5	16.4	9.9	1.25	27.5	5.5	1.2	3.6	4.0	2.3	.97
9	7.7	3.1	50	13.6	3.2	6.4	8.0	1.1	3.1	3.5	1.68	1.15
10	64	2.6	28	2.5	8.2	46	5.0	1.0	3.0	4.0	2.45	19.3
11	19.6	3.1	12.7	4.8	11.2	33	5.4	.97	2.6	4.9	1.44	12.9
12	*4.4	3.1	4.0	2.7	8.2	59	4.0	10	2.4	3.9	1.25	34.5
13	4.0	12.1	3.5	1.77	3.5	31.5	3.0	70	3.0	4.0	1.14	7.8
14	3.1	235	5.1	1.44	2.15	6.8	100	40	20	2.5	1.03	5.5
15	2.5	57	2.45	5.4	4.2	4.4	100	50	3.5	2.3	.97	2.15
16	3.35	5.4	2.05	2.7	8.2	3.8	140	52	9.5	3.7	.97	2.05
17	4.4	12.8	1.70	1.44	7.6	3.2	11	42	7.4	4.8	12.5	2.05
18	2.7	9.1	1.58	1.25	3.1	2.6	6.0	130	28	6.7	8.2	2.05
19	14.3	3.1	1.44	1.25	7.0	2.2	4.5	60	12.1	3.1	2.45	2.3
20	63	4.1	1.38	1.08	9.4	1.9	4.0	20	4.4	3.5	3.1	*1.67
21	17.9	2.45	1.44	1.14	4.0	1.7	3.5	17	4.0	3.1	2.6	1.19
22	14.8	1.98	1.38	1.25	2.2	1.6	5.6	21	22	3.1	1.58	1.08
23	13.6	1.77	1.19	2.7	1.77	1.5	11	8.0	4.0	7.3	1.32	1.71
24	25.5	1.70	1.14	29	1.58	1.4	6.0	5.5	3.5	5.4	1.19	30
25	14.0	1.77	1.14	8.8	213	12	4.0	4.0	5.4	5.4	1.08	4.0
26	5.4	1.58	*1.14	11.6	190	25	3.5	4.5	3.5	3.1	1.19	2.3
27	5.4	2.15	1.19	4.9	20	70	3.3	3.5	3.5	2.7	1.19	1.98
28	11.6	1.64	1.03	2.5	8.2	50	2.7	7.0	2.45	2.7	.97	1.58
29	8.8	1.70	1.08	2.45	4.4	150	2.4	-	2.3	3.1	.97	1.58
30	8.6	2.45	1.32	7.4	4.0	35	2.2	2.6	2.35	.86	1.58	
31	4.4	2.85	-----	3.5	-----	9.0	2.0	-----	13.7	-----	.75	-----
Total	357.60	421.04	160.03	157.58	540.58	819.2	471.9	563.47	224.55	170.25	67.95	158.40
mgd	11.5	13.6	5.33	5.08	18.0	26.4	15.2	20.1	7.24	5.68	2.19	5.28
cfs	17.8	21.0	8.25	7.86	27.9	40.8	23.5	31.1	11.2	8.79	3.39	8.17
Ac-ft	1,100	1,290	491	484	1,660	2,510	1,450	1,730	689	522	209	486

Calendar year 1950. Max 235 Min 0.66 Mean(mgd) 14.6 Mean(cfs) 22.6 Ac-ft 16,310
Fiscal year 1950-51: Max 235 Min 0.60 Mean(mgd) 11.3 Mean(cfs) 17.5 Ac-ft 12,620

Peak discharge (base, 700 mgd).--No peak above base.

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 7, Nov. 26, 27, Dec. 6, 7, Dec. 16 to Mar. 14; discharge estimated on basis of records for Waikamoi and Puohokamoa Streams.

Discharge, in million gallons a day, fiscal year July 1951 to June 1952

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.44	5.9	13	1.44	*2.25	4.0	5.9	47	2.05	4.0	44	3.1
2	1.19	4.4	4.0	1.38	2.05	3.1	3.5	8.5	2.6	11.0	7.2	2.7
3	1.32	3.1	3.5	.97	1.51	2.7	18.3	3.1	6.8	5.4	46	2.3
4	1.38	6.0	3.1	.69	1.19	3.1	16.8	2.5	64	4.0	25.5	2.7
5	3.35	21	4.2	.60	3.3	3.1	6.4	3.5	56	13.9	31	28
6	30	80	24	.69	5.7	2.45	3.5	2.2	12.6	8.8	36.5	12.2
7	12.3	110	26	1.08	12.5	2.3	3.1	1.90	24	8.8	9.3	4.4
8	3.1	19	11	.97	16.5	2.2	2.35	1.70	77	8.2	4.9	4.0
9	2.05	17	4.0	1.14	9.3	1.98	3.1	2.9	86	5.4	4.4	13.6
10	3.35	8.0	3.0	.86	3.1	1.77	3.1	3.5	70	6.4	4.0	10.9
11	4.0	5.5	2.7	.60	2.35	86	10.2	2.75	52	4.0	4.0	6.4
12	2.15	5.0	2.5	1.00	2.1	69	9.1	1.90	49	4.0	3.5	10.2
13	5.8	4.6	2.3	5.4	2.7	7.4	9.5	8.5	54	35	4.7	10.2
14	5.6	4.0	2.0	1.44	4.2	4.9	11.1	5.6	27.5	12.8	4.4	6.4
15	2.7	3.5	1.7	.86	3.95	3.5	7.7	2.2	11.6	4.9	4.9	9.0
16	1.98	3.8	1.6	.60	3.55	3.5	4.4	1.70	7.4	4.0	5.4	*6.5
17	4.5	2.5	*1.5	.51	3.1	2.5	3.1	4.8	6.4	3.1	5.4	4.4
18	2.15	1.8	1.38	.43	7.1	2.15	2.6	5.0	6.4	3.1	23.5	14.8
19	4.2	1.7	1.25	.58	60	1.90	12.4	103	4.9	3.1	53	10.8
20	5.8	10	1.14	13.8	89	2.5	52	33.5	4.0	21	8.9	9.5
21	2.5	5.0	1.08	8.4	38.5	1.84	5.2	5.4	3.5	17.2	4.0	10.9
22	2.15	3.0	1.03	3.0	12.4	1.58	3.5	3.5	3.5	4.9	4.6	6.4
23	1.90	2.9	.97	10.7	6.4	2.15	2.6	27.5	4.9	20	4.0	6.0
24	2.6	7.0	.86	2.65	5.4	1.84	2.7	23	3.1	4.4	3.1	7.4
25	1.84	25	1.03	1.70	4.4	1.84	2.7	6.3	3.1	7.0	3.5	6.4
26	2.55	4.0	1.14	1.38	30	1.44	2.15	4.0	2.7	4.4	3.1	4.0
27	2.4	3.0	1.84	2.5	22.5	2.7	2.05	2.7	42	54	3.5	14.0
28	12.9	3.5	1.58	2.1	12.5	8.8	2.05	2.45	14.3	9.5	4.4	7.6
29	18.8	3.2	3.1	7.3	5.4	27.5	*1.92	2.6	4.0	5.2	4.0	18.6
30	42	4.0	1.70	23.5	4.0	17.1	1.58	-----	3.1	25	4.0	12.9
31	12.0	14	-----	8.2	-----	25.5	4.8	-----	3.1	-----	3.5	-----
Total	200.00	391.4	128.00	106.45	376.95	302.34	219.40	323.20	711.55	322.5	370.2	266.3
Mean	6.45	12.6	4.27	3.43	12.6	9.75	7.08	11.1	23.0	10.8	11.9	8.88
cfs	9.98	19.5	6.61	5.31	19.5	15.1	11.0	17.2	35.6	16.7	18.4	13.7
Ac-ft	614	1,200	393	327	1,160	928	673	992	2,180	990	1,140	817

Calendar year 1951. Max 140 Min 0.43 Mean(mgd) 8.66 Mean(cfs) 13.4 Ac-ft 9,710
Fiscal year 1951-52: Max 110 Min 0.43 Mean(mgd) 10.2 Mean(cfs) 15.8 Ac-ft 11,410

Peak discharge (base, 700 mgd).--Feb. 19 (7:30 p.m.) 1,090 mgd (1,690 cfs), 8.97 ft.

* Discharge measurement made on this day.

Note.--No gage-height record Aug. 6 to Sept. 17; discharge estimated on basis of records for Waikamoi and Puohokamoa Streams.

ISLAND OF MAUI

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Honomanu Stream near Keanae--Continued
Discharge, in million gallons a day, fiscal year July 1952 to June 1953

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	5.4	12.8	3.0	1.0	46	20.5	1.58	0.34	4.4	1.58	2.75	3.5
2	4.0	4.4	2.0	1.0	57	25	1.51	.29	3.1	1.25	10.4	2.45
3	3.5	2.6	4.0	2.0	39	6.4	1.38	.29	1.70	1.19	61	1.98
4	4.1	*2.15	2.0	65	11.6	51	1.32	.29	163	1.25	154	1.84
5	12.0	1.90	1.0	5.0	5.9	75	1.25	.29	38.5	1.19	14.8	1.58
6	4.4	2.05	14	2.0	4.4	52	1.19	.25	4.4	1.03	44	1.44
7	3.1	6.0	6.0	1.5	4.0	68	1.19	.38	3.5	.91	27	1.25
8	12.3	4.8	3.0	1.2	3.5	23	1.14	.34	3.5	.80	13.7	1.44
9	37	31.5	20	1.2	21.5	33.5	1.03	.34	11.1	.75	5.4	3.85
10	6.8	8.0	11	1.0	65	23	.97	.29	35.5	1.74	4.0	5.7
11	4.0	4.0	4.0	3.0	111	5.4	.91	.25	10.3	7.7	3.1	7.0
12	3.5	4.0	4.0	7.0	31	*4.9	.86	.25	4.0	2.35	2.5	8.7
13	2.7	3.0	36	2.5	47	4.0	.80	1.35	2.7	1.44	2.15	3.5
14	53	2.0	10	1.7	49	3.5	.80	2.85	6.5	2.3	1.90	3.5
15	71	4.0	4.0	1.3	29	3.5	.75	1.70	9.5	1.58	1.90	9.8
16	12.0	4.0	3.0	1.0	64	3.1	.69	6.6	4.4	1.84	2.05	7.9
17	35.5	3.5	9.0	1.0	8.2	8.7	.65	2.9	2.7	4.5	3.1	3.5
18	27.5	2.0	9.0	10	5.4	46	.65	5.2	11.8	7.0	1.90	11.0
19	4.9	1.6	3.0	50	23.5	4.9	.60	8.6	4.0	2.75	3.65	7.1
20	4.0	1.4	2.3	20	9.9	3.5	.60	2.25	2.7	1.77	6.4	3.5
21	3.1	1.4	1.9	28	6.4	3.1	.56	3.4	2.15	1.98	3.5	2.7
22	7.5	1.2	1.7	17	4.0	3.1	.51	3.25	1.98	1.51	2.2	6.9
23	4.3	1.1	1.5	42	4.4	2.7	.60	3.1	1.84	1.14	2.15	6.1
24	3.1	1.0	1.3	44	3.5	6.0	.91	4.3	1.70	.97	1.77	10.3
25	3.5	2.0	1.2	14	3.1	3.1	.56	2.3	4.1	.86	4.8	*3.7
26	6.4	23	1.2	30	3.5	3.1	.47	1.98	11.1	.75	6.0	3.1
27	6.7	13	1.1	8.0	6.5	2.2	*.47	6.2	3.5	.69	4.7	2.05
28	3.5	2.0	1.1	4.0	3.5	1.98	.43	7.7	2.45	5.5	7.2	1.70
29	3.1	2.0	1.0	12	27	1.90	.51	-	1.77	1.98	6.3	2.2
30	3.1	1.0	1.0	48	55	1.70	.43	-----	1.58	1.70	3.5	2.05
31	3.5	3.0	-----	67	-----	1.64	.34	-----	1.70	-----	4.0	-----
Total	356.5	156.20	163.3	492.4	783.3	495.42	25.66	67.28	361.17	62.00	411.82	131.33
Mean	11.5	5.04	5.44	15.9	26.1	16.0	0.828	2.40	11.7	2.07	13.3	4.38
mgd	17.8	7.80	8.42	24.6	40.4	24.8	1.28	3.71	18.1	3.20	20.6	6.78
Ac-ft	1,090	479	501	1,510	2,400	1,520	79	206	1,110	190	1,260	403

Calendar year 1952. Max 111 Min 1.0 Mean(mgd) 12.7 Mean(cfs) 19.6 Ac-ft 14,290
Fiscal year 1952-53: Max 163 Min 0.25 Mean(mgd) 9.61 Mean(cfs) 14.9 Ac-ft 10,750

Peak discharge (base, 700 mgd).--Mar. 4 (5 p.m.) 1,090 mgd (1,690 cfs), 8.97 ft.

* Discharge measurement made on this day.

Note.--No gage-height record Aug. 10 to Oct. 30; discharge estimated on basis of records for nearby stations.

Discharge, in million gallons a day, fiscal year July 1953 to June 1954

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.64	7.3	1.03	2.05	1.70	4.9	4.6	0.47	2.4	2.1	5.9	16.8
2	2.05	74	1.08	1.32	2.65	8.6	1.90	.47	16.4	7.5	9.9	8.2
3	12.0	13.5	1.68	.75	3.2	15.4	1.44	.43	36.5	21	35	6.4
4	23.5	5.4	2.3	.56	1.51	5.4	1.19	.58	67	6.8	94	4.9
5	4.9	4.4	1.38	.60	3.35	14.6	1.56	.43	113	3.1	13.8	4.4
6	3.1	*10.5	1.03	.47	1.44	28.5	7.5	.43	21.5	2.15	45	7.2
7	2.35	7.7	.86	.34	1.58	6.4	5.4	.34	27	1.84	12.2	15.4
8	1.98	3.1	1.99	.29	2.6	4.4	5.0	.29	22	1.64	13.1	12.8
9	1.77	3.5	1.14	.25	6.4	4.9	2.7	.25	26.5	1.51	5.4	9.6
10	1.51	2.6	2.45	.21	3.1	3.5	1.90	.25	42	1.32	4.0	7.4
11	1.44	2.15	1.14	.43	6.8	3.5	1.58	1.00	*26	1.19	3.5	4.5
12	1.77	3.8	.80	1.38	1.77	3.1	1.67	9.0	21.5	1.08	4.0	4.0
13	1.44	9.2	.80	1.14	1.25	2.3	1.90	1.19	6.1	1.14	6.8	3.5
14	7.2	5.4	.91	.47	1.08	1.98	2.3	.65	4.0	1.40	8.1	4.0
15	2.7	4.0	.69	.38	1.32	1.77	2.3	.51	3.5	1.38	5.4	3.0
16	1.77	2.7	.56	65	10.1	1.64	1.38	.43	3.1	4.4	4.4	2.7
17	1.70	2.15	.51	17.6	36.5	1.44	1.19	.38	3.5	126	23.5	3.0
18	1.84	1.90	.47	2.7	4.0	1.44	1.03	.29	9.6	122	45	4.7
19	3.1	1.98	.43	1.58	33.5	1.38	.97	.25	4.9	11.3	124	3.5
20	1.90	1.70	.51	1.19	6.4	1.19	.91	.47	3.1	4.0	65	9.0
21	1.58	1.58	.80	.97	2.7	12.4	.86	.56	5.3	2.7	8.7	6.5
22	2.15	10.0	*.56	.86	1.90	6.1	.86	.34	4.4	2.35	34	3.7
23	1.70	4.1	.47	1.38	1.64	1.98	.80	.38	4.0	2.15	32	3.3
24	1.58	4.4	.38	.91	21.5	1.51	.69	.51	3.1	1.77	22.5	8.0
25	1.51	4.0	.34	.69	46	1.32	.69	14.2	2.2	1.58	15.5	7.0
26	2.7	2.15	.38	.69	6.3	1.19	.65	19.9	2.15	*16.5	12.2	3.5
27	4.4	1.64	.34	5.4	3.1	4.0	*.62	3.3	2.65	3.5	34	5.0
28	4.0	1.51	.43	1.51	2.5	4.0	.60	1.38	2.05	2.05	74	16
29	3.5	1.25	2.65	.86	2.05	3.75	.56	-	1.70	1.77	14.2	20
30	4.9	1.08	6.1	1.51	1.90	1.77	.51	-----	1.58	2.45	7.4	10
31	4.4	2.03	-----	1.58	-----	2.6	.51	-----	1.51	-----	8.3	-----
Total	112.08	199.72	34.21	115.07	219.84	161.96	210.19	58.48	490.24	359.67	790.8	217.5
Mean	3.62	6.44	1.14	3.71	7.33	5.22	6.78	2.09	15.8	12.0	25.5	7.25
cfs	5.60	9.96	1.76	5.74	11.3	8.08	10.5	3.23	24.4	18.6	39.5	11.2
Ac-ft	344	613	105	353	675	497	645	179	1,500	1,100	2,430	667

Calendar year 1953. Max 163 Min 0.21 Mean(mgd) 5.21 Mean(cfs) 8.06 Ac-ft 5,840
Fiscal year 1953-54: Max 156 Min 0.21 Mean(mgd) 8.14 Mean(cfs) 12.6 Ac-ft 9,110

Peak discharge (base, 700 mgd).--No peak above base.

* Discharge measurement made on this day.

Note.--No gage-height record June 11-30; discharge estimated on basis of records for nearby streams.

ISLAND OF MAUI
Honomanu Stream near Keanae--Continued
Discharge, in million gallons a day, fiscal year July 1954 to June 1955

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	12	9.8	4.4	1.98	0.69	5.2	45	2.3	4.9	10.3	10	4.0
2	9.0	6.4	4.0	1.84	.85	32	32.5	2.7	4.0	6.4	10.4	4.0
3	35	6.4	3.5	1.90	.80	38	31	5.9	3.5	7.3	48	3.5
4	37	37.5	3.1	2.45	.58	4.8	22	3.3	3.1	4.0	31.5	3.9
5	30	7.4	3.1	2.05	.51	11.2	5.4	2.15	4.3	3.1	7.4	6.3
6	15	6.4	31	1.84	3.55	29	4.4	1.90	17.9	2.6	5.4	3.1
7	8.0	6.4	13.2	1.70	48	94	4.0	64	9.2	2.35	24.5	2.5
8	6.5	6.4	8.2	1.90	3.45	121	3.1	65	5.9	3.05	6.4	2.35
9	6.0	11.8	4.9	10.5	1.70	215	2.7	39.5	4.9	2.5	22	2.7
10	8.5	15.7	4.0	18.1	3.35	370	2.45	245	102	2.05	7.6	3.5
11	17	20.5	3.1	3.5	1.64	180	2.15	205	85	1.70	8.4	2.7
12	30	58	2.7	1.90	1.14	268	2.05	51	55	1.64	11.0	2.15
13	12	28	2.35	1.44	.91	76	2.15	87	16.0	2.2	14.6	2.3
14	8.0	32	4.6	1.32	.80	107	3.5	32	6.4	4.9	9.8	1.84
15	6.0	19.3	3.1	1.97	.86	25	2.7	21	32	4.9	6.4	1.84
16	14	32.5	*3.2	2.3	.75	95	1.98	9.9	128	3.1	10.3	*1.84
17	50	13.5	61	1.38	.65	25	1.77	8.9	*11.8	39	5.4	1.90
18	45	14.0	71	1.38	.60	8.2	1.64	47	4.9	68	7.8	1.58
19	14	42	21	1.14	.56	4.9	1.51	121	4.4	69	14.9	10.4
20	15	11.6	4.9	3.0	.51	11.7	1.44	46	6.0	12.1	15.6	4.0
21	7.0	15.2	5.6	5.1	.51	144	47	9.9	4.4	7.4	8.5	2.6
22	12	13.9	4.4	1.70	.47	50	9.7	4.9	5.8	6.4	7	2.75
23	20	43	3.1	1.25	.43	9.0	2.7	7.4	17.6	24	14.7	7.0
24	35	9.5	4.4	1.14	.43	4.9	2.05	9.2	4.0	26	29	2.95
25	30	6.4	16.7	1.33	.38	4.0	1.99	4.9	3.1	43	18.2	2.5
26	65	12.6	5.4	7.5	.51	14.0	112	4.9	2.5	43	14.9	4.0
27	60	8.2	3.5	2.15	.43	31	46	31.5	2.3	14.1	8.2	3.45
28	65	10.3	2.7	1.38	.38	30.5	11.4	8.6	2.3	14.0	4.9	2.7
29	28.5	16.6	2.35	1.03	14.4	9.4	4.0	-	2.2	100	4.0	6.5
30	10.1	8.2	2.15	.86	2.4	53	3.1	3.05	3.05	35	3.5	4.0
31	7.4	5.4	-----	.80	-----	38	2.6	-----	10.6	-----	4.0	-----
Total	799.0	554.9	306.65	87.83	91.82	2,108.8	415.98	1,141.85	565.05	563.09	392.7	104.85
Mean:	25.8	17.3	10.2	2.83	3.06	68.0	13.4	40.8	18.2	18.8	12.7	3.50
mgd cfs	39.9	26.8	15.8	4.38	4.73	105	20.7	63.1	28.2	29.1	19.6	5.42
Ac-ft	2,450	1,640	941	270	282	6,470	1,280	3,500	1,730	1,730	1,210	322
Calendar year 1954. Max	370			Min	0.25	Mean(mgd)	16.6	Mean(cfs)	25.7	Ac-ft	18,570	
Fiscal year 1954-55: Max	370			Min	0.38	Mean(mgd)	19.5	Mean(cfs)	30.2	Ac-ft	21,820	

Peak discharge (base, 700 mgd).--Dec. 10 (6:30 p.m.) 980 mgd (1,520 cfs), 8.84 ft.
 * Discharge measurement made on this day.

Note.--No gage-height record July 1-28, Dec. 11, 15-17, Apr. 29 to May 1; discharge estimated on basis of records for Puohokamoa and Waiakamoi Streams.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.1	*17.5	15.2	3.5	0.75	1.19	0.80	3.1	8.0	17	5.4	13.3
2	2.15	18.7	12.2	7.5	1.19	1.03	.60	2.85	6.0	100	5.4	35.5
3	2.05	26	5.4	5.4	1.14	.97	.56	32.5	5.0	30	7.5	52
4	9.3	8.1	4.9	22.5	.80	.91	.51	44	4.2	8.0	4.1	23.5
5	12.9	7.2	4.0	12.9	.75	.86	.51	4.0	3.7	3.0	6.6	14.3
6	4.2	5.4	3.5	12.3	.69	.80	.51	4.0	3.5	16	19.8	18.9
7	2.5	4.4	3.1	4.9	.60	1.14	3.0	5.05	1.1	6.4	10.0	7.4
8	1.98	10.6	2.6	3.5	.56	1.19	1.74	32	2.7	13	40	9.3
9	1.98	35	2.2	2.7	.56	.86	34.5	4.7	2.5	65	23	9.3
10	2.5	52	1.98	3.75	27.5	.75	12.6	2.6	2.1	80	16.7	26.5
11	1.84	29.5	1.90	4.0	2.45	1.46	3.45	2.05	2.5	28	38	15.0
12	8.5	16.1	1.84	2.7	1.84	1.47	89	2.9	1.9	27	33.5	80
13	59	6.4	*4.4	2.95	1.08	.86	78	2.05	1.8	39	22.5	68
14	9.8	4.4	3.1	2.7	1.38	.89	5.9	3.2	4.8	4.0	30	55
15	11.2	6.4	7.2	2.05	2.15	.60	2.45	8.2	2.0	11.0	4.6	16.5
16	11.1	4.9	4.0	1.90	1.58	.56	1.84	7.5	1.5	8.9	2.7	6.4
17	4.9	23.5	2.5	1.70	4.6	.56	1.58	36	1.8	8.7	2.35	4.9
18	10.8	5.4	8.2	1.58	2.8	.47	1.32	307	5.0	2.7	11.4	4.9
19	8.1	37.5	4.0	1.51	9.1	.56	1.14	75	4.0	2.35	14.9	4.9
20	6.4	15.3	2.5	1.51	16.8	50	1.03	157	1.8	30	12.0	4.4
21	4.0	4.0	2.05	1.38	21	118	.97	30	1.5	19.0	4.3	4.0
22	4.0	4.0	1.90	1.32	10.1	6.2	.91	30.5	4.0	5.4	2.75	5.7
23	7.8	13.2	1.70	2.4	4.0	1.77	.86	24.5	7.0	3.5	2.45	10.6
24	4.9	22	1.51	2.2	5.4	1.64	.91	80	9.0	2.35	5.5	18.7
25	12.9	7.9	1.32	1.70	3.1	1.32	2.4	500	12	1.90	6.9	4.9
26	9.1	14.1	1.70	1.44	2.05	1.08	*16.3	520	3.5	2.35	5.4	4.0
27	54	7.5	2.05	1.14	1.70	.97	4.5	100	2.3	2.15	4.4	3.5
28	38	4.4	2.95	1.03	1.51	.80	3.5	15	2.2	1.38	*3.7	3.1
29	28.5	4.0	13.0	.97	1.32	.69	12.7	-	9.0	1.58	9.2	3.1
30	10.6	4.0	4.4	.80	1.32	.75	3.5	-----	8.0	3.5	11.2	14.6
31	71	5.3	-----	.75	-----	1.08	7.6	-----	2.6	-----	11.4	-----
Total	418.90	424.7	127.30	116.68	129.82	201.23	292.70	2,033.70	128.9	547.76	430.65	542.9
Mean:	13.5	13.7	4.24	3.76	4.33	6.49	9.44	72.6	4.16	18.3	13.9	18.1
cfs	20.9	21.2	6.56	5.82	6.70	10.0	14.6	112	6.44	28.3	21.5	28.0
Ac-ft	1,290	1,300	391	358	398	618	898	6,240	396	1,680	1,320	1,670
Calendar year 1955. Max	245			Min	0.47	Mean(mgd)	12.6	Mean(cfs)	19.5	Ac-ft	14,130	
Fiscal year 1955-56: Max	520			Min	0.47	Mean(mgd)	14.8	Mean(cfs)	22.9	Ac-ft	16,560	

Peak discharge (base, 700 mgd).--Feb. 25 (8:30 p.m.) 2,310 mgd (3,570 cfs), 10.73 ft.
 * Discharge measurement made on this day.

Note.--No gage-height record Feb. 25 to Apr. 13; discharge estimated on basis of records for Waiakamoi and Puohokamoa Streams.

Haipuaena Stream at Kula pipeline intake, near Olinda

Location.--Lat 20°48'25", long 156°13'25", on left bank, at Kula pipeline intake, 3.7 miles east of Maui County Olinda Reservoir and 6.2 miles south of Kailua.

Drainage area.--0.28 sq mi.

Records available.--January to April 1946 (fragmentary), May 1946 to June 1956.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,320 ft (from topographic map).

Average discharge.--10 years, 0.515 mgd (0.79 cfs).

Extremes.--Maximum discharges for the fiscal years 1947-56 are contained in the following table:

Fiscal year	Date	Maximum Discharge		Gage height (feet)
		(mgd)	(cfs)	
1947	Dec. 16, 1946	52	80	3.10
1948	(†)	87	135	3.72
1949	Aug. 15, 1948	52	80	3.11
1950	Apr. 28, 1950	50	77	3.05
1951	Aug. 17, 1950	44	68	2.93
1952	Dec. 11, 1951, Feb. 19, 1952	44	68	2.94
1953	Mar. 4, 1953	60	93	3.24
1954	Jan. 5, 1954	47	73	2.98
1955	Dec. 10, 1954	60	93	3.23
1956	Feb. 25, 1956	65	101	3.37

† Between Jan. 23 and Feb. 9, 1948.

Note.--No flow at times each year.

1946-56: Maximum discharge, 87 mgd (135 cfs) between Jan. 23 and Feb. 9, 1948 (gage height, 3.72 ft), from rating curve extended above 1.3 mgd; no flow at times each year.
Remarks.--Records fair except those for periods of no gage-height record, which are poor.
 Kula pipeline diverts all water from Haipuaena Stream at low stages.

Rating table, Jan. 23, 1946, to June 30, 1956 (gage height, in feet, and discharge, in million gallons a day)

0.85	0	1.2	0.98	1.6	4.7	2.2	15.4
.9	.03	1.3	1.60	1.7	6.0	2.4	21
1.0	.18	1.4	2.45	1.8	7.6	2.8	37
1.1	.52	1.5	3.5	2.0	11.2		

Discharge, in million gallons a day, period January, to June 1946

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1							-	-	0	-		0
2							-	-	0	-		0
3							-	0	0	-		0
4						†1.23	-	0	0	-		0
5							-	0	0	-		0
6							-	0	0	-		0
7							-	0	.15	-		0
8							-	0	-	-		0
9							-	0	-	.53		0
10							-	0	-	.18		0
11							-	0	-	0		0
12							-	0	-	-		0
13							-	0	-	-		0
14							-	0	-	-		0
15							-	0	-	-		0
16							-	-	-	-		0
17							-	-	-	-		0
18							-	-	-	-		0
19							-	-	-	-		0
20							-	0	-	-		0
21							-	0	-	-		0
22							-	0	-	-		0
23							5.5	0	-	-		0
24							5.5	0	-	-		0
25								0	-	-		0
26							-	0	-	-		.37
27							-	0	-	0		.14
28							-	0	-	0		0
29							-	-	-	0		0
30							-	-	-	-		0
31				†0.66			-	-	-	-		-
Total							-	-	-	-	0	0.51
Mean:							-	-	-	-	0	0.017
mgd							-	-	-	-	0	0.026
cfs							-	-	-	-	0	1.6
Ac-ft							-	-	-	-	0	
Calendar year		Max	Min			Mean(mgd)		Mean(cfs)			Ac-ft	
Fiscal year		Max	Min			Mean(mgd)		Mean(cfs)			Ac-ft	

† Result of discharge measurement.

Note.--Data insufficient to compute discharge for days for which no figures are given.

Haipuaena Stream at Kula pipeline intake, near Olinda--Continued

Discharge, in million gallons a day, fiscal year July 1946 to June 1947

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	0	0	0	0	0	0	0	1.84	0	0	0
2	0	0	0	0.04	0	0	4.0	0	.89	0	0	0
3	0	.04	0	0	0	3.0	2.2	0	.07	0	5.9	0
4	0	.02	0	0	0	.20	.11	0	0	0	5.9	0
5	0	0	0	0	10	.02	0	0	0	.12	1.46	0
6	0	0	0	0	.90	.17	0	0	0	2.65	.93	0
7	0	0	0	.18	0	.17	.03	0	0	2.15	.09	0
8	.01	.03	0	.05	0	.04	1.34	0	.35	.72	0	0
9	.70	0	0	0	0	0	.45	0	.01	.03	1.01	0
10	4.2	0	0	0	0	0	.04	0	0	0	.95	0
11	2.1	0	0	0	0	0	.42	0	0	.08	3.0	0
12	4.5	0	0	0	0	0	.89	0	0	1.89	3.4	0
13	4.1	.06	0	0	.20	0	.69	0	.56	.45	.90	0
14	.05	.04	0	0	0	0	.06	0	2.9	0	.03	0
15	1.68	0	0	0	0	.94	0	0	.18	0	0	0
16	2.0	0	0	0	0	10.0	0	0	0	0	0	0
17	2.35	0	0	0	0	7.9	0	0	0	0	0	0
18	6.8	0	0	0	0	.01	0	0	0	0	0	0
19	6.4	0	0	0	0	0	0	0	0	0	0	0
20	4.4	0	0	0	0	9.3	0	0	0	0	0	0
21	.85	0	0	0	0	1.04	0	0	0	0	.01	0
22	0	0	0	0	0	.64	0	0	0	0	2.1	0
23	0	0	0	0	0	.70	0	0	0	0	.13	0
24	0	0	0	0	0	.16	0	0	.69	0	.61	0
25	0	0	0	0	0	1.31	0	0	.66	0	.37	0
26	0	0	0	0	0	.18	0	.35	0	0	1.29	0
27	4.0	0	0	0	0	0	0	1.5	0	0	1.02	1.27
28	1.11	0	.01	0	0	0	0	3.0	5.1	0	.87	1.44
29	0	0	.02	0	0	0	0	-	7.7	0	.04	.31
30	0	0	0	.15	2.5	.78	0	0	.97	0	0	1.89
31	0	0	0	0	0	.80	0	.13	0	0	0	0
Total	45.25	0.19	0.03	0.42	13.60	37.36	10.23	4.85	22.05	8.07	30.01	4.91
Mean												
mgd	1.46	0.006	0.001	0.014	0.453	1.21	0.330	0.173	0.711	0.269	0.968	0.164
cfs	2.26	0.009	0.002	0.022	0.701	1.87	0.511	0.268	1.10	0.418	1.50	0.254
Ac-ft	139	0.6	0.1	1.3	42	115	31	15	68	25	92	15
Calendar year 1946: Max				Min		Mean(mgd)		Mean(cfs)		Ac-ft		
Fiscal year 1946-47: Max	10.0			Min	0	Mean(mgd)	0.485	Mean(cfs)	0.750	Ac-ft	544	

Peak discharge (base, 44 mgd)--Dec. 16 (1 p.m.) 52 mgd (80 cfs), 3.10 ft.

Note.--No gage-height record Oct. 29 to Dec. 4, Feb. 26, 27, Mar. 6-8, 13, 15, 30, 31; discharge estimated on basis of recorded range in stage and records for nearby stations.

Discharge, in million gallons a day, fiscal year July 1947 to June 1948

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.04	0	0.85	0	0	0.44	0	0	2.0	0.3	0.11	0.83
2	2.3	0	.73	0	0	.03	.16	0	.51	3.3	.03	.16
3	1.00	0	1.77	0	0	0	4.8	0	2.9	4.6	0	.02
4	.14	.03	2.65	0	0	.12	1.08	0	.60	5.5	0	0
5	.21	2.2	.46	1.20	0	.16	.35	0	.10	1.24	.02	0
6	.60	0	.89	0	0	.31	.33	0	0	.22	0	0
7	.04	0	.05	0	0	1.67	.19	0	0	0	0	0
8	0	0	0	0	0	.14	0	.08	1.54	.02	0	0
9	0	0	0	0	.98	.04	0	0	1.27	.04	0	0
10	0	0	0	0	.07	0	0	.07	2.75	0	.05	0
11	0	0	.86	0	1.67	.15	0	.05	2.7	0	0	0
12	0	3.05	.04	0	2.35	1.00	.89	.08	3.75	.51	0	0
13	0	.57	.16	.07	4.1	1.81	1.31	0	3.6	.18	.24	0
14	0	.01	0	.80	.47	.62	0	0	.97	.13	0	0
15	0	0	0	0	2.4	.06	0	0	.42	3.3	0	0
16	0	0	0	0	.04	3.05	0	0	6.8	1.00	0	0
17	0	2.25	0	0	0	2.15	0	0	7.4	.15	.13	0
18	0	.09	0	0	0	15.3	0	0	7.2	.19	.11	0
19	0	0	0	0	0	1.1	0	0	1.83	.39	.32	0
20	0	0	0	0	0	0	0	0	3.4	0	1.07	0
21	0	0	0	0	0	0	0	1.14	.17	0	.50	0
22	0	0	1.30	0	0	0	0	1.04	.39	0	.12	0
23	0	0	.22	0	0	0	.25	.18	2.05	0	.01	0
24	0	.52	0	0	0	0	15	0	1.00	0	.14	0
25	0	4.4	0	3.95	0	0	1.00	0	1.00	0	.07	0
26	.72	.52	0	2.55	0	0	0	.08	.70	.02	.41	0
27	.14	.15	0	.16	0	0	0	.56	.40	.04	2.7	.03
28	0	.02	0	0	0	0	0	0	1.00	.31	2.5	.62
29	0	0	0	0	0	0	0	0	4.5	3.4	.32	.62
30	0	.29	1.01	0	0	0	0	0	1.00	.23	.08	.60
31	0	0	0	0	0	0	0	0	.15	0	.46	0
Total	5.19	14.10	10.99	8.63	12.08	28.15	25.36	3.28	61.10	25.07	9.69	4.76
Mean												
mgd	0.167	0.455	0.366	0.278	0.403	0.908	0.818	0.113	1.97	0.836	0.313	0.159
cfs	0.258	0.704	0.566	0.430	0.624	1.40	1.27	0.175	3.05	1.29	0.484	0.246
Ac-ft	16	43	34	26	37	86	78	10	188	77	30	15
Calendar year 1947: Max	15.3		Min	0	Mean(mgd)	0.436	Mean(cfs)	0.675	Ac-ft	488		
Fiscal year 1947-48: Max	15.3		Min	0	Mean(mgd)	0.569	Mean(cfs)	0.890	Ac-ft	640		

Peak discharge (base, 44 mgd)--Oct. 25 (2:30 p.m.) 44 mgd (68 cfs), 2.96 ft; between Jan. 23 and Feb. 9, 87 mgd (135 cfs), 3.72 ft.

Note.--No gage-height record Dec. 19-28, Jan. 23 to Feb. 9, Mar. 24 to Apr. 1; discharge estimated on basis of recorded range in stage and records for nearby stations.

Haipuaena Stream at Kula pipeline intake, near Olinda--Continued

Discharge, in million gallons a day, fiscal year July 1948 to June 1949

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.04	0	0	0.94	1.50	1.55	0.15	0	0	0.09	0	0
2	0	0	0	.14	1.10	.08	3.0	0	0	0	0	0
3	0	0	0	.01	0	.01	.50	0	0	0	0	0
4	.05	0	0	0	0	0	0	0	0	0	0	0
5	1.09	0	0	0	0	0	0	0	0	0	0	0
6	1.84	.05	0	0	0	0	0	0	0	0	0	0
7	2.3	0	0	0	0	0	0	0	0	0	0	0
8	.57	0	0	0	3.3	.80	.08	2.55	0	0	0	0
9	.16	0	0	0	.80	3.8	.36	.32	0	0	0	0
10	.02	0	0	0	.11	4.2	0	.01	0	0	0	0
11	2.55	0	.18	.05	.52	.56	.15	0	0	.10	0	.10
12	.24	0	.04	0	.04	5.9	.01	0	0	1.5	0	.20
13	.02	0	0	0	0	5.4	0	0	3.0	0	0	0
14	0	0	0	0	.01	1.13	0	.19	.50	0	0	0
15	0	7.1	0	0	.05	.43	0	.02	0	0	0	0
16	0	2.3	0	0	.79	2.00	0	0	0	.06	0	0
17	2.5	.57	0	0	.42	.22	3.65	0	0	0	0	0
18	3.0	.13	0	0	.07	.36	.45	0	0	0	0	0
19	.20	0	0	0	0	.18	.25	0	0	0	0	0
20	0	.23	0	1.02	0	.13	.05	0	0	0	0	0
21	0	0	0	.54	.10	1.90	0	0	0	0	0	0
22	0	.65	0	.63	.02	5.8	0	0	0	0	0	.04
23	0	.42	1.95	.50	.09	5.9	0	0	.05	.50	0	.35
24	.05	.05	.10	.09	0	12.8	0	0	0	3.0	0	1.12
25	0	0	0	.29	.01	4.1	0	0	.10	.20	0	1.28
26	0	0	0	.95	.03	1.72	0	0	0	1.5	0	.15
27	.12	0	1.95	2.30	3.85	1.83	0	0	0	0	.80	0
28	.80	0	1.17	6.0	3.1	1.43	0	0	.15	0	.05	0
29	.10	0	.05	3.2	1.98	5.2	0	-	1.5	0	.25	0
30	0	.01	1.4	.83	.15	4.6	0	-----	5.0	0	0	0
31	.20	.03	-----	.46	-----	1.01	0	-----	.10	-----	0	-----
Total	15.65	11.54	6.84	17.95	17.04	72.04	8.65	3.09	10.40	6.95	1.10	3.24
Mean:												
mgd	0.505	0.372	0.228	0.579	0.568	2.32	0.279	0.110	0.335	0.232	0.035	0.108
cfs	0.781	0.576	0.353	0.896	0.879	3.59	0.432	0.170	0.518	0.359	0.054	0.167
Ac-ft	48	35	21	55	52	221	27	9.5	32	21	3.4	9.9

Calendar year 1948: Max 15 Min 0 Mean(mgd) 0.739 Mean(cfs) 1.14 Ac-ft 830

Fiscal year 1948-49: Max 12.8 Min 0 Mean(mgd) 0.478 Mean(cfs) 0.740 Ac-ft 535

Peak discharge (base, 44 Mgd).--Aug. 15 (5:30 p.m.) 52 mgd (80 cfs), 3.11 ft.

Note.--No gage-height record July 15 to Aug. 13, Jan. 1-5, Jan. 22 to Feb. 3, Feb. 26 to Mar. 15, Mar. 18 to Apr. 28, May 26 to June 14; discharge estimated on basis of recorded range in stage and records for nearby stations.

Discharge, in million gallons a day, fiscal year July 1949 to June 1950

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	0	0	0	0	2.75	0	0	0	0.63	0.61	0
2	0	0	.07	0	0	2.3	3.8	0	0	.04	.20	0
3	0	0	0	0	0	2.45	3.49	0	0	0	.01	0
4	0	0	0	0	.11	.39	0	0	0	0	.24	0
5	0	0	0	0	4.4	.03	0	0	0	0	0	0
6	0	0	0	0	.45	0	0	0	1.65	.15	0	0
7	0	0	0	0	.27	0	0	0	0	.38	.71	0
8	0	0	0	0	0	0	0	0	0	.05	1.48	.24
9	0	0	0	0	0	0	0	0	0	0	.03	.03
10	0	.01	0	.20	0	0	0	0	.70	2.1	.01	0
11	.05	.01	0	0	0	.01	3.2	0	.99	2.05	.58	.05
12	0	0	0	.23	4.1	0	2.25	0	.01	.23	.03	0
13	.06	0	0	.12	2.6	.03	.51	1.21	0	.79	0	0
14	0	0	0	.01	.66	.13	0	0	0	.14	0	0
15	.50	0	0	0	.57	0	0	0	0	.31	0	0
16	0	0	0	0	.79	.08	0	0	0	.29	.07	0
17	0	0	0	0	.47	0	0	2.45	0	1.85	.04	0
18	0	.01	0	0	.40	0	0	4.4	0	1.87	2.3	0
19	0	0	0	0	.08	0	0	.49	0	8.7	.11	0
20	0	.01	0	0	0	0	0	.17	6.8	.71	.25	0
21	0	0	0	0	0	0	.85	9.7	0	.39	0	0
22	0	0	0	0	0	0	4.9	.57	1.33	.10	0	0
23	0	0	0	0	0	0	.56	.02	6.9	.46	.23	0
24	0	0	0	0	0	0	.07	3.4	4.4	.80	.58	0
25	0	.01	0	0	0	0	0	1.47	.82	.36	.48	0
26	5.0	0	0	0	0	0	0	0	.05	1.12	.29	.21
27	1.0	0	0	0	.61	0	0	0	.08	3.55	.07	.04
28	0	0	0	0	.07	0	0	.03	.45	16.0	0	0
29	.15	0	0	0	3.95	0	0	-	10.3	1.13	0	0
30	0	0	0	0	5.7	.38	0	-----	3.6	1.32	0	0
31	0	0	-----	0	-----	.02	0	-----	1.32	-----	0	-----
Total	6.76	0.12	0	0.56	25.23	8.57	10.05	15.13	41.11	56.86	9.12	1.86
Mean:												
mgd	0.218	0.004	0	0.018	0.841	0.276	0.324	0.540	1.33	1.90	0.294	0.062
cfs	0.337	0.006	0	0.028	1.30	0.427	0.501	0.836	2.06	2.94	0.455	0.096
Ac-ft	21	0.4	0	1.7	77	26	31	46	126	174	28	5.7

Calendar year 1949: Max 5.7 Min 0 Mean(mgd) 0.205 Mean(cfs) 0.317 Ac-ft 229

Fiscal year 1949-50: Max 16.0 Min 0 Mean(mgd) 0.480 Mean(cfs) 0.743 Ac-ft 537

Peak discharge (base, 44 mgd).--Apr. 28 (2 p.m.) 50 mgd (77 cfs), 3.05 ft.

Note.--No gage-height record July 1 to Aug. 1, Aug. 13-22; discharge estimated on basis of recorded range in stage and records for nearby stations.

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Haipuaena Stream at Kula pipeline intake, near Olinda--Continued

Discharge, in million gallons a day, fiscal year July 1950 to June 1951

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.12	0	0	0	0	0.32	0.03	0	0.09	2.2	0	0
2	.02	.28	0	0	0	.75	0	0	0	.65	0	0
3	0	.02	0	0	0	.54	0	0	0	.04	0	0
4	0	0	0	0	0	1.13	0	0	0	.22	0	0
5	0	0	0	.98	0	.03	0	0	.29	.54	0	1.13
6	0	0	0	.83	0	3.4	0	0	.05	.13	.22	.13
7	0	.03	0	0	0	2.6	0	0	0	0	.05	0
8	0	0	1.0	.70	0	.84	.10	0	0	0	0	0
9	.04	0	2.5	.47	0	0	.29	0	0	.91	0	0
10	4.3	0	1.8	0	0	2.15	.02	0	0	.08	0	.61
11	1.05	.11	1.5	.26	0	1.15	.01	0	0	0	0	1.08
12	0	.03	.30	0	0	1.78	0	1.93	0	0	0	.93
13	0	.65	0	0	0	.86	0	4.2	2.2	0	0	.08
14	0	24.5	0	0	0	.08	10.9	2.6	2.95	0	0	0
15	0	3.45	0	0	0	0	7.1	2.5	0	0	0	0
16	0	0	0	0	1.21	0	5.5	2.8	.52	0	0	0
17	0	2.7	0	0	.31	0	.70	.50	.39	0	.19	0
18	0	.58	0	0	0	0	.21	6.3	.45	0	.16	0
19	.06	0	0	0	.09	0	0	1.65	.16	0	0	0
20	4.3	0	0	0	.57	0	0	.47	0	0	0	0
21	.60	0	0	0	.03	0	0	3.3	0	0	0	0
22	.44	0	0	0	0	0	.64	1.40	2.0	0	0	0
23	.30	0	0	0	0	0	.44	.11	0	0	0	0
24	.71	0	0	1.89	0	0	0	0	0	0	0	.73
25	.26	0	0	.28	18.6	.24	0	0	.26	0	0	.02
26	0	0	0	1.84	9.6	3.6	0	0	0	0	0	0
27	0	0	0	0	.63	4.0	0	0	0	0	0	0
28	.03	0	0	0	.04	4.1	0	0	0	0	0	0
29	0	0	0	0	0	16.4	0	0	0	0	0	0
30	0	0	0	0	.25	1.18	0	-----	0	0	0	0
31	0	0	-----	0	-----	.36	0	-----	1.20	-----	0	-----
Total	12.23	32.35	7.10	7.25	31.33	45.51	26.08	27.76	10.56	4.77	0.62	4.71
Mean	0.395	1.04	0.237	0.234	1.04	1.47	0.841	0.991	0.341	0.159	0.020	0.157
cfs	0.611	1.61	0.367	0.362	1.61	2.27	1.30	1.53	0.528	0.246	0.031	0.243
Ac-ft	38	99	22	22	96	140	80	85	32	15	1.9	14

Calendar year 1950: Max 24.5 Min 0 Mean(mgd) 0.739 Mean(cfs) 1.14 Ac-ft 828

Fiscal year 1950-51: Max 24.5 Min 0 Mean(mgd) 0.576 Mean(cfs) 0.691 Ac-ft 645

Peak discharge (base, 44 mgd).--Aug. 17 (3:30 p.m.) 44 mgd (68 cfs), 2.93 ft.

Note.--No gage-height record Aug. 27 to Sept. 13, Mar. 19-22; discharge estimated on basis of recorded range in stage and records for nearby stations.

Discharge, in million gallons a day, fiscal year July 1951 to June 1952

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	0	0.39	0	0	0	0.08	0	0	0	1.02	0
2	0	0	0	0	0	0	0	.10	.01	.19	.04	0
3	0	0	0	0	0	0	.41	0	.01	.01	1.75	0
4	0	0	0	0	0	0	.29	0	5.9	0	1.01	0
5	0	.75	.55	0	0	0	0	0	2.7	.17	1.26	.40
6	.37	6.0	.83	0	0	0	0	0	.32	.22	1.24	.14
7	.10	6.9	2.4	0	.3	0	0	0	1.66	0	.07	0
8	0	.42	.25	0	.4	0	0	0	6.5	0	0	0
9	0	.36	0	0	.2	0	0	0	5.3	0	0	0
10	0	.03	0	0	0	0	0	0	5.2	0	0	.01
11	0	0	0	0	0	6.2	0	0	2.65	0	0	0
12	0	0	0	0	0	1.80	0	0	2.35	0	0	0
13	.07	0	0	0	0	.01	0	1.02	2.15	.61	0	0
14	.04	0	0	0	0	0	.40	.13	.34	.17	0	0
15	0	0	0	0	0	0	0	0	.02	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	.48	.25	0	0	0
18	0	0	0	0	0	0	0	.06	.13	0	.68	.08
19	0	0	0	0	3.0	0	1.0	5.7	.01	0	2.05	.30
20	.01	.97	0	4.0	7.0	0	8.0	1.65	0	.55	.13	.10
21	0	.03	0	.2	1.89	0	.50	0	0	.35	0	0
22	0	0	0	.85	.85	0	0	0	0	0	.37	0
23	0	0	0	.3	.05	0	0	.55	0	.77	.07	0
24	0	.04	0	0	0.0	0	0	.58	0	0	0	0
25	0	1.06	0	0	0	0	0	.02	0	0	0	0
26	0	0	0	0	2.75	0	0	0	0	0	0	0
27	0	0	0	0	1.00	0	0	0	1.48	1.42	.04	0
28	0	.02	0	0	.34	0	0	0	.58	.05	.01	0
29	.64	0	0	.3	.04	.12	0	0	0	0	0	.38
30	2.7	.26	0	5.0	0	.86	0	-----	0	.47	0	.32
31	.13	1.48	-----	.5	-----	1.29	0	-----	0	-----	0	-----
Total	4.06	18.32	4.42	10.3	17.82	10.28	10.68	10.29	38.35	4.98	9.74	1.73
Mean	0.131	0.591	0.147	0.332	0.575	0.332	0.345	0.355	1.24	0.166	0.314	0.058
cfs	0.203	0.914	0.227	0.514	0.890	0.514	0.534	0.549	1.92	0.257	0.486	0.090
Ac-ft	12	56	14	32	55	32	33	32	118	15	30	5.3

Calendar year 1951: Max 10.9 Min 0 Mean(mgd) 0.383 Mean(cfs) 0.593 Ac-ft 429

Fiscal year 1951-52: Max 8.0 Min 0 Mean(mgd) 0.385 Mean(cfs) 0.596 Ac-ft 434

Peak discharge (base, 44 mgd).--Dec. 11 (9:30 p.m.) 44 mgd (68 cfs), 2.94 ft; Feb. 19 (7 p.m.) 44 mgd (68 cfs), 2.94 ft.

Note.--No gage-height record Oct. 12 to Nov. 20, Dec. 25-29, Jan. 5-21, Jan. 27 to Feb. 1; discharge estimated on basis of recorded range in stage and records for nearby stations.

Haipuaena Stream at Kula pipeline intake, near Olinda--Continued

Discharge, in million gallons a day, fiscal year July 1952 to June 1953

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	0.33	0	0	1.65	0.54		0	0.03	0	0	0
2	0	.01	0	0	2.1	.52		0	.01	0	0	0
3	0	0	.08	0	.85	0		0	0	0	5.8	0
4	0	0	0	.71	.47	4.3		0	10.0	0	10.5	0
5	.20	0	0	.04	.05	4.4		0	1.31	0	.59	0
6	0	0	.08	0	0	2.65		0	.01	0	.70	0
7	0	.01	.01	0	0	3.05		0	0	0	.72	0
8	.38	0	0	0	0	.84		0	0	0	1.21	0
9	1.40	1.16	.16	0	1.90	1.90		0	2.35	0	.20	0
10	.02	.12	.10	0	8.3	.99		0	1.72	0	.01	0
11	0	0	0	0	6.8	.02		0	.03	0	0	.01
12	0	.25	0	.19	1.51	0		0	0	0	0	.08
13	0	.02	1.66	0	3.6	0		0	.17	0	0	0
14	5.5	0	.29	0	2.85	0		0	.05	0	0	0
15	3.7	.22	0	0	3.65	0		0	0	0	0	.10
16	.15	.02	0	0	3.3	0		0	0	0	.30	.27
17	.79	0	.08	0	.23	.02		0	0	0	.04	0
18	.75	0	.08	.22	0	1.74		.19	.43	0	0	.13
19	.01	0	0	1.46	.60	.01		.21	.02	.06	0	.03
20	0	0	0	.15	.94	0		0	0	0	0	0
21	0	0	0	1.07	.05	0		0	0	0	0	0
22	0	0	0	.32	0	0		0	0	0	0	.02
23	0	0	0	.82	0	0		0	0	0	0	.35
24	0	0	0	1.16	0	0		0	0	0	0	.39
25	0	0	0	.16	0	0		0	0	0	0	.04
26	.17	.31	0	1.18	0	0		0	.08	0	0	0
27	.04	.25	0	.06	1.30	0		.01	0	0	0	0
28	0	0	0	0	2.8	0		.02	0	0	.05	0
29	0	0	0	.18	1.61	0		-	0	0	0	0
30	0	0	0	1.88	4.5	0		-----	0	0	0	0
31	0	.01	-----	2.55	-----	0		-----	0	-----	0	-----
Total	13.09	2.71	2.54	12.15	49.06	20.98	0	0.43	16.21	0.06	18.12	1.42
Mean:												
mgd	0.422	0.087	0.085	0.392	1.64	0.677	0	0.015	0.523	0.002	0.585	0.047
cfs	0.653	0.135	0.132	0.607	2.54	1.05	0	0.023	0.809	0.003	0.905	0.073
Ac-ft	40	8.3	7.8	37	151	64	0	1.3	50	0.2	58	4.4

Calendar year 1952: Max 8.3 Min 0 Mean(mgd) 0.482 Mean(cfs) 0.746 Ac-ft 541

Fiscal year 1952-53: Max 10.5 Min 0 Mean(mgd) 0.375 Mean(cfs) 0.580 Ac-ft 420

Peak discharge (base, 44 mgd).--Nov. 10 (10 p.m.) 44 mgd (68 cfs), 2.94 ft; Mar. 4 (3 p.m.) 60 mgd (93 cfs), 3.24 ft.

Discharge, in million gallons a day, fiscal year July 1953 to June 1954

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	0	0	0	0	0	0	0	0	0	0	0.16
2	0	5.3	0	0	0	0	0	0	.25	0	0	0
3	.10	.52	0	0	0	0	0	0	.05	0	1.02	0
4	.96	0	0	0	0	0	0	0	2.05	0	2.5	0
5	.07	0	0	0	0	.10	15.8	0	7.0	0	.17	0
6	0	.47	0	0	0	0	.51	0	1.34	0	1.03	0
7	0	.33	0	0	0	.35	.02	0	1.90	0	.05	.01
8	0	0	0	0	0	0	0	0	.89	0	0	0
9	0	0	.03	0	.02	0	0	0	1.12	0	0	0
10	0	0	.01	0	.03	0	0	0	1.60	0	0	0
11	0	0	0	0	.12	0	0	0	.58	0	0	0
12	0	0	0	0	0	0	0	0	.18	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	3.25	2.45	0	0	0	0	0	0	0
17	0	0	0	.51	1.49	0	0	0	0	8.6	0	0
18	0	0	0	0	.01	0	0	0	.56	5.5	2.75	0
19	0	0	0	0	1.08	a0	0	0	0	0	2.9	0
20	0	0	0	0	.07	a0	0	0	0	0	.41	0
21	0	0	0	0	0	a.10	0	0	.31	0	.01	0
22	0	.25	0	0	0	a.04	0	0	.02	0	.41	0
23	0	.05	0	0	0	a0	0	0	0	0	.50	.10
24	0	0	0	0	.50	a0	0	0	0	0	.06	.38
25	0	0	0	0	1.61	a0	0	1.37	0	0	.04	.02
26	0	0	0	0	.03	a0	0	.28	0	0	.13	0
27	0	0	0	0	0	a.80	0	0	0	0	.89	.04
28	0	0	0	0	0	.03	0	0	0	0	3.25	.13
29	0	0	0	0	0	0	0	-	0	0	2.0	.06
30	0	0	0	0	0	0	0	-----	0	0	0	.31
31	0	0	-----	0	-----	0	0	-----	0	-----	.30	-----
Total	1.15	6.92	0.04	3.76	7.41	1.42	16.33	1.65	17.85	15.39	19.79	1.21
Mean:												
mgd	0.036	0.223	0.001	0.121	0.247	0.005	0.527	0.059	0.576	0.513	0.638	0.040
cfs	0.056	0.345	0.002	0.187	0.382	0.008	0.815	0.091	0.891	0.794	0.987	0.062
Ac-ft	3.5	21	0.1	12	23	4.4	50	5.1	55	47	61	3.7

Calendar year 1953: Max 10.5 Min 0 Mean(mgd) 0.156 Mean(cfs) 0.241 Ac-ft 176

Fiscal year 1953-54: Max 15.8 Min 0 Mean(mgd) 0.255 Mean(cfs) 0.395 Ac-ft 286

Peak discharge (base, 44 mgd).--Jan. 5 (5 a.m.) 47 mgd (73 cfs), 2.98 ft.

a No gage-height record; discharge estimated on basis of recorded range in stage and records for nearby stations.

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Haipuena Stream at Kula pipeline intake, near Olinda--Continued

Discharge, in million gallons a day, fiscal year July 1954 to June 1955

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.28	0	0	0	0	0	1.37	0	0	0.05	0	0
2	7.7	0	0	0	0	1.85	1.00	0	0	0.02	0	0
3	1.15	0	0	0	0	.97	.48	0	0	.06	2.25	0
4	2.05	1.30	0	0	0	.01	.41	0	0	.02	1.02	.79
5	.19	.03	0	0	0	.09	0	0	.01	0	.04	.14
6	0	0	.01	0	0	1.43	0	0	.91	0	0	0
7	0	0	.03	0	0	2.15	7.9	.82	.19	0	.05	0
8	0	0	0	0	0	.03	8.3	2.05	0	0	0	0
9	0	0	0	.39	0	19.8	1.66	0	0	0	.06	0
10	.32	0	0	1.11	0	30.5	0	19.1	6.3	0	.01	0
11	.11	.07	0	.01	0	10.2	0	13.9	6.7	0	0	0
12	1.48	1.81	0	0	0	18.3	0	2.7	1.64	0	0	0
13	.39	.35	0	0	0	6.6	0	5.4	.32	0	0	0
14	.05	.73	0	0	0	9.0	0	1.29	.04	0	0	0
15	0	.22	0	0	0	.60	0	.84	.56	0	0	0
16	.61	.32	0	0	0	6.2	0	.35	6.6	0	.07	.04
17	2.2	.17	4.3	0	0	.57	0	.57	.28	1.10	0	0
18	.83	.06	3.75	0	0	.04	0	3.4	0	3.25	0	0
19	.21	.84	1.03	0	0	0	0	10.9	0	3.75	.85	.47
20	.11	.34	.06	.02	0	.07	0	2.45	.45	.21	1.21	0
21	0	.15	0	.04	0	9.1	3.5	.15	.03	.10	.17	0
22	.07	0	0	0	0	2.45	.42	0	.14	.12	.01	0
23	.72	1.26	0	0	0	.01	0	.15	.95	.38	.08	0
24	a.55	.03	0	0	0	0	0	.21	0	.32	1.07	0
25	a2.3	0	.49	0	0	0	0	0	0	.60	.72	0
26	a4.0	.23	.01	.09	0	.51	6.7	0	0	.98	1.21	0
27	f1.75	.03	0	0	0	.7	1.95	.92	0	.21	.26	0
28	4.6	0	0	0	0	1.24	.32	.01	0	.01	0	0
29	1.69	.08	0	0	.06	2.12	0	0	0	4.4	0	.12
30	.16	0	0	0	0	2.45	.44	0	0	.44	0	.01
31	0	0	-----	0	-----	1.48	0	-----	.02	-----	0	-----
Total	33.52	8.02	9.68	1.66	2.24	140.49	16.15	66.87	25.14	16.02	9.10	1.57
Mean:												
mgd	1.08	0.259	0.323	0.054	0.075	4.53	0.521	2.39	0.811	0.534	0.294	0.052
cfs	1.67	0.401	0.500	0.083	0.116	7.01	0.806	3.70	1.25	0.826	0.455	0.080
Ac-ft	103	25	30	5.1	6.9	431	50	205	77	49	28	4.8

Calendar year 1954: Max 30.5 Min 0 Mean(mgd) 0.734 Mean(cfs) 1.14 Ac-ft 823
 Fiscal year 1954-55: Max 30.5 Min 0 Mean(mgd) 0.905 Mean(cfs) 1.40 Ac-ft 1,010

Peak discharge (base, 44 mgd).--Dec. 10 (3:30 p.m.) 60 mgd (93 cfs), 3.23 ft; Feb. 11 (5 a.m.) 50 mgd (77 cfs), 3.07 ft.

a No gage-height record; discharge estimated on basis of records for nearby stations and recorded range in stage.

f Fragmentary gage-height record; discharge computed from partly estimated gage heights.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	0.21	0	0	0	0	0	0	0	1.71	0	0.30
2	0	1.86	.16	.10	0	0	0	0	0	6.2	0	1.95
3	0	1.04	.01	0	0	0	0	2.7	0	2.5	.03	3.55
4	.12	.11	0	.39	0	0	0	3.5	0	.56	0	.54
5	1.2	.16	0	.20	0	0	0	.06	0	*0	0	.02
6	.11	.03	0	.08	0	0	0	0	0	.15	.91	.19
7	0	0	0	0	0	0	0	0	0	.13	2.85	.09
8	0	0	0	0	0	0	0	2.2	0	.57	1.51	0
9	0	1.59	0	0	0	0	.51	.10	0	6.0	.73	.05
10	0	1.79	0	.01	1.95	0	.03	0	5.3	.43	.78	.78
11	0	1.08	0	0	.01	0	0	0	0	.97	1.76	.43
12	.14	.04	0	0	0	0	9.0	0	0	.62	.23	5.5
13	3.35	0	0	0	0	0	5.1	0	0	2.9	.61	3.7
14	.48	0	0	0	0	0	.36	0	0	0	1.49	3.4
15	.12	0	0	0	0	0	0	.08	0	0	.03	.53
16	.22	0	0	0	0	0	0	0	0	.49	0	0
17	.01	.70	0	0	0	0	0	1.36	0	.28	0	0
18	0	.03	.40	0	0	0	0	23	0	0	.16	0
19	0	5.1	.03	0	.30	0	0	7.5	0	0	.20	0
20	0	.67	0	0	.70	5.0	0	10.2	0	1.71	.06	0
21	.05	.03	0	0	.15	12.5	0	.52	0	.55	0	0
22	.02	0	0	0	.13	.56	0	.49	.05	.09	0	.02
23	.49	.19	0	0	0	0	0	.36	.04	0	.19	.06
24	.09	.46	0	0	0	0	0	2.2	.05	0	*.04	.20
25	.30	0	0	0	0	0	0	19.6	0	0	.06	0
26	.47	.32	0	0	0	0	.92	18.7	0	0	.19	0
27	2.75	.01	0	0	0	0	.04	3.3	0	0	.04	0
28	2.05	0	0	0	0	0	0	1.05	0	0	0	0
29	1.06	0	.21	0	0	0	0	.06	.38	0	.27	0
30	.16	0	0	0	0	0	0	0	.26	0	.27	.01
31	5.5	0	-----	0	-----	0	.15	-----	0	-----	.49	-----
Total	18.71	15.42	0.81	0.78	3.24	18.06	16.11	96.98	0.78	30.73	12.55	21.12
Mean:												
mgd	0.604	0.497	0.027	0.025	0.108	0.583	0.520	3.34	0.025	1.02	0.405	0.704
cfs	0.935	0.769	0.042	0.039	0.167	0.902	0.805	5.17	0.039	1.58	0.627	1.09
Ac-ft	57	47	2.5	2.4	9.9	55	49	298	2.4	94	39	65

Calendar year 1955: Max 19.1 Min 0 Mean(mgd) 0.526 Mean(cfs) 0.814 Ac-ft 568
 Fiscal year 1955-56: Max 23 Min 0 Mean(mgd) 0.643 Mean(cfs) 0.995 Ac-ft 721

Peak discharge (base, 44 mgd).--Feb. 18 (1 p.m.) 47 mgd (73 cfs), 2.98 ft; Feb. 25 (8 p.m.) 65 mgd (101 cfs), 3.37 ft.

* Discharge measurement or observation of no flow made on this day.

Kula diversion from Haipuaena Stream near Olinda

Location--Lat 20°48'25" (revised), long 156°13'25" (revised), on left bank 3.7 miles east of Maui County, Olinda Reservoir, and 6.2 miles south of Kailua.

Records available--July 1945 to June 1956.

Gage--Water-stage recorder and Parshall flume. Altitude of gage is 4,300 ft (from topographic map).

Average discharge--10 years (1946-56), 0.445 mgd (0.689 cfs).

Extremes--1945-56: Maximum daily discharge, 2.05 mgd (3.17 cfs) Mar. 20, 1948; minimum daily, 0.01 mgd (0.02 cfs) for several days in 1953, 1954, 1955.

Remarks--Records good. Kula diversion flume diverts water from Haipuaena Stream at station for domestic use and irrigation of truck crops in the Olinda and Kula areas.

Discharge, in million gallons a day, fiscal year 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.25	0.63	0.50	0.43	0.04	0.08	0.04	0.34	0.44	0.83	0.38	1.00
2	.17	1.19	<u>1.03</u>	.84	.05	.06	.04	.28	.32	<u>2.0</u>	.48	1.30
3	.14	1.09	.63	.59	.04	.05	.03	1.57	.22	1.50	.86	1.32
4	.68	.76	.48	.94	.03	.04	.03	1.24	.17	1.00	.55	1.08
5	.65	.96	.36	<u>1.02</u>	.02	.03	<u>.02</u>	.61	.20	.45	.48	.86
6	.56	.70	.28	.88	.02	.02	.02	.32	.26	.62	.94	.99
7	.27	.36	.26	.48	.02	.02	.02	.22	.16	.89	1.29	.96
8	.19	.37	.19	.25	<u>.01</u>	.02	.02	.80	.12	.86	1.04	.63
9	.14	<u>1.30</u>	.14	.16	<u>.02</u>	.02	1.06	.66	.10	1.06	1.20	.82
10	.18	<u>1.21</u>	.10	.34	<u>1.12</u>	<u>.01</u>	.81	.34	.09	.94	1.13	1.34
11	<u>.12</u>	1.08	.09	.40	.59	.02	.41	.23	<u>.08</u>	1.09	1.37	1.03
12	.57	.66	.07	*.23	.33	.02	.78	.19	.09	1.41	1.13	<u>1.63</u>
13	<u>1.58</u>	.44	.07	.19	.17	.02	<u>1.12</u>	.21	.08	1.48	1.31	1.30
14	<u>1.12</u>	.30	.08	.17	.14	.02	<u>.92</u>	<u>.17</u>	.24	.67	<u>1.40</u>	1.18
15	.93	.23	.27	.10	.23	.02	.43	.62	.16	.52	.74	1.05
16	1.02	<u>.21</u>	.25	.09	.16	.01	.26	.46	.09	.87	.42	.86
17	.56	1.20	.15	.07	.23	.01	.18	.91	.11	1.03	<u>.30</u>	.42
18	.44	.68	.49	.06	.23	.01	.12	1.03	.27	.42	.59	.32
19	*.32	.94	.49	.04	.45	.01	.09	.37	.47	.30	.98	.26
20	.45	.61	.22	.04	1.01	<u>.71</u>	.07	.36	.47	.98	.88	.25
21	.55	.42	.14	<u>.03</u>	.90	.31	.06	.81	.21	1.12	.55	.22
22	.51	.28	.14	<u>.03</u>	.89	.45	.05	1.26	.34	.88	.46	.58
23	.69	.79	.11	.05	.41	.38	.04	1.03	.62	.57	.76	.81
24	.77	1.07	.09	.09	.32	.23	.03	<u>1.72</u>	.79	.34	*.83	1.00
25	1.05	.54	.07	.07	.34	.17	.23	<u>1.39</u>	.40	.28	.81	.42
26	1.19	1.09	<u>.05</u>	.06	.19	.12	.95	.32	.25	.40	.93	.22
27	1.28	.71	.05	.06	.14	.09	.58	1.28	.18	.38	.70	.16
28	1.15	.38	.08	.06	.10	.08	.26	1.23	.15	.22	.47	.15
29	1.23	.28	.75	.04	.09	.06	.23	.71	.52	.18	.64	.12
30	.96	.23	.50	.03	.09	.05	.32	-----	.83	.18	.78	.53
31	.81	.32	-----	.03	-----	.05	.91	-----	.40	-----	1.15	-----
Total	20.53	21.03	8.13	7.87	8.38	3.19	10.13	20.88	8.89	23.47	25.55	22.63
Mean	0.662	0.678	0.271	0.254	0.279	0.103	0.327	0.720	0.287	0.782	0.824	0.754
cfs	1.02	1.05	0.419	0.393	0.432	0.159	0.506	1.11	0.444	1.21	1.27	1.17
Ac-ft	63	65	25	24	26	9.8	31	64	27	72	78	69

Calendar year 1955: Max 1.72 Min 0.01 Mean(mgd) 0.468 Mean(cfs) 0.724 Ac-ft 524
 Fiscal year 1955-56: Max 2.0 Min 0.01 Mean(mgd) 0.494 Mean(cfs) 0.764 Ac-ft 554

* Discharge measurement made on this day.

Haipuaena diversion ditch at Kolea Gulch, near Keanae

Location.--Lat 20°50'50", long 156°11'40", on right bank 15 ft downstream from end of tunnel in Kolea Gulch, 3.1 miles southwest of Keanae, and 3.7 miles southeast of Kailua.

Records available.--March 1938 to June 1956.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 1,800 ft (from topographic map).

Average discharge.--18 years, 2.01 mgd (3.11 cfs).

Extremes.--1938-56: Maximum daily discharge, 11.4 mgd (17.6 cfs) Aug. 14, 1950; minimum daily, 0.02 mgd (0.03 cfs) Feb. 27 to Mar. 2, Apr. 3, 4, 1956.

Remarks.--Records excellent. Ditch diverts water from Haipuaena Stream for East Maui Irrigation Co.'s hydroelectric plant about 1 mile downstream from where it discharges into Koolau ditch for irrigation in central Maui.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.62	*2.25	2.4	1.69	0.96	1.36	1.19	1.69	0.02	0.21	1.90	2.25
2	1.56	2.5	2.3	2.05	1.07	1.31	1.02	1.76	.02	.19	1.90	2.8
3	1.56	2.6	1.96	1.96	1.02	1.25	.96	2.6	.05	.02	2.1	3.15
4	2.1	2.1	1.90	2.7	.85	1.19	.90	2.85	.09	.02	1.90	2.6
5	1.94	1.96	1.83	2.5	.85	1.13	.85	1.90	.13	.03	1.96	2.5
6	1.83	1.90	1.76	2.3	.75	1.07	.85	1.83	.09	.05	2.55	2.6
7	1.62	1.76	1.69	1.96	.75	1.13	.89	1.76	.09	.04	3.8	2.25
8	1.56	2.1	1.62	1.83	.70	1.13	1.06	2.3	.09	.08	3.0	2.1
9	1.56	2.7	1.56	1.76	.70	.96	3.0	1.96	.09	.05	2.6	2.25
10	1.69	3.1	1.56	1.83	2.4	.96	2.3	1.69	.09	.07	2.5	2.7
11	1.49	2.7	1.56	1.83	1.56	1.25	1.76	1.62	.10	.05	2.85	2.3
12	2.1	2.45	1.49	1.62	1.31	1.25	3.0	1.69	.10	.07	2.95	3.55
13	3.25	1.96	1.76	1.69	1.07	.96	3.15	1.62	.10	.07	2.7	3.4
14	2.25	1.90	1.62	1.62	1.25	.85	1.96	1.87	.09	.07	2.85	3.15
15	2.3	1.96	1.96	1.56	1.42	.80	1.62	2.2	.09	.08	2.05	2.3
16	2.25	1.90	1.69	1.49	1.36	.75	1.56	*2.25	.09	.09	1.83	1.96
17	2.05	2.6	1.56	1.42	1.76	.75	1.49	2.75	.10	.09	1.76	1.90
18	2.25	1.96	1.90	1.36	1.62	.70	1.42	5.4	.11	.10	2.1	1.83
19	2.1	2.4	1.76	1.36	1.77	.70	1.42	3.3	.08	.11	2.3	1.83
20	1.96	2.25	1.56	1.36	2.5	2.75	1.36	4.0	.09	.16	2.3	1.76
21	1.83	1.90	1.49	1.31	2.55	3.6	1.31	2.5	.10	.13	1.90	1.69
22	1.76	1.76	1.42	1.25	2.3	1.90	1.31	2.6	.13	.11	1.76	1.90
23	1.83	2.25	1.36	1.56	1.90	1.49	1.25	2.55	.07	.14	1.69	2.25
24	1.90	2.5	1.31	*1.49	2.05	1.42	1.25	4.2	.08	1.15	1.91	2.6
25	2.3	2.1	1.31	1.36	1.76	1.36	1.49	5.8	.08	1.69	2.1	1.90
26	2.2	2.25	1.36	1.31	1.62	1.31	2.2	.80	.08	1.76	1.96	1.76
27	3.25	2.05	1.42	1.19	1.56	1.25	1.90	.02	.11	1.69	1.76	1.69
28	2.85	1.83	1.62	1.07	1.49	1.19	1.83	.02	.14	1.56	*1.82	1.69
29	2.65	1.76	2.25	1.02	1.42	1.13	2.3	.02	.16	1.56	1.96	1.69
30	2.25	1.76	1.83	.96	1.42	1.25	1.76	-----	.14	1.76	2.2	2.3
31	3.3	1.90	-----	.96	-----	1.36	2.05	-----	.16	-	2.25	-----
Total	65.16	67.11	50.81	49.37	43.74	39.57	50.12	65.55	2.96	13.20	69.01	68.65
Mean:												
mgd	2.10	2.16	1.69	1.59	1.46	1.28	1.62	2.26	0.095	0.440	2.23	2.29
cfs	3.25	3.34	2.61	2.46	2.26	1.98	2.51	3.50	0.147	0.681	3.45	3.54
Ac-ft	200	206	156	152	134	121	154	201	9.1	41	212	211
Calendar year 1955: Max	6.6			Min	0.70	Mean(mgd)	1.95	Mean(cfs)	3.02	Ac-ft	2,190	
Fiscal year 1955-56: Max	5.8			Min	0.02	Mean(mgd)	1.60	Mean(cfs)	2.48	Ac-ft	1,800	

* Discharge measurement made on this day.

Haipuaena Stream above Spreckels ditch, near Huelo

Location.--Lat 20°51'05", long 156°11'30", on left bank 200 ft upstream from Spreckels ditch, 2.8 miles west of Keanae, 3.3 miles southeast of Kailua, and 4.7 miles southeast of Huelo.

Drainage area.--1.1 sq mi.

Records available.--October 1913 to June 1956. Prior to July 1954, published as Haipuaena Stream near Huelo. December 1910 to September 1913 at site 600 ft downstream; records not equivalent owing to inflow from Spreckels ditch.

Gage.--Water-stage recorder. Datum of gage is 1,512.22 ft above mean sea level (East Maui Irrigation Co. bench mark).

Average discharge.--40 years (1916-56), 9.73 mgd (15.1 cfs).

Extremes.--Maximum discharge during year, 1,110 mgd (1,720 cfs) Feb. 25 (gage height, 6.95 ft), from rating curve extended above 47 mgd by logarithmic plotting; minimum, 0.12 mgd (0.19 cfs) Nov. 9.

1913-56: Maximum discharge, 6,100 mgd (9,440 cfs) Aug. 12, 1940 (gage height, 6.91 ft), from rating curve extended above 150 mgd; minimum, slightly less than 0.1 mgd (about 0.2 cfs) several days during January, February, May, June 1945 and October 1953.

Remarks.--Records fair prior to Nov. 9, good thereafter. Haipuaena diversion ditch diverts water above station (see preceding page).

Rating tables, fiscal year 1955-56, except periods of indefinite stage-discharge relation (gage height, in feet, and discharge, in million gallons a day)

July 1 to Nov. 8

Nov. 9 to June 30

1.3	0.04	1.9	3.8	1.3	0.04	2.4	16.0
1.4	.21	2.1	7.2	1.4	.18	2.7	30
1.5	.58	2.3	12.0	1.5	.49	3.0	50
1.6	1.03	2.5	19.1	1.6	1.00	3.5	99
1.7	1.73	2.7	28.5	1.7	1.75	4.0	187
1.8	2.6	3.0	46	1.9	4.0	4.5	265
				2.1	7.5	5.0	410

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.65	7.7	12.6	1.52	e0.20	0.49	0.38	1.74	7.8	15.3	4.8	9.7
2	1.09	11.2	8.3	4.2	e.20	.38	.26	2.55	5.6	90	4.7	23
3	.94	*15.2	4.7	3.65	e.21	.32	.23	14.2	4.6	24.5	7.0	32
4	5.7	6.6	3.7	16.2	e.19	.26	.20	18.7	4.0	9.6	4.2	17.1
5	4.8	5.7	2.6	9.8	e.17	.23	*.18	2.8	3.75	5.1	5.4	12.1
6	2.45	4.1	2.15	8.9	e.15	.23	.18	1.79	3.4	14.6	15.0	15.5
7	1.03	2.1	1.81	3.85	e.14	.23	.18	2.55	3.0	10.7	32	9.7
8	.74	6.0	1.36	2.25	e.13	.26	.24	13.1	2.75	9.9	27.5	7.1
9	.78	19.1	1.09	1.65	.12	.20	24	3.45	2.55	*36.5	18.7	8.3
10	1.53	28.5	.98	1.70	12.4	.20	8.0	1.51	2.3	51	14.8	20
11	.78	18.9	.83	2.05	1.04	.33	2.2	1.14	2.65	21	25	12.0
12	4.2	11.4	.70	1.22	.35	.45	33.5	1.53	2.3	24.5	24.5	44
13	29.5	5.0	1.81	1.16	.18	.20	27.5	1.14	2.3	25.5	20.5	40
14	6.5	3.4	1.44	.98	.42	.18	4.1	2.85	6.0	6.9	22.5	29.5
15	7.3	4.6	*4.4	.66	.63	.18	1.55	6.2	2.55	11.9	6.5	11.1
16	7.1	3.45	1.82	e.58	.53	.18	1.07	6.3	2.0	11.6	4.6	5.8
17	4.2	13.6	1.03	e.50	2.25	.18	.83	26	2.95	10.5	3.75	4.8
18	7.5	4.7	3.55	e.42	1.57	.18	.63	147	6.2	5.3	9.0	4.5
19	4.8	16.6	2.15	e.35	4.5	.20	.49	33	3.95	4.5	11.9	4.0
20	3.95	9.2	.93	e.33	10.5	18.3	.38	65	2.55	22.5	10.8	3.5
21	2.15	3.15	e.90	e.31	13.8	.51	.35	11.7	2.0	19.2	5.4	2.75
22	1.73	2.5	e.72	e.30	8.6	3.75	.29	12.6	7.2	8.1	3.5	4.1
23	2.5	6.0	e.68	e.65	3.5	.84	.23	15.2	7.9	6.3	2.9	7.8
24	2.75	13.7	e.64	e.80	5.4	.63	.20	57	10.9	3.65	5.2	15.2
25	8.5	4.9	e.62	e.52	2.5	.45	.85	292	14.6	2.3	6.7	4.6
26												
27	5.5	9.0	e.66	*e.35	1.51	.32	*13.2	210	4.8	2.75	5.0	3.25
28	29	4.8	*e.60	e.30	1.21	.26	3.7	69	3.65	2.25	3.4	2.65
29	20.5	2.8	e1.72	e.26	1.00	.20	1.01	24	3.4	1.59	2.45	2.4
30	14.5	2.25	e6.5	e.23	.78	.20	11.4	12.8	15.1	1.51	6.5	2.15
31	7.5	2.4	e2.1	e.22	.68	.40	2.2	-----	8.9	3.15	9.2	11.6
32	42	3.35	-----	e.21	-----	1.24	4.5	-----	4.0	-----	9.6	-----
Total	233.17	252.40	72.47	66.02	74.86	82.47	144.03	1,056.85	155.65	462.20	353.00	370.20
Mean												
mgd	7.52	8.14	2.42	2.13	2.50	2.66	4.65	36.4	5.02	15.4	11.4	12.3
cfs	11.6	12.6	3.74	3.30	3.87	4.12	7.19	56.3	7.77	23.8	17.6	19.0
Ac-ft	716	775	222	203	230	253	442	3,240	478	1,420	1,080	1,140

Calendar year 1955: Max 129 Min 0.12 Mean(mgd) 7.15 Mean(cfs) 11.1 Ac-ft 8,010
 Fiscal year 1955-56: Max 292 Min 0.12 Mean(mgd) 9.08 Mean(cfs) 14.0 Ac-ft 10,200

Peak discharge (base, 750 mgd).--Feb. 25 (8 p.m.) 1,110 mgd (1,720 cfs), 6.95 ft.

* Discharge measurement made on this day.

e Stage-discharge relation indefinite; discharge estimated on basis of records for Waiakamoi Stream.

Spreckels ditch at Haipuaena weir, near Huelo

Location.--Lat 20°51'20", long 156°11'25", on left bank near Spreckels ditch trail between Haipuaena and Puohokamoa Streams, 2.5 miles west of Keanae, 3.5 miles southeast of Kailua, and 4.5 miles southeast of Huelo.

Records available.--April 1922 to June 1956. May 1919 to April 1922 in files of East Maui Irrigation Co.

Gage.--Water-stage recorder and sharp-crested weir. Datum of gage is 1,470.96 ft above mean sea level (East Maui Irrigation Co. bench mark). Apr. 29, 1922, to Feb. 19, 1930, at same site at different datum. Feb. 20, 1930, to Oct. 25, 1935, at site 100 ft upstream at different datum.

Average discharge.--33 years (1922-29, 1930-56), 13.3 mgd (20.6 cfs).

Extremes.--1922-56: Maximum daily discharge, 97 mgd (150 cfs) Feb. 10, 1955, Feb. 18, 1956; no flow at times.

Remarks.--Records excellent except those for period of no gage-height record, which are poor. Flow regulated by gates and spillways. Spreckels ditch diverts water from all streams between Nuaaillua and Kailua Streams, above Koolau ditch east of Puohokamoa and below Koolau ditch west of Puohokamoa. About 4 mgd is diverted from Spreckels ditch to East Maui Irrigation Co.'s hydroelectric plant at Kolea Gulch. Water used for irrigation in central Maui.

Revisions (fiscal years).--WSP 770: 1932-33.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	8.3	18.6	32	5.8	0.17	1.75	a3.5	7.9	13.0	18.3	17.7	26
2	5.8	23	28.5	9.1	.20	1.10	a1.7	10.1	11.5	64	17.8	42
3	5.9	*27.5	18.5	8.1	.25	.72	a1.0	30.5	8.3	35	22	53
4	18.9	16.6	15.4	22.5	.20	.42	a.55	36	6.2	20.5	16.0	35
5	14.1	17.7	10.7	15.2	.17	.34	.30	9.8	5.3	12.9	18.6	30
6	10.3	14.7	9.4	21.5	.17	.30	.30	7.6	5.1	28.5	32.5	33
7	5.3	10.2	8.0	16.0	.17	.49	.30	10.8	4.7	24.5	68	25.5
8	4.2	18.3	5.8	10.2	.17	.66	1.69	23.5	4.0	21.5	46	22.5
9	5.0	38	4.7	8.0	.15	.26	44	11.3	3.75	47	36	24.5
10	9.0	45	3.9	8.1	24	.30	24.5	5.3	2.9	57	32.5	36.5
11	4.4	37.5	3.55	10.4	4.1	1.65	8.0	4.2	4.9	31.5	38	27
12	16.2	27.5	2.9	6.2	1.61	1.78	42	9.2	3.5	36.5	42	60
13	50	17.7	*8.8	5.8	.26	.30	44	4.6	2.6	31	36.5	50
14	21.5	12.9	7.6	5.6	2.3	.30	13.7	12.3	15.9	13.5	42	42
15	25	17.0	19.8	3.5	3.9	.30	5.3	22	4.1	17.7	22	25
16	25	13.3	9.6	2.9	2.5	.26	3.5	21	2.4	17.9	17.3	18.1
17	19.3	27.5	5.3	2.15	10.6	.30	2.4	34.5	3.6	15.4	15.0	17.3
18	25.5	16.9	16.7	1.65	7.2	.26	1.45	97	8.8	9.9	22.5	16.2
19	19.9	27.5	9.6	1.45	10.2	.30	.98	40	7.9	3.9	29.5	15.0
20	17.6	21.5	4.7	1.20	26	33.5	.66	62	4.4	23	28.5	13.9
21	10.2	11.7	3.9	.84	30	55	.51	19.7	2.8	26	19.3	10.7
22	8.8	9.9	3.35	.66	23.5	a3.0	.42	27.5	15.2	11.7	13.6	15.5
23	10.6	22	2.4	4.0	14.8	a.80	.38	29.5	20	9.6	10.4	24
24	12.4	31.5	1.75	*3.85	18.2	a.33	.34	73	25.5	8.5	15.7	35
25	25.5	19.5	1.36	2.05	10.1	a.30	4.3	59	30	7.8	23	16.2
26	21.5	25.5	2.4	1.05	6.0	a.26	27.5	.72	12.0	9.1	19.3	12.0
27	50	18.1	3.5	.42	5.1	a.23	12.0	.35	7.8	3.35	12.3	10.4
28	41	11.7	5.3	.26	4.2	a.25	4.1	8.0	7.8	0	8.0	10.1
29	31	8.8	12.2	.23	7.7	a.25	29	10.2	27	0	21	9.2
30	22.5	10.7	6.6	.20	2.95	a.40	9.1	-----	18.7	10.3	24.5	31
31	43	14.1	-----	.20	-----	a25	20.5	-----	9.6	-----	26.5	-----
Total	587.7	632.4	266.01	179.11	216.85	130.87	507.98	687.57	299.05	613.65	794.0	786.6
Mean	19.0	20.4	8.87	5.78	7.23	4.22	9.93	23.7	9.65	20.5	25.6	26.2
mgd	29.4	31.6	13.7	8.94	11.2	6.53	15.4	36.7	14.9	31.7	39.6	40.5
cfs	1,800	1,940	816	550	665	402	945	2,110	918	1,880	2,440	2,410
Ac-ft												
Calendar year 1955: Max	97			Min	0.15	Mean(mgd)	14.9	Mean(cfs)	23.1	Ac-ft	16,700	
Fiscal year 1955-56: Max	97			Min	0	Mean(mgd)	15.0	Mean(cfs)	23.2	Ac-ft	16,880	

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Manuel Luis ditch and Haipuaena Stream.

Koolau ditch at Haipuaena, near Huelo

Location.--Lat 20°51'15", long 156°11'15", on right bank 1,000 ft upstream from intake at Puohokamoa Stream, 3.5 miles southeast of Kailua, and 4.7 miles southeast of Huelo.

Records available.--April 1932 to June 1956.

Gage.--Water-stage recorder and Parshall flume. Prior to Mar. 21, 1933, at datum 1.94 ft lower and Mar. 21, 1933, to Mar. 20, 1935, at datum 0.25 ft lower than present datum.

Average discharge.--24 years, 79.9 mgd (124 cfs).

Extremes.--1932-56: Maximum daily discharge, 193 mgd (299 cfs) Jan. 17, 1946; no flow Feb. 14-28, Mar. 7-18, 1933, Feb. 26 to Mar. 22, 1935.

Remarks.--Records excellent except those for period of no gage-height record, which are fair. Flow regulated by floodgates. Water used for domestic supply and irrigation in central Maui.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	52	125	161	58	23.5	41	111	59	150	95	93	130
2	42	138	138	100	23.5	35.5	52	60	140	145	93	173
3	41	158	94	94	23.5	34	39	144	110	148	126	183
4	86	119	85	178	22	32.5	34	159	90	150	90	176
5	51	112	67	162	20.5	31	31	80	95	99	105	169
6	44	80	67	145	20.5	29.5	29.5	67	80	127	170	176
7	37	67	63	87	19.4	28	28	78	75	148	190	149
8	35.5	101	55	67	19.4	28	34	102	76	118	183	157
9	37	169	52	59	19.4	26.5	169	59	74	176	176	150
10	46	176	48	52	124	25	102	48	68	190	171	176
11	37	172	44	52	42	29.5	48	72	74	183	176	167
12	78	153	42	50	26.5	28	130	92	65	183	183	183
13	176	112	56	46	23.5	25	159	61	62	169	183	183
14	116	85	*56	42	42	22	74	84	120	137	176	176
15	128	117	108	39	37	22	59	136	65	164	143	162
16	120	94	63	37	35.5	20.5	48	*136	55	133	113	137
17	87	161	48	35.5	75	24.5	42	133	76	130	94	119
18	132	104	84	34	59	28	37	190	72	85	123	110
19	98	99	52	32.5	67	21.5	34	164	65	76	159	99
20	104	130	44	31	138	160	32.5	183	56	124	169	94
21	59	76	41	31	171	163	29.5	164	52	176	108	76
22	52	67	39	29.5	155	68	29.5	169	87	155	80	85
23	50	105	37	34	105	44	28	169	120	142	76	122
24	52	150	35.5	31	122	37	26.5	190	140	99	90	169
25	114	102	34	32.5	69	32.5	58	183	160	80	124	102
26	100	137	35.5	31	52	29.5	139	183	85	72	93	80
27	166	96	39	28	50	29.5	83	160	84	67	67	76
28	167	76	53	26.5	52	26.5	66	110	77	59	53	72
29	122	63	117	25	46	25	132	150	130	55	120	63
30	134	72	72	25	48	32	59	-----	135	89	128	151
31	163	82	-----	23.5	-----	105	73	-----	82	-----	148	-----
Total	2,726.5	3,498	1,930.0	1,718.0	1,731.2	1,284.0	2,016.5	3,585	2,820	3,774	4,013	4,045
Mean:												
mgd	88.0	113	64.3	55.4	57.7	41.4	65.0	124	91.0	126	129	135
cfs	136	175	99.5	85.7	89.3	64.1	101	182	141	195	200	209
Ac-ft	8,370	10,730	5,920	5,270	5,310	3,940	6,190	11,000	8,650	11,580	12,320	12,410
Calendar year 1955:	Max 183			Min 19.4		Mean(mgd) 84.2		Mean(cfs) 130		Ac-ft 94,310		
Fiscal year 1955-56:	Max 190			Min 19.4		Mean(mgd) 90.5		Mean(cfs) 140		Ac-ft 101,700		

* Discharge measurement made on this day.

Note.--No gage-height record Feb. 26 to Apr. 4; discharge estimated on basis of records for station at Keanae and Wailoa ditch at Honopou.

Puohokamoa Stream above Spreckels ditch, near Huelo

Location.--Lat 20°51'20", long 156°11'25", on right bank 650 ft upstream from Spreckels ditch inflow and trail crossing, 3.2 miles southeast of Kailua, and 4.4 miles south-east of Huelo.

Drainage area.--2.6 sq mi.

Records available.--June 1913 to June 1956. Prior to July 1954, published as Puohokamoa Stream near Huelo. December 1910 to May 1913 at site 700 ft downstream; records not equivalent due to inflow of Spreckels ditch.

Gage.--Water-stage recorder and masonry control. Datum of gage is 1,322.04 ft above mean sea level (East Maui Irrigation Co. bench mark). Prior to May 31, 1934, water-stage recorder at site 130 ft downstream at different datum.

Average discharge.--39 years (1917-56), 21.0 mgd (32.5 cfs).

Extremes.--Maximum discharge during year, 1,310 mgd (2,030 cfs) Feb. 25 (gage height, 7.14 ft), from rating curve extended above 400 mgd as explained below; minimum, 1.28 mgd (1.98 cfs) Dec. 18, 19.

1913-56: Maximum discharge, 1,600 mgd (2,480 cfs) Aug. 12, 1940 (gage height, 7.81 ft), from rating curve extended above 400 mgd by logarithmic plotting; minimum, 0.1 mgd (0.2 cfs) Nov. 17, 1929.

Remarks.--Records good except those above 400 mgd, which are fair. Kula pipeline diverts small amount of water above station, at altitude 4,300 ft, for domestic supply.

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Nov. 17

0.6	1.19	1.8	63
.7	2.05	2.2	115
.8	3.2	2.5	165
.9	5.0	3.0	232
1.0	8.7	3.5	340
1.2	15.5	4.0	440
1.4	28	5.0	675

Nov. 18 to June 30

0.6	0.75	0.9	5.10
.7	1.75	1.0	7.90
.8	3.10	1.2	15.5

Note.--Same as preceding table above 1.2 ft.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	5.6	20.5	33	5.0	1.87	2.55	2.4	5.6	20	35	13.9	27.5
2	4.1	27.5	21	12.0	1.97	2.4	2.0	7.9	14.7	208	13.4	53
3	3.95	43	13.3	11.0	1.87	2.25	1.75	31	11.8	58	19.5	75
4	15.9	17.4	11.1	42	1.77	2.15	1.75	33.5	10.2	22.5	11.8	47
5	9.7	14.9	8.2	26	1.68	2.0	*1.50	7.9	9.2	12.2	14.3	37.5
6	8.1	11.8	7.2	23.5	1.59	1.88	1.82	5.4	7.6	35.5	37	42
7	4.3	9.0	6.0	11.8	1.59	1.88	1.50	7.3	6.7	24.5	118	26
8	3.65	18.8	5.0	7.9	1.59	2.15	1.97	33	6.4	21	66	19.9
9	3.75	47	4.3	6.0	1.51	1.75	58	8.8	5.8	70	46	24
10	5.7	87	3.95	5.4	21.5	1.75	21.5	4.8	5.1	122	39.5	52
11	3.65	48	3.65	6.3	4.0	2.4	6.7	4.0	5.8	51	63	32.5
12	12.2	30	3.5	4.1	2.5	2.55	63	4.0	4.8	85	76	98
13	66	14.4	5.9	3.95	2.05	1.88	54	3.8	5.1	50	55	100
14	18.6	11.5	5.1	3.65	2.7	1.82	10.2	7.3	12.6	17.2	59	70
15	21.5	14.3	*12.2	3.2	2.85	1.50	5.4	16.0	5.4	30.5	19.4	31
16	21	11.6	5.6	3.1	2.7	1.39	4.2	17.2	4.4	28	13.9	17.7
17	13.4	36	3.95	2.85	6.6	1.39	3.6	53	5.4	23.5	11.8	15.5
18	22	14.2	7.1	2.6	5.2	1.28	2.95	29.9	13.0	12.2	24	14.7
19	14.3	32	6.3	2.6	14.7	1.28	2.65	62	8.8	9.9	31	13.0
20	12.4	22.5	3.5	2.5	23.5	31	2.4	143	4.8	53	28	11.0
21	7.9	10.9	3.1	2.4	34	105	2.25	30	4.2	42	14.6	8.8
22	6	9.6	2.95	2.4	21.5	8.2	2.25	34	15.1	18.3	10.2	12.2
23	5.2	17.7	*2.7	3.6	9.2	4.2	2.15	35.5	18.2	14.3	8.8	22.5
24	8.1	35.5	2.6	3.65	13.0	3.6	2.0	148	26	9.6	14.7	42
25	24.5	15.2	2.5	2.7	6.4	3.1	3.45	542	35.5	7.9	19.8	13.7
26	14.7	26	2.85	*2.4	4.4	2.8	39	482	9.4	8.8	14.5	9.9
27	77	14.4	3.1	2.15	3.8	2.55	9.9	172	6.7	7.9	9.9	8.5
28	50	10.3	5.4	2.05	3.45	2.15	5.1	75	6.4	6.1	8.1	7.9
29	35	8.2	16.9	1.97	3.1	1.88	30.5	35	32	5.8	*17.1	7.3
30	21.5	8.2	7.0	1.87	2.95	2.4	6.7	-----	18.2	9.2	24.5	31
31	86	9.1	-----	1.87	-----	4.6	12.2	-----	7.6	-----	26.5	-----
Total	605.70	676.5	218.95	212.51	205.54	207.53	364.59	2,306.0	346.9	1,078.9	929.2	971.1
Mean	mgd	19.5	21.8	7.30	6.86	6.85	6.69	11.8	79.5	11.2	36.0	32.4
cfs	30.2	33.7	11.3	10.6	10.6	10.4	18.3	123	17.3	55.7	46.4	50.1
Ac-ft	1,860	2,080	672	652	631	637	1,120	7,080	1,060	3,310	2,850	2,980

Calendar year 1955: Max 275 Min 1.28 Mean(mgd) 19.1 Mean(cfs) 29.6 Ac-ft 21,590
Fiscal year 1955-56: Max 542 Min 1.28 Mean(mgd) 22.2 Mean(cfs) 34.3 Ac-ft 24,930

Peak discharge (base, 750 mgd).--Feb. 25 (9 p.m.) 1,310 mgd (2,030 cfs), 7.14 ft.

* Discharge measurement made on this day.

Manuel Luis ditch at Puohokamoa Gulch, near Huelo

Location.--Lat 20°51'50", long 156°11'00", on right bank at lower portal of tunnel between Haipuaena and Puohokamoa Streams, 2.1 miles west of Keanae, 3 miles southeast of Kailua, and 4.4 miles southeast of Huelo.

Records available.--December 1917 to June 1956.

Gage.--Water-stage recorder and sharp-crested weir.

Average discharge.--37 years (1918-24, 1925-56), 5.69 mgd (8.80 cfs).

Extremes.--1917-56: Maximum daily discharge, 68 mgd (105 cfs) for one or more days in 1938, 1941, 1942, 1947, 1948, 1950, 1956; no flow at times.

Remarks. Records good. Ditch is extension of Center ditch and picks up water at altitude of 500 ft from streams between Kolea and Waiakamoi Streams. Flow regulated by gates. Water used for irrigation in central Maui.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.46	3.9	10.2	1.00	0.34	0.85	1.46	2.1	16.4	15.0	1.70	4.5
2	1.23	9.2	4.5	1.53	.39	.74	1.00	5.5	5.4	64	1.46	7.9
3	1.15	9.9	3.45	1.53	.39	.68	.79	4.5	4.5	22.5	3.35	14.9
4	4.3	4.9	3.65	8.8	.25	.62	.74	3.85	3.75	7.7	1.91	8.6
5	1.65	4.5	2.45	5.3	.22	.51	.62	2.1	3.25	4.2	2.05	5.3
6	1.64	3.45	2.35	4.8	.22	.45	.62	1.70	2.9	11.5	9.2	7.1
7	1.23	2.55	2.25	2.4	.25	.39	.62	9.3	2.55	6.8	33	3.8
8	1.08	4.0	1.89	1.53	.28	.51	.73	9.8	2.35	4.3	15.1	3.85
9	1.18	8.2	1.70	1.38	.25	.39	12.5	3.05	2.25	13.3	9.9	3.55
10	1.88	12.0	1.61	1.38	3.15	.34	2.8	2.15	1.89	24.5	10.1	10.7
11	1.31	15.0	1.61	1.46	.89	.56	1.31	1.89	2.35	10.7	11.4	4.9
12	2.6	7.0	1.38	1.08	.68	.56	10.7	3.2	2.1	10.8	13.2	18.3
13	9.4	3.9	1.63	1.08	.45	.39	7.4	1.80	1.80	6.0	12.8	19.8
14	3.55	3.1	*1.46	1.00	.74	.28	1.80	3.6	3.75	1.70	16.1	12.5
15	4.7	4.0	3.85	.85	1.00	.28	1.31	6.0	1.80	2.45	5.8	4.7
16	4.2	3.0	1.46	.85	1.00	.28	1.15	6.5	1.46	3.1	4.0	3.3
17	3.25	5.7	1.08	.79	1.99	.39	1.00	10.3	1.38	4.6	3.0	3.65
18	5.2	4.4	2.35	.74	1.40	.34	.85	60	2.4	1.46	7.4	3.45
19	2.9	6.5	1.26	.74	1.97	.28	.79	10.5	2.55	5.2	6.1	2.55
20	3.4	6.9	.85	.82	3.1	4.2	.74	31.5	1.70	19.1	6.2	2.25
21	1.99	2.9	.85	.68	8.8	16.2	.68	5.0	1.53	17.2	3.0	1.80
22	1.80	2.45	.79	.62	4.6	1.39	.62	4.6	5.8	4.6	2.35	2.25
23	1.89	3.8	.74	1.00	2.55	.74	.56	*7.5	7.2	3.1	2.15	4.0
24	1.99	6.2	.68	.85	2.95	.56	.56	46	5.5	2.25	5.1	6.3
25	4.0	3.45	.62	*.85	1.53	.51	1.08	62	10.7	1.80	*4.1	2.2
26	3.3	4.5	.74	.74	1.00	.45	17.9	68	3.1	2.25	3.2	1.61
27	13.5	2.9	.68	.62	1.00	.39	5.6	68	2.9	4.6	2.15	1.46
28	9.5	2.25	1.34	.51	1.08	.39	3.7	54	2.35	6.0	2.95	1.53
29	5.4	1.99	1.90	.39	1.15	.39	8.1	41	17.1	5.8	3.65	1.15
30	4.5	2.35	1.00	.34	1.15	.64	2.35	-----	9.8	4.7	3.95	8.5
31	21	2.55	-----	.34	-----	7.7	3.55	-----	5.0	-----	4.4	-----
Total	126.18	157.44	60.32	46.00	44.77	42.40	93.63	535.44	137.51	291.21	210.77	176.40
Mean:												
mgd	4.07	5.08	2.01	1.48	1.49	1.37	3.02	18.5	4.44	9.71	6.80	5.88
cfs	6.30	7.86	3.11	2.29	2.31	2.12	4.67	28.6	6.87	15.0	10.5	9.10
Ac-ft	387	483	185	141	137	130	287	1,640	422	894	647	541
Calendar year 1955: Max	64			Min	0.20	Mean(mgd)	4.60	Mean(cfs)	7.12	Ac-ft	5,140	
Fiscal year 1955-56: Max	68			Min	0.22	Mean(mgd)	5.25	Mean(cfs)	8.12	Ac-ft	5,890	

* Discharge measurement made on this day.

Waiaakamoi Stream above reservoir at Kula pipeline intake, near Olinda

Location.--Lat 20°48'30", long 156°14'00", on left bank 1,500 ft upstream from Kula pipeline at Waiaakamoi intake and 3.0 miles east of Olinda.

Drainage area.--2.36 sq mi.

Records available.--July 1954 to June 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 4,487 ft above mean sea level (levels by Maui County Waterworks).

Extremes.--1953-54: Maximum discharge during fiscal year, 80 mgd (124 cfs) Jan. 5 (gage height, 2.30 ft); no flow at times.
1954-55: Maximum discharge during fiscal year, 1,680 mgd (2,600 cfs) Dec. 10 (gage height, 8.16 ft), from rating curve extended above 6.4 mgd on basis of computation of flow over dam; minimum daily, 0.01 mgd (0.02 cfs) Nov. 20-24, 27, 28.
1955-56: Maximum discharge during fiscal year, 365 mgd (565 cfs) Jan. 12 (gage height, 4.22 ft), from rating curve extended above 6.4 mgd as explained above; no flow at times.

Remarks.--Records good except those above 10 mgd, which are fair and those for period of no gage-height record, which are fair.

Rating table, July 31, 1953, to June 30, 1956 (gage height, in feet; and discharge, in million gallons a day)

0.0	0	1.2	12.5
.1	.01	1.5	25
.2	.05	2.0	56
.3	.14	2.5	100
.4	.28	3.0	160
.6	.74	3.5	235
.8	1.70	4.0	325
1.0	6.2		

Discharge, in million gallons a day, fiscal year July 1953 to June 1954

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1		0.06	0.05	0.04	0.03	0.04	0.18	0.01	0.05	0.02	0.06	0.71
2		5.0	.04	.02	.03	.10	.08	.01	.36	.04	.06	.30
3		.86	.07	.02	.02	.08	.05	.01	.16	.09	.47	.14
4		.19	.08	.01	.02	.07	.04	.01	2.15	.08	2.8	.08
5		.10	.05	.01	.01	.23	29	.01	8.9	.04	.62	*.05
6		.21	.04	.01	.01	.40	1.24	.01	2.5	.03	1.40	.05
7		.84	.03	.01	.01	.20	.41	.01	3.5	.02	.56	.20
8		.23	*.02	.01	.03	.11	.25	.01	1.90	.02	.22	.18
9		.09	.05	.01	.14	*.07	.14	.01	*2.25	.02	.11	.14
10		.06	.12	0	.06	.05	.08	.01	2.9	.02	.06	.09
11		.05	.04	.01	.23	.05	.05	.01	1.24	.02	.05	.05
12		.05	.04	.01	.05	.05	.04	.03	.86	.02	.09	.04
13		.07	.02	.01	.03	.04	.03	.01	.28	.02	.07	.04
14		.05	.02	.01	.02	.03	.03	.01	.12	.01	.09	.03
15		.04	.02	.01	.02	.03	.03	.01	.09	.01	.07	.03
16		.03	.01	2.25	1.06	.03	.03	.01	.08	.02	.05	.03
17		.02	.01	1.07	2.95	.02	.02	.01	.08	8.3	.09	.03
18		.03	.01	.12	.30	.03	.02	0	1.03	9.6	1.12	.03
19		.02	.01	.07	1.53	.03	.02	0	.30	.88	7.0	.03
20		.02	.02	.04	.48	.02	.01	.01	.11	.20	1.22	.10
21		.02	.02	.04	.11	.14	.01	.01	.34	*.08	.37	.10
22		.10	.01	.03	.05	.21	.01	.02	.38	.05	.73	.04
23		.11	.01	.03	.04	.07	.01	.03	.25	.05	1.22	.15
24		.09	.02	.02	.45	.04	.01	.04	.22	.04	.48	.33
25		.08	.02	.02	2.4	.03	.01	.47	.09	.03	.37	.25
26		.05	.02	.02	.45	.03	.01	.28	.05	.03	.48	.11
27		.03	.02	.02	.11	.44	.01	.14	.04	.03	1.50	.11
28		.02	.02	.01	.07	.41	.01	.07	.03	.02	5.4	.37
29		.02	.03	.01	.04	.37	.01	-	.03	.02	.92	.39
30		.02	.04	.01	.04	.13	.01	-----	.02	.04	.39	.80
31	0.03	.04	-----	.02	-----	.08	.01	-----	.02	-----	.70	-----
Total	-	8.40	0.96	3.97	10.79	3.63	31.86	1.26	31.33	19.65	28.77	5.00
Mean	-	0.271	0.032	0.128	0.360	0.117	1.03	0.045	1.01	0.655	0.928	0.167
cfs	-	0.419	0.050	0.198	0.557	0.181	1.59	0.070	1.56	1.01	1.44	0.258
Ac-ft	-	26	2.9	12	33	11	98	3.9	96	60	88	15

Calendar year	Max	Min	Mean(mgd)	Mean(cfs)	Ac-ft
Fiscal year	: Max	Min	Mean(mgd)	Mean(cfs)	Ac-ft

Peak discharge (base, 130 mgd).--No peak above base.

* Discharge measurement made on this day.

Waiaikamoi Stream above reservoir at Kula pipeline intake, near Olinda--Continued
Discharge, in million gallons a day, fiscal year July 1954 to June 1955

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.54	0.30	0.07	0.03	0.02	0.09	1.6	0.07	0.20	0.18	0.41	0.04
2	11.0	.16	.05	.02	.02	2.4	1.0	.05	.09	.16	.26	.04
3	4.4	.11	.04	.02	.02	1.94	.80	.08	.05	.28	3.15	.04
4	3.65	2.1	.03	.04	.02	.35	.80	.05	.04	.30	2.35	.50
5	1.25	.52	.04	.03	.02	.23	.32	.04	.11	.12	.52	.54
6	.40	.22	.08	.04	.03	2.4	.20	.04	1.43	.08	.25	.13
7	.16	.13	.16	.04	1.69	12.3	.12	.35	.80	.06	.35	.06
8	.08	.11	.11	.04	.32	27.5	.08	3.7	*.23	.04	.20	.04
9	.05	.08	.10	.34	.10	.86	.05	1.94	.12	.04	.24	.04
10	.23	.10	*.06	1.58	.17	306	.04	29	6.8	.03	.28	.05
11	.64	.12	.04	.30	.07	80	.04	57	11.5	.02	.14	.05
12	1.86	2.55	.03	.09	.05	100	.03	5.9	4.5	.02	.12	.04
13	.67	.72	.04	.05	.04	25	.04	7.3	1.04	.02	.18	.04
14	.44	1.63	.04	.04	.03	35	.05	1.45	.48	.04	.11	.04
15	.14	.68	.04	.04	.03	5.0	.06	1.04	.86	.06	.08	.07
16	.89	.55	.04	.05	.03	9.0	.04	.48	10.4	.05	.16	.12
17	2.7	.76	4.7	.03	.02	1.5	.04	.39	1.06	.89	.12	.10
18	2.95	.50	5.9	.03	.02	.60	.03	5.0	.39	5.0	.12	.05
19	.59	1.48	1.82	.03	.02	.20	.02	41	.23	*6.5	.91	.42
20	.75	.81	.40	.07	.01	.22	.22	9.9	.92	.85	2.05	.23
21	.26	.72	.19	.18	.01	15	3.95	.97	.56	.55	.67	.09
22	.34	.31	.14	.05	.01	4.0	1.07	.39	.26	.60	.30	.05
23	1.26	2.25	.08	.04	.01	1.5	.22	.71	2.1	.76	.35	.08
24	1.00	.52	.12	.03	.01	.40	.08	.80	.42	.74	1.38	.08
25	2.05	.22	.66	.03	.02	.14	.05	.40	.20	1.17	1.03	.05
26	4.2	.39	.32	*.21	.02	.70	8.8	.24	.09	1.85	1.65	.05
27	*3.0	.14	.12	.01	.02	2.0	3.9	1.96	.05	.80	.78	.04
28	8.4	.18	.08	.05	.01	2.2	1.04	.40	.04	.42	.31	.04
29	3.95	.40	.05	.04	.15	.80	.33	-	.03	6.5	.20	.12
30	1.12	.18	.04	.03	.07	3.5	.18	-----	.03	1.53	.10	.10
31	.45	.10	-----	.02	-----	1.8	.12	-----	.07	-----	.06	-----
Total	59.42	19.32	15.61	3.71	3.05	727.77	25.12	168.65	45.10	29.46	18.83	3.54
Mean:												
mgd	1.92	0.623	0.520	0.120	0.102	23.5	0.810	6.02	1.45	0.982	0.607	0.111
cfs	2.97	0.964	0.805	0.186	0.158	36.4	1.25	9.31	2.24	1.52	0.939	0.172
Ac-ft	182	59	48	11	9.4	2,230	77	518	138	90	58	10

Calendar year 1954: Max 306 Min 0 Mean(mgd) 2.59 Mean(cfs) 4.01 Ac-ft 2,900
Fiscal year 1954-55: Max 306 Min 0.01 Mean(mgd) 3.07 Mean(cfs) 4.75 Ac-ft 3,430

Peak discharge (base, 130 mgd).--Dec. 10 (5 p.m.) 1,680 mgd (2,600 cfs), 8.16 ft; Feb. 11 (4 a.m.) 174 mgd (269 cfs), 3.08 ft; Feb. 19 (12:30 p.m.) 160 mgd (248 cfs), 2.97 ft.

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 10 to Jan. 20; discharge estimated on basis of records for nearby stations.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.05	0.65	0.11	0.09	0.01	*0.02	0.01	0.20	0.37	1.43	0.08	0.77
2	.04	3.2	.31	.25	.01	.02	.01	.11	.20	6.2	.10	2.05
3	.03	1.90	.26	.15	0	.02	0	5.6	.11	1.90	.20	5.6
4	.19	.55	.14	.50	0	.02	0	11.1	.07	.76	.18	1.47
5	.64	.52	.09	.60	0	.01	0	.70	.05	*.26	.15	.60
6	.30	.35	.05	.41	0	.01	0	.25	.04	.26	.90	.65
7	.08	.16	.05	.18	0	.01	0	.12	.04	.52	3.35	.68
8	.05	.12	.04	.08	0	.01	.01	1.93	.03	.84	1.47	.39
9	.04	2.4	.03	.04	0	.01	.46	.58	.02	8.4	1.19	.41
10	.04	2.55	.03	.07	1.04	.01	.20	.20	.02	7.8	1.04	1.34
11	.03	1.75	.02	.10	.25	.01	.11	.11	.02	1.84	2.75	.84
12	.16	.45	.02	*.05	.09	.01	.08	.02	1.79	.60	9.7	
13	5.0	.23	.03	.04	.05	.01	61	.08	.02	4.3	1.34	6.4
14	1.09	.12	.03	.04	.04	.01	3.35	.08	.04	.52	2.35	5.6
15	.52	.07	.09	.03	.04	.01	.41	.52	.03	.26	.52	1.40
16	.60	.05	.11	.02	.04	0	*.16	.23	.02	.59	.26	.55
17	.26	1.03	.08	.02	.04	0	.08	1.48	.03	.79	1.14	.33
18	.14	.37	.14	.02	.04	0	.04	.83	.03	.23	.23	.20
19	.08	4.7	.10	.01	.12	0	.04	22.5	.08	.11	.50	.12
20	.08	.90	.04	.01	.57	63	.03	37.5	.08	2.05	.35	.09
21	.07	.23	.03	.01	.43	102	.03	2.35	.04	1.15	.23	.07
22	.06	.11	.02	.01	.41	3.25	.02	1.29	.08	.60	.11	.14
23	.33	.37	.02	.02	.14	.33	.02	.91	.14	.33	.34	.28
24	.63	.90	.02	.02	.06	.13	.02	4.4	.20	.15	*.43	.57
25	.33	.25	.02	.02	.07	.05	.06	45	.10	.08	.41	.22
26	.89	.67	.02	.02	.04	.04	.48	.55	.05	.08	.57	.09
27	4.2	.35	.02	.02	.03	.03	.26	6.8	.04	.09	.35	.07
28	3.45	.18	.03	.01	.02	.02	.11	2.35	.03	.06	.22	.05
29	1.80	.08	.21	.01	.02	.02	.09	.68	.17	.04	.37	.04
30	.77	.05	.11	.01	.02	.02	.11	-----	.28	.04	.63	.15
31	7.5	*.07	-----	.01	-----	.02	.59	-----	.13	-----	.93	-----
Total	29.45	25.31	2.27	2.87	3.60	169.10	128.70	285.15	2.58	43.47	22.47	40.87
Mean:												
mgd	0.950	0.816	0.076	0.093	0.120	5.45	4.15	9.83	0.083	1.45	0.725	1.36
cfs	1.47	1.26	0.118	0.144	0.186	8.43	6.42	15.2	0.128	2.24	1.12	2.10
Ac-ft	90	78	7.0	8.8	11	519	395	875	7.9	133	69	125

Calendar year 1955: Max 102 Min 0 Mean(mgd) 1.43 Mean(cfs) 2.21 Ac-ft 1,600

Fiscal year 1955-56: Max 102 Min 0 Mean(mgd) 2.07 Mean(cfs) 3.20 Ac-ft 2,320

Peak discharge (base, 130 mgd).--Dec. 20 (3 a.m.) 305 mgd (472 cfs), 3.90 ft; Jan. 12 (9:30 p.m.) 365 mgd (565 cfs), 4.22 ft; Feb. 18 (3 p.m.) 345 mgd (534 cfs), 4.07 ft; Feb. 26 (5:30 a.m.) 235 mgd (364 cfs), 3.53 ft.

* Discharge measurement made on this day.

Waiakamoi Stream above Wailoa ditch, near Huelo

Location.--Lat 20°51'45", long 156°11'55", on left bank 500 ft upstream from intake of Wailoa ditch, 0.2 mile upstream from Spreckels ditch trail, 2.5 miles southeast of Kailua, and 3.8 miles southeast of Huelo.

Drainage area.--4.4 sq mi.

Records available.--January 1922 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 1,293.59 ft above mean sea level, datum of 1929.

Average discharge.--34 years, 16.4 mgd (25.4 cfs).

Extremes.--Maximum discharge during year, 3,330 mgd (5,150 cfs) Feb. 25 (gage height, 9.36 ft), from rating curve extended above 470 mgd as explained below; minimum, 0.30 mgd (0.46 cfs) Nov. 9.
1922-56: Maximum discharge, 7,040 mgd (10,900 cfs) Jan. 26, 1948 (gage height, 12.76 ft), from rating curve extended above 470 mgd on basis of area-mean-depth study; minimum, 0.10 mgd (0.16 cfs) Oct. 10, 1953.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Haleakala Ranch and Kula pipelines divert small quantities of water above station. Water used for irrigation in central Maui.

Revisions (fiscal years).--WSP 615: 1922-24. WSP 740: 1922-31(M). WSP 1155: 1948(M).

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.6	0.27	2.1	27
.7	.45	2.5	52
.8	.70	3.0	102
.9	1.00	3.5	175
1.1	1.70	4.0	274
1.3	3.2	4.5	400
1.5	6.5	5.0	565
1.8	14.4	5.5	760

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.85	12.4	17.4	4.5	0.45	1.22	1.90	5.1	10.7	23	9.0	18.0
2	2.85	22	14.1	9.5	.45	1.03	1.50	6.8	7.6	152	9.0	46
3	2.4	32	9.3	7.7	.47	.86	1.36	39	6.0	42	13	74
4	9.3	10.9	7.4	29	.45	.75	.80	55	5.1	15.8	8.0	32
5	9.8	9.9	5.8	20.5	.39	.67	.62	8.2	5.2	6.7	10	21
6	7.5	8.1	*4.9	17.0	.35	.59	.70	4.3	4.7	17.0	50	23
7	4.0	6.1	4.5	8.8	.33	.56	.54	6.3	*4.1	16.1	100	17.1
8	3.1	10.4	4.1	5.4	.32	.70	.74	30	3.7	16.3	60	10.9
9	2.3	40	3.6	4.4	.30	.56	14	10.1	3.45	90	35	12.8
10	3.3	52	3.2	4.1	14.6	.52	7.9	4.5	2.95	113	25	39.5
11	2.25	36.5	2.95	5.4	3.95	.80	5.0	3.85	3.3	39	50	20.5
12	6.9	14.9	2.55	3.85	2.2	*1.00	13.74	3.85	2.85	38.5	48	113
13	66	8.0	2.65	3.2	1.54	.78	121	4.0	2.75	55	40	95
14	16.1	6.0	3.05	2.25	1.83	.54	15.6	5.7	6.0	10.1	41	71
15	15.0	7.1	6.2	1.95	2.4	.43	4.6	11.2	3.4	15.3	13	24.5
16	15.0	5.8	3.95	1.80	2.55	.39	2.85	9.4	2.45	16.0	9.0	11.2
17	8.7	25.5	2.55	1.54	4.0	.41	2.4	31	3.05	17.4	7.2	8.8
18	12.2	9.7	3.4	1.52	4.4	.37	2.3	372	6.3	7.6	15	8.1
19	8.3	49	4.4	1.19	8.5	.36	2.2	87	5.5	6.3	19	7.2
20	7.8	21.5	3.2	1.12	20.5	91	2.0	182	3.2	37.5	17	6.5
21	5.1	7.2	2.65	1.00	20.5	259	1.95	23	2.45	32	10	5.4
22	4.5	5.6	2.55	.92	14.7	13.5	1.85	26	9.6	12.8	7.0	7.2
23	5.6	11.6	2.3	2.0	6.5	3.35	1.75	21.5	10.6	10	6.2	13.2
24	7.0	28	2.2	2.95	6.9	2.9	1.66	106	13.0	7.0	9.0	28.5
25	15.9	9.1	2.05	1.70	4.9	1.90	2.4	668	16.8	5.0	12	9.1
26	12.5	18.6	2.2	1.32	3.7	1.66	19.0	720	5.2	5.4	8.2	6.0
27	70	9.9	1.70	1.00	3.05	1.50	8.8	127	3.85	4.6	6.6	5.1
28	48	6.1	2.5	.80	2.85	1.66	7.4	56	3.45	4.1	5.2	4.9
29	33	5.1	11.8	.70	2.4	1.62	15.7	22.5	13.7	4.0	11	4.4
30	15.1	5.4	6.0	.56	1.43	2.55	4.5	-----	12.1	6.0	16.0	16.9
31	78	6.0	-----	.52	-----	2.95	10.0	-----	4.9	-----	18.1	-----
Total	501.35	500.4	145.15	147.99	136.91	396.13	396.02	2,649.30	187.95	825.5	687.5	758.8
Mean:												
mgd	16.2	16.1	4.84	4.77	4.56	12.8	12.8	91.4	6.06	27.5	22.2	25.3
cfs	25.1	24.9	7.49	7.38	7.06	19.8	19.8	141	9.38	42.5	34.3	39.1
Ac-ft	1,540	1,540	445	454	420	1,220	1,220	8,130	577	2,530	2,110	2,330

Calendar year 1955: Max 288 Min 0.30 Mean(mgd) 15.9 Mean(cfs) 24.6 Ac-ft 17,810
Fiscal year 1955-56: Max 720 Min 0.30 Mean(mgd) 20.0 Mean(cfs) 30.9 Ac-ft 22,520

Peak discharge (base, 900 mgd).--Dec. 21 (4 a.m.) 1,330 mgd (2,060 cfs), 6.56 ft; Jan. 12 (8 p.m.) 1,330 mgd (2,060 cfs), 6.59 ft; Feb. 25 (9 p.m.) 3,330 mgd (5,150 cfs), 9.36 ft.

* Discharge measurement made on this day.

Note.--No gage-height record Jan. 9-11, Apr. 23 to May 29; discharge estimated on basis of records for Fuhokamoa Stream.

Alo Stream near Huelo

Location.--Lat 20°51'50", long 156°11'45", on right bank just upstream from Spreckels ditch inflow, trail crossing, and Wailoa ditch intake, 2.5 miles southeast of Kailua, and 3.8 miles southeast of Huelo.

Drainage area.--0.2 sq mi.

Records available.--December 1910 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 1,248.38 ft above mean sea level, datum of 1929. Prior to June 18, 1914, staff gage at site 300 ft downstream at different datum.

Average discharge.--45 years (1911-56), 4.80 mgd (7.43 cfs).

Extremes.--Maximum discharge during year, 330 mgd (511 cfs) Feb. 25 (gage height, 3.63 ft), from rating curve extended above 130 mgd; minimum, 0.37 mgd (0.57 cfs) Nov. 9.

1910-56: Maximum discharge, 1,600 mgd (2,480 cfs) Nov. 18, 1930 (gage height, 6.90 ft), from rating curve extended above 130 mgd; minimum, 0.2 mgd (0.3 cfs) Nov. 22, 23, 1932.

Remarks.--Records good. Water used for irrigation in central Maui.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.5	0.41	1.1	4.5
.6	.73	1.3	9.7
.7	1.12	1.6	24
.8	1.58	2.0	55
.9	2.15	2.5	113
1.0	2.90	3.0	197

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.05	2.75	13.5	1.18	0.47	0.96	1.40	1.69	4.0	9.8	2.4	4.8
2	1.58	7.5	3.7	2.45	.47	.92	.85	5.4	2.7	48	3.15	8.6
3	2.4	11.5	3.35	3.05	.47	.85	.73	4.7	2.2	14.1	4.9	14.6
4	6.1	5.1	3.65	12.5	.44	.77	.67	3.4	1.88	4.7	2.4	8.3
5	2.3	3.2	1.98	.78	.44	.73	.63	1.75	1.75	2.45	3.6	6.0
6	1.69	2.3	1.81	6.5	.41	.70	.60	1.35	1.44	10.1	13.8	8.5
7	1.49	1.98	1.69	2.15	.41	.67	.80	7.3	*1.30	4.2	37.5	4.5
8	1.28	5.0	1.40	1.75	.41	.67	.82	2.75	1.17	3.35	14.6	4.5
9	1.70	10.1	1.26	1.69	.41	.63	15.3	1.49	1.12	4.7	10.5	4.9
10	3.15	10.6	1.12	1.44	2.8	.63	3.9	1.21	1.00	9.8	12.5	10.2
11	1.53	13.4	1.04	1.30	.73	.96	1.44	1.08	1.41	7.2	6.8	6.8
12	4.1	7.6	.98	1.17	.54	.73	9.0	1.39	1.00	14.4	15.2	13.6
13	11.4	2.7	1.12	1.04	.47	.60	7.8	1.17	1.02	3.4	14.3	11.3
14	4.0	2.3	1.21	.96	1.20	.57	1.75	4.6	3.15	2.45	13.5	8.6
15	5.5	4.8	4.9	.92	1.14	.51	1.30	7.0	1.04	3.7	5.1	5.2
16	4.6	2.4	1.44	.85	1.12	.51	1.12	6.2	.89	6.3	3.05	2.9
17	4.9	5.5	1.12	.85	2.75	.54	1.00	8.8	1.00	5.2	2.95	3.9
18	7.1	4.5	2.0	.77	1.60	.47	.92	46	5.6	2.15	6.8	3.9
19	3.75	6.4	1.04	.77	3.7	.51	.85	9.0	1.68	1.98	7.2	2.7
20	3.5	6.7	.92	.73	3.7	5.8	.77	16.8	1.08	12.2	8.4	2.6
21	1.98	2.4	.89	*.67	11.4	13.4	.73	5.3	.92	19.1	2.7	1.92
22	*1.59	2.05	.85	.63	6.5	1.44	.73	5.0	5.7	4.3	2.15	2.6
23	1.40	3.2	.81	1.43	3.4	.96	.67	9.9	4.2	*3.05	1.98	5.2
24	1.58	6.8	.77	.96	5.1	.96	.67	50	3.8	1.98	4.5	8.7
25	6.0	2.9	.73	.89	2.2	.85	1.74	115	9.5	1.69	4.6	2.4
26	3.45	3.95	.92	.73	1.53	.73	13.5	57	2.3	1.92	3.2	1.98
27	16.7	2.15	.81	.63	1.49	.70	2.0	29	1.86	1.49	2.05	1.86
28	12.1	1.92	2.0	.57	1.49	.63	3.1	10.2	1.69	1.26	1.97	2.4
29	4.6	1.64	2.4	.51	1.30	.60	11.7	9.5	15.0	1.12	5.3	1.96
30	4.5	1.98	1.12	.51	1.17	1.21	1.86	-----	4.0	3.45	5.1	11.8
31	18.0	2.45	-----	.51	-----	4.8	4.0	-----	1.92	-----	5.2	-----
Total	146.00	147.77	60.51	58.01	59.26	45.01	91.95	423.98	87.30	209.54	227.40	177.22
Mean	4.71	4.77	2.02	1.87	1.98	1.45	2.97	14.6	2.82	6.98	7.34	5.91
cfs	7.29	7.38	3.13	2.89	3.06	2.24	4.60	22.6	4.36	10.8	11.4	9.14
Ac-ft	448	453	186	178	182	138	282	1,300	268	643	698	544

Calendar year 1955. Max 54 Min 0.41 Mean(mgd) 4.40 Mean(cfs) 6.81 Ac-ft 4,930
Fiscal year 1955-56: Max 115 Min 0.41 Mean(mgd) 4.74 Mean(cfs) 7.33 Ac-ft 5,320

Peak discharge (base, 250 mgd).--Feb. 25 (5 a.m.) 330 mgd (511 cfs), 3.63 ft.

* Discharge measurement made on this day.

Kaaiea Stream near Huelo

Location.--Lat 20°52'05", long 156°12'15", on left bank 700 ft upstream from Hamakua ditch trail crossing, 2 miles southeast of Kailua, 3.2 miles southeast of Huelo, and 3.5 miles west of Keanae.

Drainage area.--0.5 sq mi.

Records available.--December 1921 to June 1956.

Gage.--Water-stage recorder and concrete weir. Prior to Aug. 1, 1934, water-stage recorder at site 40 ft downstream at different datum.

Average discharge.--34 years (1922-56), 4.59 mgd (7.10 cfs).

Extremes.--Maximum discharge during year, 460 mgd (712 cfs) Feb. 25 (gage height, 4.06 ft), from rating curve extended above 130 mgd; minimum, 0.33 mgd (0.51 cfs) Nov. 9.

1921-56: Maximum discharge, 2,300 mgd (3,560 cfs) Nov. 18, 1930 (gage height, 7.93 ft, site and datum then in use), from rating curve extended above 50 mgd; minimum, 0.22 mgd (0.34 cfs) June 1, 1945.

Remarks.--Records good except those for period of no gage-height record, which are fair. Water used for irrigation in central Maui.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.2	0.27	1.0	16.5
.3	.63	1.2	26.5
.4	1.34	1.4	37
.5	2.45	1.7	56
.6	4.1	2.0	79
.7	6.3	2.5	126
.8	9.0	3.0	187
.9	12.5		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.05	3.25	13.8	1.17	0.42	0.87	1.25	1.63	3.75	9.7	3.15	5.1
2	1.63	7.2	4.8	2.45	.42	.74	4.8	4.8	2.45	53	2.95	10.4
3	1.48	10.8	3.6	2.95	.39	.68	.63	4.9	1.84	14.6	4.9	15.9
4	6.3	4.3	3.55	12.8	.39	.63	.54	4.4	1.53	4.4	2.55	10.5
5	2.35	3.85	2.05	8.2	.39	.58	.54	1.53	1.43	2.2	3.7	7.8
6	1.87	2.3	1.69	7.2	.36	.54	.50	1.34	1.25	9.9	13.5	11.0
7	1.53	1.84	1.43	2.45	.36	.54	.46	5.0	1.09	4.6	35.5	5.8
8	1.25	4.6	1.25	1.73	.36	.54	.68	4.0	1.01	3.15	15.5	5.2
9	1.34	10.8	1.09	1.63	.36	.50	15.7	1.73	.94	5.7	11.5	6.0
10	3.2	11.1	.94	1.43	2.75	.50	4.4	1.34	.87	12.4	a13	12.7
11	1.53	13.9	.87	1.25	.68	.80	1.43	1.01	1.09	7.8	a7.4	7.5
12	3.95	7.8	.80	1.01	.46	.70	8.2	1.17	*.87	15.1	a15	15.0
13	11.9	3.1	1.06	.94	.39	.50	8.3	1.09	.84	4.4	a14	13.6
14	4.1	2.2	1.17	.87	1.02	.42	1.73	4.5	2.75	2.45	a13	9.5
15	5.7	4.6	4.3	.74	1.09	.42	1.17	7.2	.94	4.4	a5.0	5.6
16	4.8	2.65	1.53	.74	1.09	.42	.94	6.3	.74	6.0	a3.2	3.55
17	4.5	6.5	1.01	.63	2.65	.46	.80	10.0	.94	5.7	a3.0	3.9
18	7.8	4.0	1.74	.63	1.78	.39	.68	47	5.2	2.2	a7.0	4.2
19	3.8	6.5	.94	.58	4.1	.42	.63	10.5	1.91	1.84	7.4	3.1
20	3.2	6.5	.80	.58	4.3	6.1	.63	18.5	.94	10.8	8.5	2.75
21	1.95	2.45	.74	*.54	12.0	13.4	.58	5.3	.80	16.2	3.25	2.05
22	*1.58	1.95	.68	.58	6.8	1.43	.54	5.0	4.7	4.4	2.3	2.8
23	1.43	3.2	.63	1.25	3.55	.94	.50	9.3	5.0	3.6	1.95	5.6
24	1.64	7.8	.63	.94	5.5	.87	.50	45	4.4	2.05	3.95	10.7
25	6.8	3.15	.58	.80	2.2	.68	1.01	130	12.0	1.53	5.5	3.1
26	3.75	4.9	.80	.63	1.53	.63	11.1	72	2.45	2.0	4.4	2.2
27	19.8	2.3	.68	.54	1.25	.58	1.96	31.5	1.63	1.63	2.3	1.95
28	13.3	1.84	1.83	.50	1.17	.54	2.15	11.7	1.53	1.17	2.0	2.4
29	5.2	1.63	3.05	.46	1.09	.54	12.0	8.6	11.8	1.09	5.6	1.77
30	5.4	1.84	1.17	.46	.94	1.19	1.84	-----	4.4	4.7	7.5	12.7
31	18.3	2.25	-----	.42	-----	3.45	4.2	-----	1.84	-----	6.6	-----
Total	153.43	151.10	59.21	57.10	59.59	41.00	86.33	456.34	82.93	218.71	235.10	204.37
Mean	mgd	4.95	4.87	1.97	1.84	1.99	1.32	2.78	2.68	7.29	7.58	6.81
cfs	7.66	7.54	3.05	2.85	3.08	2.04	4.30	24.3	4.15	11.3	11.7	10.5
Ac-ft	471	464	182	175	183	126	265	1,400	255	671	721	627

Calendar year 1955: Max 52 Min 0.36 Mean(mgd) 4.34 Mean(cfs) 6.71 Ac-ft 4,870
 Fiscal year 1955-56: Max 130 Min 0.36 Mean(mgd) 4.93 Mean(cfs) 7.63 Ac-ft 5,540

Peak discharge (base, 250 mgd).--Feb. 25 (10:30 p.m.) 460 mgd (712 cfs) 4.06 ft.

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Alo Stream.

Oopuola Stream near Huelo

Location.--Lat 20°52'15", long 156°12'30", on left bank 100 ft upstream from Wailoa ditch intake, 300 ft upstream from ditch trail, 1.8 miles southeast of Kailua, 3 miles south-east of Huelo, and 3.8 miles west of Keanae.

Drainage area.--0.2 sq mi.

Records available.--August 1930 to June 1956. December 1910 to June 1915, at site half a mile downstream; records not equivalent.

Gage.--Water-stage recorder and concrete control.

Average discharge.--25 years (1931-56), 1.75 mgd (2.71 cfs).

Extremes.--Maximum discharge during year, 288 mgd (446 cfs) Feb. 25 (gage height, 4.57 ft), from rating curve extended above 20 mgd as explained below; minimum, 0.16 mgd (0.25 cfs) Nov. 4-9.

1930-56: Maximum discharge, 340 mgd (526 cfs) Jan. 22, 1946 (gage height, 5.54 ft), from rating curve extended above 20 mgd by test on model of station site; minimum, 0.04 mgd (0.06 cfs) Oct. 29, 30, 1943, June 1, 1945.

Remarks.--Records good. Water used for irrigation in central Maui.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.6	0.05	2.2	5.7
1.7	.23	2.3	8.2
1.8	.65	2.5	14.7
1.9	1.32	2.8	30
2.0	2.35	3.2	63
2.1	3.75		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.75	1.10	4.3	0.45	0.18	0.32	0.90	0.94	1.41	4.9	1.11	2.15
2	.60	2.6	1.52	1.09	.18	.28	.45	3.1	.94	22.5	.80	3.35
3	.68	3.8	1.38	1.10	.18	.25	.36	1.98	.70	8.0	2.1	8.2
4	2.6	*1.50	1.61	5.1	.18	.25	.28	1.88	.55	2.0	1.02	4.6
5	.98	1.31	.75	4.2	.16	.23	.25	.75	.50	1.10	1.37	2.2
6	.72	.75	.65	2.85	.16	.23	.23	*.80	.40	3.9	5.5	3.3
7	.80	.65	.60	.87	.18	.23	.23	8.1	.38	2.3	17.5	1.82
8	.45	1.39	.45	.60	.16	.25	.82	2.0	.32	1.42	4.2	1.76
9	.48	3.4	.40	.65	.16	.21	5.5	.94	.28	1.72	3.8	2.05
10	1.30	4.2	.36	.55	1.20	.21	1.86	.70	.28	2.7	4.3	5.1
11	.55	5.8	.32	.50	.28	.32	.65	.50	.45	2.35	2.55	2.75
12	1.40	2.3	.32	.40	.21	.25	3.1	.65	*.32	4.5	6.8	6.0
13	3.9	.94	.28	.32	.18	.21	3.2	.55	.35	1.10	5.4	3.85
14	1.50	.70	.32	.28	.70	.19	.81	2.65	1.37	.87	6.0	3.45
15	2.55	1.87	2.0	.28	.65	.18	.55	3.25	.40	1.60	3.05	2.25
16	1.86	.94	.65	.25	.65	.18	.45	2.55	.32	2.4	1.25	1.25
17	1.81	2.15	.40	.23	1.54	.19	.36	2.55	.40	2.5	1.10	1.84
18	2.7	1.89	.70	.23	.95	.18	.32	16.0	1.16	.87	3.0	1.98
19	1.22	2.7	.32	.23	.96	.21	.28	3.85	.80	.87	2.75	1.25
20	1.28	3.25	.28	.23	1.56	3.1	.25	5.2	.36	4.8	3.3	1.10
21	.65	.87	.25	.21	3.95	5.1	.23	1.95	.32	10.3	1.10	.81
22	.50	.70	.23	.21	3.05	.66	.23	1.69	.197	2.15	.75	1.04
23	.45	.98	.23	.55	1.70	.36	.23	3.65	1.88	1.44	.62	2.3
24	.55	2.15	.23	.40	1.93	.40	.25	21	1.23	.87	2.7	3.4
25	2.1	1.21	.21	.36	.87	.28	.69	63	2.85	.70	1.90	.94
26	1.62	1.60	.28	.25	.55	.25	5.7	29	.89	.98	1.68	.75
27	6.2	.70	.25	.23	.50	.23	1.04	10.8	.81	.70	.87	.75
28	5.1	.65	1.36	.21	.55	.23	1.97	3.5	.85	.50	.92	1.00
29	1.82	.55	1.18	.19	.80	.25	5.0	3.85	6.2	.45	2.35	.80
30	2.05	.81	.45	.19	.40	1.34	.94	-----	2.05	1.43	1.80	5.4
31	7.2	1.01	-----	.19	-----	4.0	2.7	-----	.87	-----	2.65	-----
Total	55.97	54.67	22.28	23.40	24.46	20.55	39.63	197.18	31.39	89.92	94.24	75.44
Mean:	1.81	1.76	0.743	0.755	0.816	0.663	1.28	6.80	1.01	3.00	3.04	2.51
cfs	2.60	2.72	1.15	1.17	1.26	1.03	1.98	10.5	1.56	4.64	4.70	3.88
Ac-ft	172	168	68	72	75	63	122	605	96	276	289	232

Calendar year 1955: Max 26.5 Min 0.16 Mean(mgd) 1.80 Mean(cfs) 2.79 Ac-ft 2,020
 Fiscal year 1955-56: Max 63 Min 0.16 Mean(mgd) 1.99 Mean(cfs) 3.08 Ac-ft 2,240

Peak discharge (base, 130 mgd).--Feb. 7 (9:30 p.m.) 191 mgd (296 cfs), 4.04 ft; Feb. 25 (11 p.m.) 288 mgd (446 cfs), 4.57 ft.

* Discharge measurement made on this day.

Naililihaele Stream near Huelo

Location.--Lat 20°52'30", long 156°13'05", on left bank 200 ft upstream from Wailoa ditch intake, 700 ft upstream from New Hamakua ditch trail, 1.5 miles south of Kailua, and 2.5 miles southeast of Huelo.

Drainage area.--2.8 sq mi.

Records available.--December 1910 to December 1911, October 1913 to June 1918, August 1919 to June 1956. July to December 1912, at site 700 ft downstream; records not equivalent due to diversion.

Gage.--Water-stage recorder and masonry control. Altitude of gage is 1,205 ft (from topographic map). Dec. 9, 1910, to Dec. 31, 1911, staff gage at site 300 ft downstream at different datum. Oct. 8, 1913, to Mar. 20, 1922, at present site at datum 0.50 ft higher.

Average discharge.--35 years (1920-24, 1925-56), 24.7 mgd (38.2 cfs).

Extremes.--Maximum discharge during year, 6,300 mgd (9,750 cfs) Feb. 25 (gage height, 9.47 ft) from rating curve extended above 120 mgd by logarithmic plotting; minimum, 2.5 mgd (3.9 cfs) Nov. 7-10, Dec. 18.
1910-18, 1919-56: Maximum discharge, 8,100 mgd (12,500 cfs) Apr. 27, 1950 (gage height, 10.36 ft), from rating curve extended above 120 mgd by logarithmic plotting; minimum, 0.45 mgd (0.70 cfs) July 14, 1920.

Remarks.--Records good except those above 120 mgd, which are fair. Water used for irrigation in central Maui.

Revisions (fiscal years).--WSP 755: 1932. WSP 795: 1934.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.8	1.50	3.0	73
1.9	2.9	3.5	159
2.0	5.0	4.0	290
2.2	10.8	4.5	470
2.4	19.0	5.0	710
2.7	39.5	6.0	1,390

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	10.8	19.5	65	8.0	2.9	5.0	5.5	10.2	23	48	17.8	28.5
2	8.9	34.5	25	13.1	2.9	4.6	3.75	22.5	17.7	459	15.5	59
3	8.7	62	17.7	14.2	2.9	4.4	3.3	37	13.8	76	24	92
4	24.5	*20.5	16.8	87	2.75	5.95	3.1	30.5	11.9	25.5	14.6	66
5	11.4	18.6	11.9	41	2.6	3.95	3.1	11.2	10.8	15.0	18.2	52
6	11.1	14.6	10.5	35.5	2.6	3.75	2.9	9.2	9.9	46	54	67
7	9.2	11.9	9.9	15.0	2.5	3.75	2.75	31.5	8.9	28.5	189	58
8	7.7	24	8.9	11.2	2.5	3.75	4.4	52	8.0	20	73	29
9	8.4	64	8.0	10.5	2.5	3.3	81	11.8	7.7	49	58	36
10	12.7	65	7.4	9.8	13.7	3.3	25	8.6	6.9	92	64	67
11	8.0	75	6.9	8.3	5.3	4.4	8.3	7.7	7.4	54	63	46
12	19.0	37.5	6.4	7.7	3.55	4.4	62	11.2	*6.6	94	112	91
13	69	17.7	8.0	6.9	2.9	3.3	47	8.3	6.7	37.5	96	91
14	20	14.2	8.3	6.4	5.0	2.9	11.3	22.5	13.9	18.1	85	64
15	29	22.5	20	5.8	5.8	2.75	8.0	31	7.2	35.5	29	37
16	26	15.0	9.5	5.5	5.5	2.6	6.9	26.5	6.1	34.5	20	22.5
17	20.5	42	7.2	5.3	10.6	2.75	5.8	69	7.4	30	17.7	23
18	36	20	8.9	4.8	9.1	2.5	5.3	397	19.6	15.0	34	22.5
19	19.5	34.5	6.9	4.6	15.2	2.6	4.8	71	11.2	13.1	43	18.1
20	18.5	31	5.1	4.4	24	35.5	4.6	149	6.9	59	42	16.8
21	11.9	14.6	5.5	4.2	51	117	4.2	31	5.8	69	18.1	13.5
22	10.2	12.7	5.0	4.2	29	10.4	4.2	33	23.5	23.5	14.2	17.0
23	9.6	20.5	4.8	7.2	14.2	6.4	3.95	52	22.5	19.3	13.1	32.5
24	10.2	48	4.6	6.1	19.3	5.5	3.75	286	28.5	13.5	21.5	59
25	31.5	19.8	4.4	5.0	10.8	4.8	5.3	1,260	57	11.6	28	17.7
26	17.6	29.5	5.0	4.4	8.3	4.4	148	899	13.5	18.9	19.1	13.8
27	119	15.9	5.5	*3.75	7.4	4.2	13.4	268	10.2	13.1	13.1	13.1
28	61	12.3	10.9	3.55	6.6	3.75	13.3	91	9.6	9.9	12.5	13.5
29	30.5	10.8	15.9	3.3	6.4	3.75	54	49	44	9.2	27	11.2
30	30	11.6	8.3	3.3	5.5	5.7	10.2	-----	19.2	21.5	36.5	56
31	130	13.1	-----	3.3	-----	12.0	21.5	-----	10.2	-----	32.5	-----
Total	838.4	852.8	338.2	332.90	283.30	281.35	580.60	3,990.7	455.6	1,459.2	1,307.4	1,211.7
Mean:	27.0	27.5	11.3	10.7	9.44	9.08	18.7	138	14.7	48.6	42.2	40.4
mgd	41.8	42.5	17.5	16.6	14.6	14.0	28.9	214	22.7	75.2	65.3	62.5
cfs	2,570	2,620	1,040	1,020	869	863	1,780	12,250	1,400	4,480	4,010	3,720

Calendar year 1955: Max 342 Min 2.5 Mean(mgd) 27.7 Mean(cfs) 42.9 Ac-ft 31,000
Fiscal year 1955-56: Max 1,260 Min 2.5 Mean(mgd) 32.6 Mean(cfs) 50.4 Ac-ft 36,620

Peak discharge (base, 1,250 mgd).--Jan. 26 (6 p.m.) 1,840 mgd (2,850 cfs), 6.50 ft; Feb. 18 (12:30 p.m.) 1,310 mgd (2,030 cfs), 5.87 ft; Feb. 25 (9:30 p.m.) 6,300 mgd (9,750 cfs), 9.47 ft.

* Discharge measurement made on this day.

Kailua Stream near Huelo

Location.--Lat 20°52'35", long 156°13'25", on left bank just upstream from Wailoa ditch intake, 1.2 miles southwest of Kailua, and 2.5 miles south of Huelo.

Drainage area.--3.0 sq mi.

Records available.--December 1910 to December 1911, June 1913 to June 1918, July 1919 to June 1956. July 1912 to May 1913 at site 1 mile downstream, records not equivalent.

Gage.--Water-stage recorder and masonry control. Datum of gage is 1,252.99 ft above mean sea level, datum of 1929. Prior to Dec. 31, 1911, staff gage 400 ft downstream at different datum. June 17 to Sept. 30, 1913, staff gage at present site and datum.

Average discharge.--37 years (1919-56), 19.1 mgd (29.6 cfs).

Extremes.--Maximum discharge during year, 5,470 mgd (8,460 cfs) Feb. 25 (gage height, 10.22 ft), from rating curve extended above 650 mgd; minimum, 1.00 mgd (1.55 cfs) Nov. 7-9, Dec. 16-19. 1910-11, 1913-18, 1919-56: Maximum discharge, that of Feb. 25, 1956; minimum, 0.07 mgd (0.11 cfs) June 27, 1921.

Remarks.--Records good. Water used for irrigation in central Maui.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.7	1.00	3.5	97
1.8	2.05	4.0	163
1.9	3.4	4.5	253
2.1	7.4	5.0	370
2.4	16.4	5.5	525
2.7	29	6.0	750
3.0	48	6.5	1,120

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	4.5	17.0	27	4.1	1.40	1.94	1.94	7.4	16.8	28	12.2	16.9
2	3.75	22.1	15.0	7.3	1.30	1.72	1.61	12.6	12.1	219	9.2	42
3	3.75	38.5	9.7	7.7	1.30	1.61	1.50	50	9.5	57	13.3	75
4	9.2	12.6	8.4	39	1.20	1.50	1.40	52	8.2	21	9.5	47
5	4.5	10.0	6.7	25.5	1.20	1.50	1.30	11.1	7.2	9.7	9.7	31.5
6	5.7	8.4	5.6	20	1.10	1.40	1.30	6.5	6.3	22.5	23	36.5
7	3.95	6.7	5.2	10.0	1.00	1.40	1.20	8.8	5.6	21	59	22
8	3.25	12.2	4.7	6.3	1.00	1.40	1.40	39	*5.0	14.6	37	15.4
9	3.2	48	4.3	5.0	1.00	1.30	4.40	11.6	4.7	84	33	18.3
10	4.1	47	3.95	4.3	7.7	1.20	16.5	5.6	4.3	131	28.5	48
11	3.1	48	3.6	4.3	3.45	1.61	5.2	4.7	4.1	56	57	28
12	6.8	19.2	3.4	3.6	1.94	1.72	92	8.9	3.75	57	66	109
13	63	10.6	3.95	3.25	1.50	1.30	82	6.5	3.6	55	47	101
14	18.7	8.4	3.95	3.0	1.72	1.20	15.9	8.2	5.9	15.0	52	73
15	18.1	9.7	7.2	2.7	1.94	1.10	6.1	17.6	3.75	24.5	17.3	32.5
16	17.4	8.2	*4.5	2.55	2.05	1.00	4.1	13.0	3.25	17.4	11.8	17.1
17	10.9	31.5	3.4	2.45	2.95	1.00	3.25	37	3.6	19.2	9.7	13.3
18	16.5	11.5	3.75	2.3	3.75	1.00	3.0	435	5.8	9.7	13.4	12.1
19	9.0	46	3.25	2.2	5.0	1.10	2.55	106	6.3	8.4	22	10.6
20	8.2	25.5	2.85	2.05	17.0	46	2.3	208	3.4	28.5	19.4	9.5
21	5.9	10.0	2.7	1.94	24.5	206	2.2	31	3.0	37	10.6	8.2
22	4.8	8.2	2.55	1.83	16.0	14.8	2.05	28	6.5	16.8	8.2	9.7
23	4.3	13.7	2.3	2.55	6.5	5.0	1.94	32.5	12.1	14.4	7.4	17.0
24	5.4	38	2.2	3.0	6.3	3.6	1.83	141	15.4	9.2	8.7	36
25	15.1	13.6	2.05	2.2	4.1	2.85	2.2	1,090	29.5	7.4	12.4	11.2
26	9.7	24	2.2	1.94	3.1	2.45	104	1,120	7.0	14.0	10.0	8.4
27	84	12.1	2.3	1.72	2.7	2.2	18.3	190	4.7	8.8	7.9	7.4
28	54	8.7	3.25	1.61	2.45	1.94	6.3	73	4.1	6.3	7.2	6.7
29	32.5	7.2	8.3	1.50	2.2	1.83	25.5	30.5	11.4	5.6	11.6	8.3
30	20.5	6.5	5.0	1.50	2.05	2.45	7.0	-----	9.9	8.5	18.0	23.5
31	103	6.7	-----	1.40	-----	3.3	15.3	-----	5.0	-----	18.8	-----
Total	556.70	589.8	163.25	178.79	129.40	318.42	473.17	3,785.5	231.75	1,026.5	670.8	893.1
Mean	18.0	19.0	5.44	5.77	4.31	10.3	15.3	131	7.48	34.2	21.6	29.8
mgd	27.9	29.4	8.42	8.93	6.67	15.9	23.7	203	11.6	52.9	33.4	46.1
cfs	1,710	1,810	501	549	397	977	1,450	11,620	711	3,150	2,060	2,740
Ac-ft												

Calendar year 1955: Max 330 Min 1.00 Mean(mgd) 19.0 Mean(cfs) 29.4 Ac-ft 21,250
 Fiscal year 1955-56: Max 1,120 Min 1.00 Mean(mgd) 24.6 Mean(cfs) 38.1 Ac-ft 27,680

Peak discharge (base, 1,300 mgd).--Jan. 26 (4:30 p.m.) 1,460 mgd (2,260 cfs), 6.86 ft; Feb. 25 (8:30 p.m.) 5,470 mgd (8,460 cfs), 10.22 ft.

* Discharge measurement made on this day.

Hoolawanui Stream near Huelo

Location.--Lat 20°53'15", long 156°14'55", on right bank 250 ft upstream from intake of Wailoa ditch, 2 miles west of Kailua, and 2 miles southwest of Huelo.

Records available.--December 1910 to June 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,219.42 ft above mean sea level (East Maui Irrigation Co. bench mark). Prior to June 20, 1914, staff gage at site 180 ft downstream at different datum. June 20, 1914, to Oct. 24, 1933, water-stage recorder at site 80 ft downstream at datum 4.43 ft lower.

Average discharge.--44 years (1911-15, 1916-56), 7.84 mgd (12.1 cfs).

Extremes.--Maximum discharge during year, 3,080 mgd (4,770 cfs) Feb. 25 (gage height, 5.77 ft), from rating curve extended above 100 mgd by logarithmic plotting; minimum, 0.72 mgd (1.11 cfs) Dec. 19.

1910-56: Maximum discharge, 3,240 mgd (5,010 cfs) Apr. 27, 1950 (gage height, 5.94 ft), from rating curve extended above 100 mgd by logarithmic plotting; minimum, 0.15 mgd (0.23 cfs) Oct. 25, 1917.

Remarks.--Records good. Water used for irrigation in central Maui.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.3	0.59	1.2	31
.4	1.39	1.6	87
.5	2.7	2.0	131
.6	4.5	2.5	260
.8	10.7	3.0	440
1.0	19.0	3.5	710

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.55	7.5	13.5	1.72	1.10	1.10	1.29	4.4	13.5	11.9	5.5	6.7
2	2.25	8.8	6.4	2.55	1.02	1.02	1.10	7.5	10.4	*103	5.2	11.2
3	2.4	11.5	5.2	2.85	1.02	1.02	7.8	8.5	20.5	6.4	22	
4	4.8	6.1	5.2	11.6	1.02	.94	.94	9.4	7.2	11.1	5.0	16.4
5	2.55	5.5	3.9	8.9	.94	.94	.94	5.2	6.1	8.1	5.4	14.2
6	2.4	4.8	3.5	7.5	.94	.94	.94	4.3	5.2	14.2	10.4	18.3
7	2.4	4.3	3.5	3.9	.94	.94	.94	6.6	4.8	10.0	17.8	11.8
8	1.97	5.8	3.2	3.0	.94	.94	1.16	10.8	4.3	7.9	12.3	10.1
9	2.25	12.6	3.0	3.0	.94	.94	8.2	4.8	4.1	13.9	11.8	11.3
10	3.2	11.4	2.7	2.7	2.95	.86	3.7	3.7	3.7	27.5	14.0	19.8
11	2.1	15.4	2.7	2.25	1.19	1.19	*1.73	3.5	3.7	20.5	14.3	13.7
12	3.4	9.8	2.55	2.1	.94	1.02	16.2	8.7	3.2	25	23.5	27.5
13	10.7	6.1	2.85	1.97	.86	.86	13.4	4.1	3.2	15.0	21.5	31.5
14	4.5	5.2	2.7	1.97	1.19	.79	3.7	6.0	4.2	9.7	21	23
15	6.2	6.4	4.6	1.84	1.19	.79	2.7	9.5	2.85	12.2	11.8	15.4
16	5.7	5.0	2.7	1.84	1.10	.79	2.25	6.7	2.55	11.2	9.3	11.4
17	5.0	9.3	2.25	1.72	1.49	.79	2.1	10.2	3.0	9.4	8.1	10.1
18	7.2	6.9	2.55	1.60	1.49	.79	1.97	102	4.3	8.8	9.3	9.3
19	4.5	9.0	2.1	1.72	1.29	.86	1.84	30.5	3.3	5.8	10.7	7.8
20	3.7	7.6	1.97	1.60	3.0	7.9	1.72	52	2.4	11.1	10.8	6.8
21	3.2	5.2	1.84	1.49	6.5	24	1.60	*16.8	2.1	17.2	6.8	5.5
22	2.85	4.8	1.72	1.39	4.7	2.85	1.60	12.1	4.0	8.8	5.8	6.2
23	2.7	6.1	1.60	1.97	2.55	1.72	1.60	15.5	4.7	7.8	5.2	8.6
24	3.0	11.4	1.60	1.72	2.55	1.49	1.49	72	4.6	6.1	6.7	14.7
25	5.7	6.1	1.49	1.49	1.84	1.29	1.72	605	12.2	5.5	6.8	6.4
26	3.7	8.2	1.72	1.39	1.49	1.19	1.19	38	418	3.9	14.6	5.5
27	20.5	5.5	1.60	1.29	1.39	1.10	5.5	106	3.0	5.8	4.8	5.0
28	11.7	4.5	2.45	1.19	1.29	1.10	2.8	43	2.85	5.0	4.9	5.0
29	7.5	*4.3	2.55	1.10	1.19	1.10	10.4	21.5	5.6	4.5	7.2	4.8
30	7.8	4.1	1.84	1.70	1.10	1.25	3.5	-----	4.1	6.7	7.8	13.5
31	28	4.5	-----	1.10	-----	2.5	6.2	-----	2.85	-----	8.2	-----
Total	176.42	223.7	95.48	81.56	50.15	65.01	142.25	1,605.6	150.40	436.8	303.8	373.5
Mean:												
mgd	5.69	7.22	3.18	2.63	1.67	2.10	4.59	55.4	4.85	14.6	9.80	12.4
cfs	8.80	11.2	4.92	4.07	2.58	3.25	7.10	85.7	7.50	22.6	15.2	19.2
Ac-ft	541	687	293	250	154	200	437	4,930	462	1,340	932	1,150

Calendar year 1955. Max 104 Min 0.79 Mean(mgd) 7.77 Mean(cfs) 12.0 Ac-ft 8,710
Fiscal year 1955-56: Max 605 Min 0.79 Mean(mgd) 10.1 Mean(cfs) 15.6 Ac-ft 11,380

Peak discharge (base, 300 mgd).--Jan. 26 (6:30 p.m.) 875 mgd (1,350 cfs), 3.77 ft; Feb. 18 (2 p.m.) 420 mgd (650 cfs), 2.97 ft; Feb. 25 (9 p.m.) 3,080 mgd (4,770 cfs), 5.77 ft.

* Discharge measurement made on this day.

Hoolawalilili Stream near Huelo

Location.--Lat 20°53'15", long 156°14'35", on right bank just upstream from Walloa ditch intake, 1.8 miles (corrected) west of Kailua and 1.6 miles (corrected) southwest of Huelo.

Drainage area.--0.61 sq mi.

Records available.--April 1911 to June 1956.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 1,245 ft (from topographic map). Prior to June 19, 1914, staff gage at same site and datum.

Average discharge.--44 years (1911-15, 1916-56), 4.71 mgd (7.29 cfs).

Extremes.--Maximum discharge during year, 465 mgd (719 cfs) Feb. 25 (gage height, 5.08 ft), from rating curve extended above 90 mgd by broad-crested weir formula; minimum, 0.98 mgd (1.52 cfs) Dec. 19.

1911-56: Maximum discharge, 657 mgd (1,020 cfs) Nov. 18, 1930 (gage height, 6.74 ft, control then in use), from rating curve extended above 22 mgd; minimum, 0.2 mgd (0.3 cfs) June 8, 1926.

Revisions.--The figures of maximum discharge for some fiscal years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Fiscal year	Date	Discharge		Gage height (feet)
			(mgd)	(cfs)	
770	1934	Apr. 25, 1934	202	313	3.98
795	1935	Feb. 25, 1935	187	289	3.89
815	1936	Jan. 17, 1936	266	412	4.36
835	1937	Dec. 29, 1936	375	580	4.85
865	1938	Apr. 7, 1938	325	503	4.59
885	1939	Feb. 7, 1939	570	882	5.42
935	1941	Aug. 25, 1941	288	446	4.47

Remarks.--Records good. Water used for irrigation in central Maui.

Revisions (fiscal years).--WSP 755: 1931-32.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.3	0.80	2.1	19.4
1.4	1.50	2.4	34.5
1.5	2.7	2.7	54
1.6	4.2	3.0	79
1.8	8.7	3.5	135

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.3	4.6	6.3	1.60	1.19	1.50	1.71	3.25	7.0	7.5	3.25	4.5
2	2.15	5.1	3.75	1.93	1.19	1.50	1.50	5.7	5.4	*54	3.1	6.0
3	2.15	6.2	3.25	2.05	1.19	1.42	1.42	4.8	4.6	11.8	3.95	12.1
4	3.2	4.0	3.85	6.2	1.19	1.42	1.34	4.2	3.9	6.7	3.1	9.2
5	2.3	3.7	2.85	5.6	1.12	1.34	1.34	3.25	3.7	5.0	3.55	6.4
6	2.15	3.25	2.55	4.5	1.12	1.34	1.28	2.85	3.25	8.1	6.9	8.9
7	2.15	3.0	2.4	2.85	1.12	1.26	1.26	5.3	3.0	5.8	14.4	6.3
8	1.95	3.45	2.5	2.4	1.12	1.26	1.34	4.8	2.7	4.6	7.6	5.2
9	2.05	5.5	2.15	2.3	1.05	1.26	4.1	3.4	2.55	5.3	7.4	6.4
10	2.55	5.7	2.05	2.15	2.1	1.19	2.7	3.0	2.4	7.0	9.0	10.5
11	2.05	9.6	1.93	*2.05	1.19	1.34	1.82	2.85	2.55	6.6	6.4	7.3
12	2.5	6.4	1.82	1.93	1.12	1.19	7.4	4.0	2.3	10.1	15.2	14.8
13	5.5	4.2	1.93	1.82	1.12	1.19	6.0	3.0	2.5	5.2	11.7	12.4
14	3.4	3.7	1.93	1.71	1.26	1.12	2.85	4.1	2.7	4.4	13.2	10.8
15	4.0	4.1	2.8	1.71	1.19	1.12	2.4	7.2	2.15	5.4	7.9	7.8
16	3.8	3.4	2.05	1.60	1.26	1.12	2.3	4.7	2.05	6.0	5.7	5.6
17	3.55	4.5	1.82	1.60	1.42	1.12	2.15	5.2	2.05	5.6	5.0	5.6
18	*4.9	4.5	1.93	1.50	1.42	1.05	2.05	27	2.55	3.9	6.0	5.6
19	3.4	5.5	1.71	1.50	1.42	1.12	1.93	10.1	2.3	3.55	6.5	4.6
20	3.1	4.8	1.60	1.50	2.05	3.7	1.93	12.0	1.93	6.5	7.0	4.0
21	2.55	3.55	1.60	1.42	3.55	8.1	1.82	6.6	1.82	14.8	4.4	3.55
22	2.3	3.25	1.50	1.42	3.5	2.15	1.71	5.4	2.65	6.2	3.9	3.7
23	2.15	3.5	1.50	1.71	2.3	1.71	1.71	8.5	3.0	5.0	3.7	4.9
24	2.35	4.7	1.50	1.50	2.3	1.60	1.60	37.5	2.85	4.0	5.3	7.8
25	3.65	3.4	1.42	1.42	1.93	1.50	1.82	128	5.5	3.7	4.4	4.0
26	2.85	3.7	1.50	1.34	1.71	1.50	7.7	76	2.85	7.1	3.9	3.55
27	9.8	3.25	1.50	1.34	1.60	1.50	2.9	29	2.4	3.9	3.4	3.4
28	8.2	2.85	2.0	1.26	1.60	1.42	2.6	15.1	2.3	3.4	3.9	3.4
29	4.6	2.55	1.82	1.26	1.60	1.42	6.5	11.6	4.4	3.1	4.7	3.0
30	4.8	2.55	1.60	1.26	1.50	1.63	2.85	-----	3.5	3.75	4.8	8.7
31	12.9	3.0	-----	1.19	-----	5.6	3.8	-----	2.55	-----	4.8	-----
Total	115.28	131.50	66.91	63.62	47.43	53.69	83.81	438.40	95.20	208.00	191.85	200.00
Mean:												
mgd	3.72	4.24	2.23	2.05	1.58	1.73	2.70	15.1	3.07	6.93	6.19	6.67
cfs	5.76	6.56	3.45	3.17	2.44	2.68	4.18	25.4	4.75	10.7	9.58	10.3
Ac-ft	354	404	205	195	146	165	257	1,350	292	638	589	614

Calendar year 1955: Max 41 Min 1.05 Mean(mgd) 4.19 Mean(cfs) 6.48 Ac-ft 4,700

Fiscal year 1955-56: Max 128 Min 1.05 Mean(mgd) 4.63 Mean(cfs) 7.16 Ac-ft 5,210

Peak discharge (base, 150 mgd).--Feb. 25 (10:30 p.m.) 465 mgd (719 cfs), 5.08 ft.

* Discharge measurement made on this day.

Honopou Stream near Huelo

Location.--Lat 20°53'20", long 156°15'05", on left bank just upstream from Wailoa ditch intake, 2.2 miles southwest of Huelo, and 2.2 miles west of Kailua.

Drainage area.--1.0 sq mi.

Records available.--December 1910 to June 1956.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 1,208 ft, corrected (from topographic map). Prior to June 19, 1914, staff gage at same site and datum.

Average discharge.--43 years (1911-14, 1916-56), 3.07 mgd (4.75 cfs).

Extremes.--Maximum discharge during year, 1,090 mgd (1,690 cfs) Feb. 25 (gage height, 4.74 ft), from rating curve extended above 70 mgd as explained below; minimum, 0.20 mgd (0.31 cfs) Dec. 15, 16.

1910-56: Maximum discharge, 3,690 mgd (5,710 cfs) Nov. 18, 1930 (gage height, 7.28 ft), from rating curve extended above 70 mgd by model studies of station site; minimum, 0.01 mgd (0.02 cfs) for several days in 1933, 1934.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Water used for irrigation in Central Maui.

Revisions (fiscal years).--WSP 1219: 1913-50(M). WSP 1249: 1948-50(P).

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.4	0.03	1.4	15.7
.5	.48	1.7	25
.6	1.26	2.0	37
.7	2.3	2.5	68
.9	5.0	3.0	155
1.1	8.6		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.00	3.2	5.0	0.60	0.36	0.36	0.54	2.35	9.0	5.0	3.0	3.5
2	.84	3.75	2.55	.92	.36	.30	.42	4.9	6.9	28	3.0	5.6
3	.92	4.4	2.05	1.00	.30	.30	.36	2.85	5.5	15	3.2	9.0
4	1.67	2.8	2.55	4.0	.30	.30	.36	2.55	4.6	7.3	2.9	7.0
5	.92	*2.6	1.76	3.4	.30	.30	.30	1.96	4.0	4.5	3.0	6.4
6	.84	2.3	1.66	2.65	.30	.25	.36	1.76	3.3	*6.4	7.0	7.8
7	.92	2.2	1.66	1.26	.30	.30	.30	3.8	2.9	5.0	3.0	5.6
8	.76	2.7	1.56	1.08	.25	.30	.42	2.75	2.55	4.3	8.0	5.0
9	.84	3.95	1.46	1.08	.25	.25	2.8	1.86	2.5	5.0	5.4	5.4
10	1.28	3.9	1.36	1.00	1.32	.25	1.18	1.66	1.96	6.2	5.6	8.6
11	.84	6.6	1.26	.84	.42	.36	.68	1.56	2.05	5.9	6.4	6.2
12	1.08	4.7	1.26	.84	.30	.30	5.4	2.7	1.76	9.8	10	11
13	3.4	3.05	1.26	.76	.25	.25	3.4	1.66	1.8	5.3	8.4	10
14	1.56	2.7	1.16	.76	.36	.25	1.26	2.45	2.6	4.6	8.8	9.2
15	2.15	3.05	1.86	.68	.42	.25	1.00	4.3	1.5	5.4	5.4	7.4
16	1.92	2.55	1.26	.68	.36	.25	1.00	2.55	1.3	5.4	4.9	5.4
17	1.86	3.55	1.08	.60	.60	.25	.92	2.85	1.6	4.4	4.6	4.6
18	2.85	3.4	1.16	.60	.60	.25	.84	21	2.4	3.4	5.0	3.9
19	1.66	3.65	1.00	.60	.42	.30	.76	7.5	1.8	3.2	5.2	3.4
20	1.56	2.9	*.84	.60	.92	3.35	.76	10.1	1.2	5.4	5.5	3.1
21	1.36	2.3	.76	.54	2.05	6.5	.68	6.2	1.0	7.0	3.4	2.9
22	1.26	2.2	.68	.54	1.80	1.08	.68	4.9	2.5	5.0	5.05	3.2
23	1.26	2.55	.60	.68	.92	.68	.68	6.7	2.9	4.5	2.9	4.4
24	1.46	3.8	.60	.60	.84	.60	.60	25.5	2.8	3.3	3.4	6.4
25	2.5	2.3	.60	.54	.60	.54	.68	147	5.0	3.0	3.3	3.5
26	1.66	2.7	.68	.48	.48	.48	9.0	82	2.5	5.8	3.0	3.0
27	7.8	2.2	.60	.42	.42	.48	1.81	38	1.8	3.1	2.8	2.7
28	4.6	1.96	1.00	.42	.42	.42	1.40	20.5	1.7	2.9	2.9	2.5
29	2.8	1.76	1.00	.42	.42	.42	4.2	13.6	3.6	2.5	3.7	2.5
30	3.2	1.76	.60	.36	.56	.54	1.68	-----	2.7	3.3	4.0	7.6
31	10.0	1.96	-----	.36	-----	1.25	2.55	-----	1.7	-----	4.0	-----
Total	66.77	93.44	40.87	29.31	17.00	21.71	46.98	427.51	89.22	179.9	171.75	166.5
Mean	2.15	3.01	1.36	0.945	0.567	0.700	1.52	14.7	2.88	6.00	5.54	5.55
mgd	3.33	4.66	2.10	1.46	0.877	1.08	2.35	22.7	4.46	9.28	8.57	8.59
cfs	205	287	125	90	52	67	144	1,510	274	552	527	511
Ac-ft												
Calendar year 1955: Max	31.5			Min	0.25	Mean(mgd)	3.01	Mean(cfs)	4.66	Ac-ft	3,370	
Fiscal year 1955-56: Max	147			Min	0.25	Mean(mgd)	3.69	Mean(cfs)	5.71	Ac-ft	4,140	

Peak discharge (base, 100 mgd).--Jan. 26 (5 p.m.) 110 mgd (170 cfs), 2.81 ft; Feb. 25 (5:30 a.m.) 1,090 mgd (1,690 cfs), 4.74 ft; May 7 (time unknown) 155 mgd (240 cfs), 2.98 ft.

* Discharge measurement made on this day.

Note.--No gage-height record Mar. 13 to Apr. 6, Apr. 20 to May 18, May 23 to June 30; discharge estimated on basis of records for nearby streams.

Wailoa ditch at Honopou, near Huelo

Location.--Lat 20°53'20", long 156°15'05", on right bank 100 ft downstream from intake at Honopou Stream, 0.5 mile west of Lupi, 2.2 miles southwest of Huelo, and 2.2 miles west of Kailua.

Records available.--November 1922 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 1,208 ft above mean sea level (by vertical angles).

Average discharge.--33 years (1923-56), 113 mgd (175 cfs).

Extremes.--1922-56: Maximum daily discharge, 195 mgd (302 cfs) for several days in 1954-56; no flow Jan. 24-27, 1923.

Remarks.--Records excellent. Wailoa ditch receives water from Koolau ditch at Alo Stream and from all streams from Alo Stream west to Halehaku Stream at altitude of about 1,200 ft. Water used for irrigation in central Maui.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	104	195	195	94	38	63	123	69	176	144	160	194
2	86	195	194	155	38	56	69	69	163	195	148	195
3	77	195	185	148	36.5	53	56	66	140	195	180	195
4	153	192	173	194	35	50	50	66	120	195	148	195
5	110	*163	156	194	36.5	47	47	63	128	164	164	195
6	108	160	124	194	36.5	44	44	63	120	173	195	195
7	82	156	116	164	36	44	41	66	116	194	195	195
8	72	159	101	124	32	44	43	69	112	180	195	195
9	72	195	93	108	30.5	41	144	66	112	195	195	195
10	107	195	86	97	150	41	140	63	97	195	195	195
11	76	195	79	101	73	50	95	63	110	195	195	195
12	131	195	76	90	47	47	110	66	93	195	195	195
13	194	192	98	82	38	41	112	90	87	195	195	195
14	190	168	96	72	64	36.5	101	90	157	185	195	195
15	187	180	169	66	63	35	101	90	97	195	195	195
16	192	172	112	63	59	36.5	79	93	82	185	192	195
17	176	194	86	59	113	39	72	*92	102	190	168	195
18	192	192	137	56	100	41	63	78	101	144	176	195
19	176	180	93	56	89	34	59	69	118	124	195	194
20	170	194	*76	53	185	173	53	69	66	146	195	185
21	124	156	69	50	194	124	50	69	76	195	185	152
22	104	138	66	50	192	108	50	65	116	194	156	169
23	97	176	65	66	164	78	47	66	161	192	144	176
24	107	195	59	63	177	66	44	56	172	156	171	195
25	184	182	56	56	120	56	81	66	176	128	195	190
26	176	194	63	53	90	47	121	72	148	148	190	160
27	190	160	66	47	82	47	112	76	126	108	140	144
28	195	148	96	44	82	44	95	76	114	93	126	140
29	191	124	166	41	72	41	108	83	173	86	195	121
30	195	136	117	41	73	55	108	-----	179	124	194	194
31	195	153	-----	41	-----	122	92	-----	126	-----	195	-----
Total	4,413	5,449	3,246	2,722	2,546.0	1,802.0	2,510	2,093	3,866	5,008	5,567	5,529
Mean:												
mgd	142	176	108	87.8	84.9	56.1	81.0	72.2	125	167	180	184
cfs	220	272	167	136	131	89.9	125	112	193	258	279	285
Ac-ft	13,540	16,720	9,960	8,350	7,810	5,530	7,700	6,420	11,930	15,370	17,080	16,970
Calendar year 1955. Max	195	195	195	195	30.5	Mean(mgd)	120	Mean(cfs)	166	Ac-ft	134,800	
Fiscal year 1955-56: Max	195	195	195	195	30.5	Mean(mgd)	122	Mean(cfs)	169	Ac-ft	137,400	

* Discharge measurement made on this day.

New Hamakua ditch at Honopou, near Huelo

Location.--Lat 20°53'30", long 156°15'10", on right bank 15 ft upstream from tunnel portal, 600 ft downstream from Honopou Stream crossing, 2.1 miles southwest of Huelo, and 2.3 miles west of Kailua.

Records available.--January 1918 to June 1956.

Gage.--Water-stage recorder. Datum of gage is 1,170 ft above mean sea level (by vertical angles). Prior to May 15, 1921, at site 300 ft upstream at different datum.

Average discharge.--38 years, 26.2 mgd (40.5 cfs).

Extremes.--1918-56: Maximum daily discharge, 116 mgd (179 cfs) Feb. 13, 14, 27, 1932; no flow at times.

Remarks.--Records good. Ditch diverts water from streams between Waiaikamoi and Halehaku Streams above Center and Lowrie ditches. Flow regulated by gates and spillways. Water used for irrigation in central Maui.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.34	8.3	27	0.71	0.26	0.55	0.01	0.06	0.21	12.8	5.4	48
2	.28	14.4	10.8	13.3	.26	.51	.01	.05	.01	41	4.1	84
3	.32	24	2.55	14.0	.24	.47	.02	.04	.01	33	9.0	92
4	3.35	3.9	4.3	82	.24	.43	.03	.06	.01	20	1.88	92
5	.43	3.4	1.09	94	.21	.43	.02	.06	.01	3.7	3.9	92
6	.43	1.04	.98	80	.19	.39	.02	.06	.01	18.9	24.5	96
7	.43	.93	1.53	23.5	.17	.36	.02	.06	.01	18.3	39.5	88
8	.32	3.35	1.27	1.34	.15	.36	.02	.05	.01	5.2	26	78
9	.32	27	1.20	1.15	.13	.36	.06	.04	.01	23	28	86
10	.43	25	1.15	1.15	32.5	.32	.06	.04	.01	39.5	27	96
11	.32	40	1.09	1.09	1.29	.39	.05	.04	.02	35.5	27	94
12	.92	23	.98	.98	.43	.39	.06	.05	1.49	43	48	96
13	20	4.7	.88	.82	.32	.36	.06	.05	1.09	23	44	96
14	3.2	1.27	.93	.71	.50	.32	.06	.06	10.0	5.8	48	96
15	5.9	5.7	36	.71	.72	.28	.08	.05	1.04	17.7	29	96
16	4.1	1.72	1.62	.66	.62	.28	.06	.05	.82	15.7	7.6	81
17	.96	16.3	1.04	.66	3.9	.28	.06	.03	.82	14.2	2.8	55
18	9.0	5.7	4.8	.62	8.8	.28	.05	.03	3.05	1.69	13.8	54
19	.82	13.5	.98	.58	11.0	.28	.04	.01	5.6	1.55	23	17.9
20	.87	14.1	.77	.58	50	23	.04	.01	.62	15.4	30	10.2
21	.51	1.20	.71	.55	70	.06	.03	.01	.55	47	5.8	7.1
22	.43	1.09	.66	.51	79	.05	.03	.01	5.0	18.7	4.0	13.5
23	.39	2.75	.66	.62	19.9	.04	.03	.02	12.4	12.7	4.6	54
24	.39	*19.8	.62	.66	30.5	.03	.03	.06	13.3	7.0	18.5	96
25	4.8	1.32	.62	.66	2.3	.05	.04	23	24.5	5.3	54	33.5
26	.98	10.2	.62	.62	.93	.02	.05	15.6	5.0	16.6	30.5	22.5
27	46	1.21	.58	.47	.77	.02	.05	9.5	.58	6.0	9.4	1.90
28	33	.82	1.42	.36	.71	.02	.05	6.4	.55	5.0	4.7	2.2
29	8.8	.66	26	.32	.82	.03	.05	3.8	9.3	4.3	29.5	1.99
30	11.6	1.03	3.05	.28	.62	.03	.06	-----	6.8	8.1	47	83
31	41	1.09	-----	-----	-----	.01	.06	-----	.82	-----	77	-----
Total	200.64	278.48	135.90	323.89	317.48	30.38	1.31	59.30	103.35	519.64	727.48	1,863.79
Mean:												
mgd	6.47	8.98	4.53	10.4	10.6	0.980	0.042	2.04	3.33	17.3	23.5	62.1
cfs	10.0	13.9	7.01	16.1	16.4	1.52	0.065	3.16	5.15	26.8	36.4	96.1
Ac-ft	616	855	417	994	974	93	4.0	182	317	1,590	2,230	5,720

Calendar year 1955: Max 94 Min 0.01 Mean(mgd) 8.46 Mean(cfs) 13.1 Ac-ft 9,500

Fiscal year 1955-56: Max 96 Min 0.01 Mean(mgd) 12.5 Mean(cfs) 19.3 Ac-ft 13,990

* Discharge measurement made on this day.

Old Hamakua ditch at Honopou, near Huelo

Location.--Lat 20°53'30", long 156°15'05", on right bank 400 ft downstream from Honopou Stream and Wailoa ditch trail crossing in Honopou Gulch, 2.0 miles southwest of Huelo, 2.3 miles west of Kallua, and 5.0 miles east of Haiku.

Records available.--January 1918 to June 1922, November 1936 to June 1956.

Gage.--Water-stage recorder and modified Parshall flume. Datum of gage is 1,117 ft above mean sea level (by vertical angles).

Average discharge.--23 years (1918-22, 1937-56), 2.33 mgd (3.61 cfs).

Extremes.--1918-22, 1936-56: Maximum daily discharge, 39.5 mgd (61.1 cfs) Apr. 7, 1938; no flow at times.

Remarks.--Records good. Wailoa and New Hamakua ditches divert most of flow above this station. Water used for irrigation in central Maui.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.06	0.17	1.01	0.04	0.02	0.02	0.07	0.08	10.7	5.3	0.12	0.32
2	.05	.23	.15	.06	.02	.02	.07	.09	6.6	25.5	.10	7.1
3	.08	1.36	.10	.07	.02	.01	.07	.08	3.9	18.0	.16	19.1
4	.08	.13	.13	7.7	.02	.02	.07	.08	.92	2.6	.13	15.5
5	.06	.08	.08	4.9	.02	.01	.07	.08	.82	.15	.13	5.4
6	.06	.07	.07	.49	.02	.01	.07	.08	.78	*7.1	.82	12.6
7	.07	.06	.06	.16	.02	.01	.08	.08	1.66	.62	8.7	3.7
8	.05	.10	.05	.06	.02	.01	.08	.08	1.86	.16	1.72	.59
9	.05	.70	.05	.05	.02	.01	.08	.07	1.95	1.70	1.04	4.8
10	.06	.19	.05	.04	.12	.01	.07	.07	1.77	7.4	3.6	17.9
11	.05	2.95	.04	.04	.07	.02	.06	.07	1.95	1.07	1.74	12.1
12	.07	.22	.04	.04	.04	.02	.09	.07	1.25	6.7	13.9	23.5
13	.16	.12	.04	.03	.03	.02	.08	.07	.13	.19	8.7	15.8
14	.15	.08	.04	.03	.03	.01	.08	.08	.13	.15	11.3	6.5
15	.15	.10	.16	.03	.03	.01	.08	.08	.08	.16	2.75	.17
16	.13	.08	.08	.03	.03	.01	.08	.08	.06	.47	.20	.16
17	.12	.10	.05	.03	.03	.01	.08	.08	.06	.26	.16	.15
18	.13	.15	.05	.02	.03	.01	.08	.12	.94	.15	.18	.15
19	.12	.55	.05	.05	.04	.02	.07	.06	.20	.12	.17	.16
20	.08	.21	.04	.03	.25	.15	.07	.06	.05	2.9	.19	.15
21	.06	.10	.03	.03	3.1	.11	.07	.06	.05	9.9	.15	.12
22	.06	.07	.03	.03	1.74	.07	.07	.07	.10	.33	.10	.13
23	.06	.10	.03	.03	.16	.06	.07	.08	1.51	.22	.10	.29
24	.05	.49	.03	.03	.16	.06	.07	.14	.16	.16	.13	5.7
25	.08	.10	.03	.02	.08	.05	.07	.22	9.6	.15	.22	.26
26	.08	.08	.03	.02	.05	.06	.08	.10	.15	1.58	.16	.13
27	5.8	.07	.03	.02	.03	.06	.07	.06	.08	.20	.10	.12
28	.45	.06	.04	.02	.03	.06	.07	.04	.06	.15	.12	.08
29	.16	.05	.07	.02	.02	.06	.08	1.05	.23	.12	.19	.08
30	.16	.07	.06	.02	.02	.08	.08	-----	.16	.12	.47	8.8
31	7.8	.06	-----	.02	-----	.08	.08	-----	.08	-----	2.05	-----
Total	16.52	8.90	2.72	14.14	6.27	1.16	2.31	3.38	48.19	93.63	59.60	159.56
Mean:												
mgd	0.533	0.287	0.091	0.456	0.209	0.037	0.075	0.117	1.55	3.12	1.92	5.32
cfs	0.825	0.444	0.141	0.708	0.323	0.057	0.116	0.181	2.40	4.83	2.97	8.23
Ac-ft	51	27	8.3	43	19	3.6	7.1	10	148	287	183	490
Calendar year 1955:	Max	30.5	Min	0.01	Mean(mgd)	0.775	Mean(cfs)	1.20	Ac-ft	868		
Fiscal year 1955-56:	Max	25.5	Min	0.01	Mean(mgd)	1.14	Mean(cfs)	1.76	Ac-ft	1,280		

* Discharge measurement made on this day.

Lowrie ditch at Honopou Gulch, near Huelo

Location.--Lat 20°54'55", long 156°15'05", on left bank 0.2 mile downstream from siphon across Honopou Stream, 1.6 miles west of Huelo, and 2.5 miles northwest of Kailua.

Records available.--January 1910 to March 1927, February 1930 to June 1956. Published as "at Opana weir" 1910-27.

Gage.--Water-stage recorder and concrete control. Datum of gage is 598.0 ft above mean sea level, datum of 1929. Jan. 1, 1910, to Mar. 31, 1927, at site 1.5 miles downstream at different datum.

Average discharge.--42 years (1910-26, 1930-56), 28.4 mgd (43.9 cfs).

Extremes.--1910-27, 1930-56: Maximum daily discharge, 75 mgd (116 cfs) Oct. 31, 1921; no flow at times.

Remarks.--Records good. Lowrie ditch diverts water from all streams between Kailua and Halehaku Streams. Flow regulated by gates. Water used for irrigation in central Maui.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	12.8	47	49	6.9	3.9	10.2	2.1	0.09	26	23	52	41
2	14.0	52	55	10.3	3.9	9.5	1.71	.06	18.1	55	37.5	57
3	8.8	55	44	11.8	3.9	8.8	3.9	.04	30.5	57	55	60
4	29	47	35	47	3.55	5.6	4.2	.05	28.5	55	47	57
5	15.6	47	17.8	50	3.4	5.0	4.5	.05	17.1	52	40	57
6	18.3	28.5	17.8	40	3.25	4.5	5.4	.05	8.6	52	55	57
7	11.0	19.0	17.8	26	3.1	4.3	8.6	.04	7.7	52	57	57
8	7.8	24	15.4	12.3	5.1	4.2	10.3	.90	7.1	52	55	55
9	7.6	55	15.7	11.3	5.1	4.0	49	1.21	6.5	52	57	50
10	10.4	55	10.6	15.7	20.5	3.9	46	1.91	5.9	52	57	60
11	8.0	55	10.5	*13.8	8.6	4.8	17.6	2.35	6.7	52	57	57
12	22	52	16.8	12.5	4.2	4.5	24	27	5.4	55	57	60
13	47	47	12.6	11.6	3.75	3.9	18.2	31.5	5.2	52	57	60
14	47	25	13.1	10.6	5.9	5.55	2.1	42	20.5	52	22.5	60
15	44	35	22	9.3	5.0	3.4	1.83	57	17.8	52	1.23	60
16	50	35.5	10.8	6.9	4.3	3.25	1.83	55	20	52	.89	50
17	32	46	8.6	6.5	5.5	3.4	1.72	51	19.0	52	22	37.5
18	48	49	11.0	6.3	8.2	4.0	1.05	20	12.3	47	55	46
19	28.5	43	11.8	5.9	6.9	3.35	.97	3.75	24	*47	55	30
20	39.5	55	10.2	6.1	35.5	27	.89	1.83	16.6	50	55	25
21	19.0	25	11.1	5.4	33	1.84	.81	1.60	10.9	60	52	27.5
22	14.9	22.5	11.1	5.2	45	.68	.61	1.49	15.0	57	35	31
23	14.7	42	11.6	6.3	16.6	.56	*.71	37	36	55	30	40
24	16.6	55	7.8	7.4	19.1	.51	5.2	27.5	37.5	50	35	57
25	41	42	6.1	7.8	11.5	.46	15.8	9.9	52	42	47	31
26	43	55	7.4	5.6	7.8	.41	34	8.8	25.5	55	32.5	19.2
27	45	41	6.5	5.0	7.7	.41	23.5	2.85	11.3	52	24	30
28	55	17.8	9.4	4.6	12.0	.41	9.3	2.35	14.4	47	21.5	27.5
29	50	*17.6	14.2	4.3	12.5	.36	37.5	2.35	34	40	32	24
30	52	24	9.1	4.2	10.6	4.6	27.5	-----	47	42	42	54
31	57	21.5	-----	4.0	-----	6.8	10.1	-----	20	-----	55	-----
Total	909.5	1,235.4	497.8	378.6	315.35	158.19	371.13	389.67	607.1	1,513	1,301.12	1,377.7
Mean:	29.3	39.9	16.6	12.2	10.5	4.46	12.0	13.4	19.6	50.4	42.0	45.9
mgd	45.3	61.7	25.7	18.9	16.2	6.90	18.6	20.7	30.3	75.0	65.0	71.0
cfs	2,790	3,790	1,530	1,160	968	424	1,140	1,200	1,860	4,640	3,990	4,230
Ac-ft												
Calendar year 1955: Max	60			Min	0.36	Mean(mgd)	21.8	Mean(cfs)	33.7	Ac-ft	24,450	
Fiscal year 1955-56: Max	60			Min	0.04	Mean(mgd)	24.7	Mean(cfs)	38.2	Ac-ft	27,720	

* Discharge measurement made on this day.

Haiku ditch at Honopou Gulch, near Kailua

Location.--Lat 20°55'05", long 156°14'55", on right bank of ditch and west side of Honopou Gulch, 160 ft below new Government Road, 2.5 miles northwest of Kailua, and 5 miles east of Haiku.

Records available.--January 1910 to December 1928, February 1930 to June 1956. Published as "at Peahi weir" January 1910 to June 1919, as "at Manawai Gulch" July 1919 to December 1928, and as "at Kapalalaea Gulch" February 1930 to January 1940.

Gage.--Water-stage recorder and concrete control. Datum of gage is 421.54 ft above mean sea level, datum of 1929. Jan. 1, 1910, to Oct. 6, 1914, water-stage recorder at site at Peahi weir on old Haiku ditch at different datum. Oct. 7, 1914, to Dec. 31, 1928, water-stage recorder at site 2.9 miles downstream at different datum. Feb. 19, 1930, to Feb. 20, 1940, water-stage recorder at site 0.9 mile downstream at different datum.

Average discharge.--44 years (1910-28, 1930-56), 20.7 mgd (32.0 cfs).

Extremes.--1910-28, 1930-56: Maximum daily discharge, 135 mgd (209 cfs) Nov. 13, 1934, Jan. 8, 9, Feb. 25-27, 1935, Jan. 27, 1938; no flow at times.

Remarks.--Records excellent except those for period of no gage-height record, which are fair. Haiku ditch diverts water from all streams between Kailua Stream and Mailiko Gulch. Flow regulated by gates. Water used for irrigation in central Maui.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.14	23	50	0.18	0.12	0.12	0.09	0.08	20.48	11.0	21	20.5
2	.09	41	47	.20	.14	.14	.09	.08	17.1	65	2.2	48
3	.12	60	6.5	.20	.14	.10	.08	.08	41	60	34.5	63
4	8.7	15.0	3.0	.45	.16	.10	.08	.08	35.5	57	6.5	63
5	.12	30	.95	50	.16	.09	.07	.08	26	17.5	4.8	60
6	.10	2.1	.90	15.5	.16	.08	2.8	.08	22	25.5	57	60
7	.10	1.64	.80	1.03	.18	.10	1.36	.08	24	54	57	42
8	.12	4.6	.65	.26	.18	.10	1.05	.08	17.5	14.0	57	6.8
9	.14	63	.62	.22	.18	.10	23.5	.07	13.0	57	57	14.2
10	.12	60	.54	.34	3.05	.09	21	.06	11.1	57	57	55
11	.12	67	.51	.28	.40	.14	*1.81	.07	13.0	54	57	38.5
12	7.3	56	.48	.18	.20	.12	.65	.08	10.2	*57	57	63
13	55	19.6	.44	.18	.12	.10	.26	.06	14.4	54	57	63
14	29	1.64	.49	.18	.16	.08	.11	.10	19.7	34.5	57	63
15	34	17.6	.70	.18	.12	.08	.10	.28	1.50	38	57	57
16	28	11.4	.54	.16	.14	.09	1.45	7.6	1.36	27.5	54	10.2
17	1.91	46	.40	.18	.16	.12	3.45	7.6	1.15	42	41	3.0
18	36	23.5	.64	.16	.16	.10	.65	.61	2.95	2.4	24	5.6
19	.73	17.6	.44	.16	4.6	.11	.30	.37	13.1	1.99	57	2.55
20	5.8	49	.28	.16	14.6	7.0	.06	.30	1.05	19.6	63	2.45
21	.34	1.43	.20	.16	18.7	.50	.07	.26	.95	63	23.5	2.1
22	.18	.85	.16	.16	27.5	.30	1.85	.22	3.45	60	2.3	2.75
23	.16	*3.2	.16	.20	1.14	.24	7.8	.22	35.5	46	2.2	3.3
24	.18	51	.16	.18	.44	.18	5.5	.28	22	6.6	5.6	59
25	22.5	2.25	.16	.16	.30	.14	2.1	.18	55	3.1	6.8	4.6
26	7.2	41	.18	.14	.24	.14	3.6	a.10	7.3	39	2.1	1.78
27	45	1.78	.18	.14	.18	.12	.50	a.10	.75	9.7	2.1	1.71
28	67	.70	.24	.14	.18	.16	.22	a.10	.65	4.4	2.0	1.64
29	34	.51	.28	.14	.16	.18	.26	a.10	29	3.6	5.0	1.57
30	50	.72	.18	.14	.12	.21	1.57	-----	38	9.7	18.1	39.5
31	54	.62	-----	.12	-----	.16	5.7	-----	1.10	-----	33	-----
Total	488.17	713.74	117.78	116.43	74.09	11.29	88.13	19.40	479.79	994.09	980.31	858.75
Mean	15.7	23.0	3.93	3.76	2.47	0.364	2.84	0.669	15.5	33.1	31.6	28.6
mgd	24.3	35.6	6.08	5.82	3.82	0.563	4.39	1.04	24.0	51.2	48.9	44.3
cfs	1,500	2,190	361	357	227	35	270	60	1,470	3,050	3,010	2,640
Ac-ft												
Calendar year 1955: Max	79				Min 0.08	Mean(mgd)	10.2	Mean(cfs)	15.8	Ac-ft	11,400	
Fiscal year 1955-56: Max	67				Min 0.06	Mean(mgd)	13.5	Mean(cfs)	20.9	Ac-ft	15,170	

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of East Maui Irrigation Co.'s gage-height readings.

Kahakuloa Stream near Honokohau

Location.--Lat 20°58'50", long 156°33'25", on right bank just downstream from Kapuna Stream, 1.3 miles south of Kahakuloa, 2 miles west of Puu Makawana, and 4.3 miles south-east of Honokohau.

Drainage area.--3.4 sq mi.

Records available.--July 1939 to August 1943, September 1947 to June 1956. Records for January 1913 to December 1914 (fragmentary), at site 1 mile upstream, not equivalent owing to difference in drainage area.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 330 ft (from topographic map).

Average discharge.--11 years (1940-43, 1948-56), 11.4 mgd (17.6 cfs).

Extremes.--Maximum discharge during year, 430 mgd (665 cfs) Dec. 20 (gage height, 5.99 ft), from rating curve extended above 50 mgd on basis of slope-area determination at gage height 8.35 ft; minimum, 2.75 mgd (4.25 cfs) Dec. 18, 19.

1939-43, 1947-56: Maximum discharge, 1,990 mgd (3,080 cfs) Dec. 14, 1942 (gage height, 7.02 ft, control then in use), from rating curve extended above 55 mgd by test on model of station site; minimum, 1.95 mgd (3.02 cfs) Feb. 9-11, 1954.

Remarks.--Records good.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

2.8	2.85	3.6	30
2.9	4.4	4.0	59
3.0	6.5	4.5	116
3.3	15.5	5.0	197

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	10.6	8.2	25	3.95	3.35	3.35	8.9	14.8	6.8	28.5	11.6	9.9
2	7.5	10.7	*13.5	5.4	3.65	3.15	5.1	33	5.9	72	7.5	11.2
3	6.1	21.5	9.0	4.1	3.35	3.15	4.4	12.3	5.5	34	7.9	13.6
4	19.7	13.9	16.9	23.5	3.15	3.0	4.4	17.2	5.3	22	6.5	11.7
5	11.1	13.2	9.6	8.4	3.15	2.85	4.1	7.8	5.9	12.5	10.8	9.3
6	9.5	7.0	9.3	7.5	3.15	2.85	3.8	5.9	*5.1	24.5	41	14.8
7	9.3	5.7	7.0	4.9	3.0	3.05	3.65	8.8	4.9	15.7	64	18.3
8	6.1	7.3	5.5	4.1	3.0	4.3	5.1	34	4.9	9.9	14.8	10.2
9	5.5	16.8	5.1	3.95	3.3	*3.15	20.5	9.4	5.1	8.2	28	8.8
10	5.9	16.7	4.9	7.6	4.4	3.15	21.5	5.9	4.7	7.5	10.8	11.1
11	5.1	21	4.4	19.2	5.8	9.5	6.5	5.5	18.0	6.8	18.3	8.0
12	12.4	8.5	4.4	12.9	4.4	4.9	39.5	25	5.9	14.0	14.8	16.2
13	19.8	7.9	4.3	5.9	3.95	3.65	4.1	8.4	4.9	6.5	21.5	13.5
14	8.5	8.2	4.3	5.2	4.1	3.15	10.0	14.5	28.5	5.9	29	10.8
15	6.1	8.6	4.7	4.3	3.95	3.0	5.9	21	6.7	8.0	9.9	9.3
16	8.3	6.8	4.3	4.3	3.5	2.85	5.1	8.7	5.1	13.1	8.0	7.5
17	5.7	9.5	3.95	3.95	3.5	2.85	4.7	7.0	5.5	15.2	8.4	7.2
18	7.5	23.5	4.7	3.8	3.5	2.85	4.3	50	19.0	*6.1	42	16.1
19	5.5	34.5	4.3	3.8	8.1	3.15	4.1	18.8	15.2	8.2	16.4	17.3
20	*5.1	14.8	5.1	3.95	13.8	135	*5.95	27	7.3	60	17.4	12.8
21	4.9	7.0	5.1	3.5	6.5	116	3.8	11.7	5.5	57	8.5	9.0
22	4.4	5.9	4.4	3.5	5.3	14.5	3.95	13.5	13.9	17.8	8.0	19.5
23	5.6	8.1	4.1	10.2	4.4	7.2	3.95	8.8	15.0	13.1	7.5	11.2
24	5.7	9.5	3.95	10.1	4.9	10.1	4.6	11.5	6.8	8.2	9.6	9.7
25	8.4	6.3	3.65	5.3	4.7	6.5	9.2	17.1	9.7	12.7	*22	7.5
26	12.2	6.3	3.8	4.1	3.8	5.1	38	15.2	6.4	19.3	14.2	8.7
27	7.1	5.5	4.7	4.1	6.1	4.4	9.5	15.0	5.5	9.0	9.3	8.7
28	16.0	5.1	5.0	3.65	6.5	4.3	9.1	12.6	5.7	7.0	7.5	7.2
29	10.6	4.9	5.8	3.5	4.9	3.95	38.5	8.2	18.4	6.3	11.4	7.0
30	8.5	6.9	4.7	3.5	3.65	14.3	13.1	-----	20	14.9	12.7	26
31	31	8.4	-----	3.35	-----	22.5	19.6	-----	6.3	-----	24	-----
Total	289.7	338.2	195.45	195.50	178.45	411.75	359.80	446.6	283.4	543.9	523.3	352.1
Mean:												
mgd	9.35	10.9	6.52	6.31	5.95	13.3	11.6	15.4	9.14	18.1	16.9	11.7
cfs	14.5	16.9	10.1	9.76	9.21	20.6	17.9	23.8	14.1	28.0	26.1	18.1
Ac-ft	889	1,040	600	600	548	1,260	1,100	1,370	870	1,670	1,610	1,080

Calendar year 1955: Max	135	Min	2.85	Mean(mgd)	10.7	Mean(cfs)	16.6	Ac-ft	12,040
Fiscal year 1955-56: Max	135	Min	2.85	Mean(mgd)	11.3	Mean(cfs)	17.5	Ac-ft	12,640

Peak discharge (base, 400 mgd).--Dec. 20 (3:30 a.m.) 430 mgd (665 cfs), 5.99 ft.

* Discharge measurement made on this day.

Honokohau Stream near Honokohau

Location.--Lat 20°57'45", long 156°35'20", on right bank 1,000 ft upstream from intake of Honokohau ditch and 5 miles southeast of Honokohau.

Drainage area.--4.2 sq mi.

Records available.--March 1913 to September 1920, May 1922 to June 1956.

Gage.--Water-stage recorder and masonry control. Altitude of gage is 950 ft (by barometer).

Average discharge.--38 years (1916-20, 1922-56), 25.3 mgd (39.1 cfs).

Extremes.--Maximum discharge during year, 800 mgd (1,240 cfs) Aug. 18 (gage height, 5.60 ft), from rating curve extended above 120 mgd by logarithmic plotting; minimum, 9.3 mgd (14.4 cfs) Dec. 19.
1913-20, 1922-56: Maximum discharge, 2,420 mgd (3,740 cfs) Dec. 14, 1942 (gage height, 8.40 ft), from rating curve extended above 120 mgd by logarithmic plotting; minimum, 5.4 mgd (8.4 cfs) May 1, 1945, Jan. 5, 1946.

Remarks.--Records good.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.9	7.3	3.5	147
2.2	17.1	4.0	250
2.5	34.5	4.5	395
3.0	78		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	24	16.7	72	16.0	11.3	10.4	12.8	35	15.5	36	15.2	31
2	18.2	54	38.5	23	11.0	10.1	11.0	24	14.0	69	13.2	36.5
3	15.9	48	25	15.9	11.0	10.1	10.7	22	13.2	29	16.6	52
4	32	26	41	70	10.7	9.8	10.4	48	13.7	20.5	14.0	*36
5	27.5	22.5	16.3	43	10.7	9.8	10.4	14.5	14.6	15.4	25	36.5
6	18.6	16.3	15.5	25.5	10.7	9.8	10.1	12.3	12.6	19.9	50	44
7	15.5	14.8	14.8	14.8	10.7	10.1	10.1	12.4	12.6	18.6	107	35
8	14.8	*28	14.4	13.2	10.7	9.8	21	43	12.3	14.4	44	39
9	16.7	35.5	14.0	13.2	11.1	9.5	81	15.5	12.3	18.0	60	28.5
10	19.8	71	14.0	26	97	9.5	*33.5	12.3	12.3	25	94	44
11	15.2	51	13.6	21.5	12.9	11.4	13.2	11.6	17.0	17.0	53	28.5
12	30	30.5	13.6	15.6	11.6	10.7	78	33.5	12.3	65	90	74
13	65	20.5	13.2	12.9	11.0	10.1	54	14.0	*11.8	33	93	49
14	23.5	20.5	13.2	12.6	21	9.8	15.5	15.5	46	14.0	77	48
15	24.5	28	18.0	12.3	12.7	9.5	12.6	35	13.2	31	28	56
16	17.6	18.0	16.0	12.3	11.3	9.5	12.3	42	12.0	23.5	18.1	28
17	21.5	36	13.6	12.0	12.3	9.5	11.6	21.5	17.2	23	23.5	34
18	40	129	14.8	12.0	12.6	9.5	11.0	195	18.8	14.9	79	47
19	15.2	31.5	*13.4	12.0	34.5	38.5	11.0	44	49	15.2	34.5	34.5
20	14.4	15.6	14.3	11.6	41	296	11.0	87	23	129	28.5	35
21	13.6	12.6	17.0	11.6	35	231	10.7	21	12.6	58	16.7	29.5
22	13.2	12.0	14.4	11.6	22	19.5	11.0	28	57	20.5	15.9	71
23	31	22.5	13.2	16.8	17.2	13.2	10.7	29	37.5	16.3	35.5	42
24	20	31	12.9	17.5	24.5	13.6	11.0	76	18.0	13.8	27.5	35
25	28.5	19.4	12.6	17.6	14.4	12.0	14.6	70	71	22	61	20
26	32	20.5	13.2	21	11.0	11.3	26.5	96	17.0	21.5	49	24
27	46	18.5	18.4	13.3	11.5	11.0	12.6	86	22.5	14.4	20.5	28
28	40	15.2	18.0	*11.6	12.9	10.7	13.8	39	19.5	12.6	35.5	22.5
29	42	14.8	30	11.0	13.4	10.7	44	35.5	39.5	12.6	64	21.5
30	29	24	15.2	11.0	10.7	14.5	23	-----	32	17.5	38.5	58
31	79	24.5	-----	11.0	-----	33	36	-----	12.9	-----	52	-----
Total	844.2	928.4	574.1	549.4	548.4	693.9	657.1	1,208.6	692.9	840.6	1,381.7	1,168.0
Mean:	27.2	29.9	19.1	17.7	18.3	28.8	21.2	41.7	22.4	26.0	44.6	38.9
mgd	42.1	46.3	29.6	27.4	28.3	44.6	32.8	64.5	34.7	43.3	69.0	60.2
cfs	2,590	2,650	1,780	1,690	1,680	2,740	2,020	3,710	2,130	2,580	4,240	3,580
Ac-ft												

Calendar year 1955: Max 296 Min 9.5 Mean(mgd) 27.2 Mean(cfs) 42.1 Ac-ft 30,480
Fiscal year 1955-56: Max 296 Min 9.5 Mean(mgd) 28.1 Mean(cfs) 43.5 Ac-ft 31,570

Peak discharge (base, 700 mgd).--Aug. 18 (7 p.m.) 800 mgd (1,240 cfs), 5.60 ft; Dec. 20 (3 a.m.) 760 mgd (1,180 cfs), 5.46 ft.

* Discharge measurement made on this day.

Honokowai ditch near Lahaina

Location.--Lat 20°56'00", long 156°37'30", on left bank just downstream from intake on Honokowai Stream, 2.5 miles upstream from Pioneer Mill Co.'s powerhouse, and 5.5 miles northeast of Lahaina.

Records available.--July 1912 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 1,900 ft (from topographic map). Prior to Dec. 31, 1917, staff gage at site 0.5 mile downstream at different datum. Nov. 14, 1918, to May 27, 1921, water-stage recorder at site 1.5 miles downstream at different datum.

Average discharge.--37 years (1919-56), 5.93 mgd (9.18 cfs).

Extremes.--1912-56: Maximum daily discharge, 43 mgd (66 cfs) June 30, 1930; no flow at times.

Remarks.--Ditch diverts water for power and irrigation from Honokowai Stream just above station. Flow regulated by headgates at intake.

Cooperation.--Records of daily discharges since July 1932 furnished by Pioneer Mill Co.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	7.6	5.6	16.6	5.3	4.0	3.75	4.1	7.6	5.7	5.8	3.4	7.8
2	4.6	14.2	10.8	7.1	4.0	3.75	4.0	4.7	4.9	8.5	3.4	10.3
3	4.4	14.2	8.6	5.5	4.0	3.75	3.65	5.8	4.6	5.3	3.65	10.8
4	5.7	5.7	10.9	16.5	4.0	3.75	3.65	8.2	4.6	4.6	3.75	12.0
5	4.7	6.6	4.7	12.4	4.0	3.75	3.65	4.6	4.3	3.85	5.8	10.9
6	5.5	5.1	4.3	6.4	4.0	3.75	3.65	3.85	4.1	3.75	7.9	9.2
7	4.6	4.8	4.1	4.3	3.85	3.75	3.65	3.65	4.1	3.75	10.6	7.9
8	4.6	7.0	4.0	4.1	3.75	3.75	4.3	4.9	4.0	3.75	6.4	9.8
9	4.4	11.4	4.0	4.0	3.75	3.75	8.2	4.6	3.85	4.9	8.5	7.6
10	6.1	17.2	4.0	4.8	17.6	3.65	5.9	3.85	3.75	6.4	11.0	12.7
11	4.7	13.7	4.0	5.7	4.1	3.75	4.2	3.75	3.75	4.9	9.9	7.6
12	7.7	8.0	3.85	4.4	3.55	3.75	6.9	7.0	3.7	11.4	12.6	19.3
13	16.5	5.7	3.75	4.4	3.5	3.75	7.1	4.6	3.7	8.3	11.9	14.2
14	7.7	5.8	3.75	4.4	5.6	3.75	4.5	4.0	7.2	4.1	14.9	13.4
15	8.4	8.6	4.2	4.3	5.0	3.75	4.0	8.6	4.0	6.8	8.2	13.6
16	5.4	5.8	4.6	4.0	4.4	3.75	4.0	9.9	3.75	4.8	5.4	8.5
17	5.3	11.2	3.75	4.0	4.5	3.75	4.0	8.0	4.7	5.1	4.9	9.3
18	11.4	13.2	3.75	4.0	4.6	3.75	4.0	15.1	3.9	3.75	9.7	10.8
19	5.1	6.6	4.2	4.0	9.8	4.5	3.8	11.2	4.8	3.75	7.6	7.8
20	4.7	4.4	4.4	4.0	8.8	12.2	2.6	12.5	6.8	13.1	5.8	8.4
21	4.6	4.4	4.4	4.0	10.3	4.3	3.25	6.2	3.9	11.2	4.1	7.6
22	4.4	4.4	4.6	4.0	*8.0	4.9	3.25	6.1	7.4	5.3	3.65	14.9
23	6.6	6.3	4.4	4.0	6.0	4.6	3.4	9.1	8.6	3.95	6.7	11.2
24	6.9	9.8	4.4	3.65	6.7	4.8	3.4	*14.9	5.5	3.8	5.9	10.0
25	8.8	6.4	4.4	4.3	4.0	4.2	3.4	14.5	11.7	3.75	9.8	5.8
26	8.2	6.6	4.2	5.3	3.85	4.0	3.4	14.4	5.5	3.75	10.1	5.2
27	18.0	5.8	4.4	4.2	3.85	4.0	*3.4	14.1	5.6	3.75	5.7	7.3
28	12.9	4.2	4.8	3.75	3.75	4.0	3.4	9.7	5.6	3.75	7.5	6.2
29	11.0	4.3	8.7	3.75	3.75	4.0	6.3	10.2	6.3	3.75	16.5	5.6
30	8.9	5.8	5.2	3.75	3.75	4.0	9.0	-----	6.4	3.65	11.4	12.6
31	14.1	6.8	-----	3.9	-----	5.2	*8.9	-----	3.75	-----	11.5	-----
Total	234.0	239.6	159.75	158.20	160.75	131.90	140.95	235.60	160.45	163.25	248.15	298.3
Mean:	7.55	7.73	5.32	5.10	5.36	4.25	4.55	8.12	5.18	5.44	8.00	9.94
mgd	11.7	12.0	8.23	7.89	8.29	6.58	7.04	12.6	8.01	8.42	12.4	15.4
cfs	718	735	490	485	493	405	433	723	492	501	762	915
Ac-ft												
Calendar year 1955: Max	24			Min	2.45	Mean(mgd)	6.57	Mean(cfs)	10.2	Ac-ft	7,360	
Fiscal year 1955-56: Max	19.3			Min	2.6	Mean(mgd)	6.37	Mean(cfs)	9.86	Ac-ft	7,150	

* Discharge measurement made on this day.

Olowalu ditch near Olowalu

Location.--Lat 20°49'30", long 156°36'50", on left bank 40 ft upstream from intake of pipe-line to hydroelectric plant, 1.2 miles northeast of Olowalu, and 5.5 miles southeast of Lahaina.

Records available.--August 1911 to June 1956.

Gage.--Water-stage recorder and Parshall flume. Prior to June 30, 1916, staff gage in tailrace of powerhouse 1,000 ft downstream at different datum. July 28, 1916, to June 8, 1919, staff gage and June 9, 1919, to June 21, 1932, water-stage recorder, at site 300 ft upstream at different datum. July 1, 1932, to Oct. 7, 1933, records obtained by combining flows of three stations about 1,000 ft downstream.

Average discharge.--38 years (1917-20, 1921-56), 4.94 mgd (7.64 cfs).

Extremes.--1911-56: Maximum daily discharge, 13.7-mgd (21.2 cfs) Apr. 17, 1935; no flow at times.

Remarks.--Ditch diverts water from Olowalu Stream at altitude of about 450 ft for power and irrigation. Regulated by headgates.

Cooperation.--Records of daily discharges since January 1932 furnished by Pioneer Mill Co.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	6.8	7.7	9.2	2.7	2.25	2.5	4.5	10.3	9.2	5.6	3.8	8.8
2	5.4	7.6	9.9	2.85	2.25	2.4	4.3	9.5	9.1	5.2	3.7	8.4
3	4.6	9.3	7.8	2.7	2.2	2.4	4.2	9.2	8.9	5.0	3.9	9.1
4	5.7	6.9	8.7	7.1	2.2	2.3	3.95	9.6	8.8	4.8	3.6	9.0
5	4.4	5.8	6.3	6.0	2.15	2.25	3.75	9.2	8.6	4.5	4.0	9.1
6	4.1	4.8	5.4	5.0	2.15	2.2	3.55	8.9	8.2	4.4	4.5	9.4
7	3.85	4.3	5.1	3.8	2.1	2.2	3.4	8.7	7.8	4.2	7.9	9.0
8	5.6	4.9	4.6	3.25	2.55	2.2	3.8	8.6	7.5	4.2	7.9	8.9
9	3.7	6.9	4.1	3.05	4.2	2.15	6.3	8.6	7.1	4.1	8.9	9.1
10	3.65	7.6	3.8	2.95	5.6	2.25	6.3	7.8	6.7	5.3	8.9	9.5
11	3.35	10.4	3.6	2.85	5.0	2.25	5.8	7.7	6.6	4.4	9.7	8.2
12	4.1	9.1	3.45	2.8	4.2	2.2	6.1	9.3	6.3	7.1	9.6	10.2
13	7.4	7.6	3.4	2.65	3.8	2.15	7.0	9.3	6.0	7.0	9.8	10.2
14	4.9	6.0	3.35	2.6	3.55	2.1	6.5	8.9	6.7	5.0	9.7	10.0
15	4.8	5.8	3.35	2.55	3.35	2.1	6.1	9.2	5.8	6.0	9.2	10.0
16	4.2	5.0	3.25	2.6	3.05	2.05	5.8	9.0	5.5	5.0	8.4	9.9
17	3.95	8.4	3.05	2.55	2.9	2.05	5.6	8.8	5.9	5.1	7.3	9.4
18	6.2	6.5	3.0	2.5	2.8	2.05	5.1	9.6	5.4	4.7	8.0	10.0
19	4.3	5.5	5.5	2.5	3.4	2.1	4.6	9.4	5.4	4.6	9.4	9.3
20	3.8	4.7	3.5	2.45	5.0	9.0	4.3	9.3	5.3	7.7	9.1	8.8
21	3.55	4.4	3.35	2.4	3.8	8.0	4.1	7.7	5.0	9.5	8.2	7.8
22	3.4	4.1	3.2	2.35	*3.85	3.15	3.95	7.2	8.4	8.8	6.9	8.5
23	3.35	5.0	2.95	2.6	3.5	2.95	3.8	7.1	8.4	6.9	7.3	9.4
24	3.45	6.9	2.85	2.6	3.75	2.95	3.9	7.0	6.1	5.7	6.9	9.0
25	3.85	4.8	2.7	2.5	3.1	2.95	4.3	7.0	6.8	5.1	8.6	7.6
26	4.4	4.8	2.75	2.3	2.9	2.95	4.1	7.0	6.2	4.8	8.6	6.8
27	5.6	4.4	2.75	2.3	2.7	2.85	*3.8	7.1	5.7	4.5	7.0	6.4
28	4.5	3.95	2.65	2.25	2.65	2.8	3.7	6.8	5.3	4.4	6.5	6.0
29	6.8	3.7	3.0	2.25	2.6	4.1	6.3	8.4	6.2	4.1	9.1	8.0
30	6.2	4.2	2.8	2.15	2.5	5.2	9.8	-----	7.9	4.0	9.2	8.0
31	5.5	4.6	-----	2.2	-----	4.9	10.9	-----	6.2	-----	9.3	-----
Total	143.40	185.65	129.35	91.35	96.05	93.70	159.60	246.2	211.0	161.7	234.9	261.8
Mean	4.63	5.99	4.31	2.95	3.20	3.02	5.15	8.49	6.81	5.39	7.58	8.73
cfs	7.16	9.27	6.67	4.56	4.95	4.67	7.97	13.1	10.5	8.34	11.7	13.5
Ac-ft	440	570	397	280	295	288	490	756	648	496	721	803
Calendar year 1955: Max	10.4			Min	2.05	Mean(mgd)	5.03	Mean(cfs)	7.78	Ac-ft	5,630	
Fiscal year 1955-56: Max	10.9			Min	2.05	Mean(mgd)	5.50	Mean(cfs)	8.51	Ac-ft	6,180	

* Discharge measurement made on this day.

Waiakea Stream at middle flume house, near Mountain View

Location.--Lat 19°38'25", long 155°10'35", on left bank at middle flume house, 800 ft up-stream from Olaa Sugar Co.'s main flume and 7.5 miles northwest of Mountain View.

Records available.--September 1930 to June 1956.

Gage.--Water-stage recorder and combined Parshall flume and concrete weir. Altitude of gage is 1,820 ft (by barometer).

Average discharge.--25 years (1931-56), 7.37 mgd (11.4 cfs).

Extremes.--Maximum discharge during year, 69 mgd (107 cfs) Feb. 18 (gage height, 3.56 ft), from rating curve extended above 40 mgd as explained below; minimum, 1.45 mgd (2.24 cfs) Nov. 13, 14.

1930-56: Maximum discharge, 166 mgd (257 cfs) Mar. 14, 1942 (gage height, 4.43 ft), from rating curve extended above 40 mgd on basis of weir formulas; no flow at times.

Remarks.--Records good. Large part of flow comes from three tunnels.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

0.4	1.25	2.0	14.5
.6	2.35	2.5	22.5
1.0	5.1	3.0	39
1.5	9.4	3.5	65

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.95	5.5	4.8	3.95	2.7	15.7	5.5	4.5	48	12.3	5.1	8.5
2	2.95	6.7	4.8	4.2	2.6	15.1	4.3	4.4	41	*11.8	4.7	9.0
3	2.7	9.1	4.6	5.1	2.45	14.5	3.8	4.2	35	11.3	4.5	9.4
4	2.7	7.6	4.4	5.1	2.3	14.0	3.5	4.0	28	10.8	4.9	9.4
5	2.55	7.6	4.3	6.5	2.1	12.8	3.3	3.9	22.5	10.3	4.2	9.8
6	2.4	7.6	4.1	7.6	1.99	*11.6	3.85	3.65	17.7	9.8	11.2	9.4
7	2.35	7.2	4.2	7.2	1.88	10.8	3.45	3.45	15.1	9.4	19.8	9.4
8	2.3	6.7	3.95	7.6	1.71	10.5	5.1	3.5	14.5	8.5	15.7	9.8
9	2.35	6.7	3.8	7.2	1.66	9.4	10.8	3.5	13.4	10.3	17.5	10.3
10	3.7	7.2	3.5	6.7	1.61	8.5	10.0	3.1	11.8	12.3	21	10.8
11	2.9	8.0	3.45	6.3	2.5	7.6	9.0	3.2	10.8	12.8	20	10.3
12	2.8	8.0	3.45	6.7	2.2	7.2	9.8	3.25	10.3	14.0	22.5	11.3
13	2.8	7.6	3.3	6.3	1.66	6.7	9.0	2.95	9.4	15.1	24	12.8
14	2.6	7.2	3.05	6.3	3.85	6.3	8.5	2.8	9.4	15.7	24	14.0
15	2.45	7.2	4.7	5.9	4.4	5.5	8.0	6.9	8.0	15.7	20	15.1
16	2.35	6.7	5.9	5.9	3.45	5.1	7.6	15.8	8.5	15.7	18.4	15.1
17	2.7	6.7	5.1	5.5	3.05	4.8	7.2	14.9	10.2	15.1	17.0	15.1
18	3.3	6.3	5.0	5.5	2.8	4.4	6.7	27.5	9.5	14.5	15.7	15.1
19	2.85	6.7	4.6	5.1	4.6	4.1	5.9	31.5	12.9	13.4	14.5	14.0
20	2.7	6.7	*4.5	4.9	8.8	4.0	5.5	39	10.8	12.3	12.8	12.8
21	2.65	6.3	4.4	4.7	8.0	3.65	5.1	37	10.3	11.3	11.8	11.8
22	2.55	5.9	4.3	4.5	8.5	3.3	4.9	33	9.8	10.8	10.8	10.8
23	2.35	5.5	4.1	4.2	9.4	3.2	4.6	30	9.0	9.8	9.8	10.8
24	2.2	5.1	4.0	3.95	13.0	2.95	4.5	35	9.0	9.0	9.4	12.3
25	2.9	5.0	3.95	3.75	11.3	2.8	6.7	31	9.4	8.0	9.4	10.8
26	*2.95	6.8	3.95	3.5	11.3	2.6	5.9	46	9.5	7.6	9.0	10.3
27	4.0	6.3	4.2	3.45	11.3	2.4	5.9	46	12.5	7.2	8.5	9.4
28	6.3	5.9	3.9	3.95	13.6	2.35	5.1	48	10.8	6.5	*8.0	9.0
29	6.3	5.5	4.2	3.8	11.8	2.35	4.8	50	12.1	5.9	8.0	8.0
30	5.9	5.3	3.95	3.05	17.6	5.9	4.7	-----	13.2	5.5	8.5	8.0
31	6.0	5.1	-----	2.85	-----	4.3	4.8	-----	12.3	-----	8.5	-----
Total	98.40	205.9	126.45	161.25	174.11	214.20	185.80	541.80	464.7	332.5	399.2	332.6
Mean:												
mgd	3.17	6.64	4.22	5.20	5.80	6.91	5.99	18.7	15.0	11.1	12.9	11.1
cfs	4.90	10.3	6.53	8.05	8.97	10.7	9.27	28.9	23.2	17.2	20.0	17.2
Ac-ft	302	632	388	495	534	657	570	1,660	1,430	1,020	1,230	1,020
Calendar year 1955: Max	33				1.61	Mean(mgd)	8.53	Mean(cfs)	13.2	Ac-ft	9,540	
Fiscal year 1955-56: Max	50				1.61	Mean(mgd)	8.84	Mean(cfs)	13.7	Ac-ft	9,940	

Peak discharge (base, 50 mgd).--Feb. 18 (7:30 p.m.) 69 mgd (107 cfs), 3.56 ft.

* Discharge measurement made on this day.

Wailuku River above Hilo Boarding School ditch intake, near Hilo

Location.--Lat 19°42'55", long 155°09'10", on left bank 1,000 ft upstream from intake of Hilo Boarding School ditch, 0.8 mile west of reservoir 1, and 4 miles west of Hilo.

Drainage area.--125 sq mi.

Records available.--July 1928 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 1,060 ft (by barometer).

Average discharge.--25 years (1929-40, 1941-47, 1948-56), 174 mgd (269 cfs).

Extremes.--Maximum discharge during year, 7,980 mgd (12,300 cfs) Feb. 18 (gage height, 16.80 ft), from rating curve extended above 3,400 mgd by logarithmic plotting; minimum, 8.5 mgd (13.2 cfs) Nov. 10.

1928-56: Maximum discharge, 41,000 mgd (63,400 cfs) Aug. 11, 1940 (gage height, 28.6 ft, from floodmarks), from rating curve extended above 3,400 mgd by logarithmic plotting; minimum, 0.16 mgd (0.25 cfs) Mar. 9, 1941.

Remarks.--Records good. Hilo Water Works diverts about 1 mgd above station for domestic supply, and water passing station is used for power by Hilo Electric Light Co.

Revisions (fiscal years).--WSP 865: 1929-36(M). WSP 965: 1941.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.8	9.4	5.0	245
2.1	18.0	7.0	570
2.5	34.5	9.0	1,140
3.0	60	11.0	2,020
4.0	137	13.0	3,510

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	29.5	111	49	49	18.0	676	356	30	1,500	185	34.5	86
2	25.5	147	52	62	15.6	516	102	27	758	146	27.5	219
3	22.5	299	44	110	14.7	197	69	28.5	424	247	25.5	287
4	25	137	37	82	12.6	137	52	24.5	301	189	34.5	299
5	26	*119	34.5	117	11.7	94	39	21	364	110	27.5	194
6	38	110	32	137	15.0	76	82	18.0	259	86	259	137
7	24.5	86	30	*120	19.4	*82	63	15.4	197	82	693	126
8	25	86	42	102	12.3	52	37	71	221	66	502	137
9	83	60	28.5	76	10.2	59	324	114	185	500	579	128
10	83	56	25	63	9.5	70	499	186	137	561	965	230
11	51	286	24.5	52	28	44	182	77	110	671	976	128
12	34.5	134	28.5	96	39	39	168	64	102	492	574	236
13	30	86	29.5	74	28	34.5	124	37	79	540	592	628
14	30	66	24.5	52	280	50	96	30	86	259	702	537
15	25.5	63	28.5	44	216	29	79	378	72	197	414	494
16	29	57	212	39	111	25.5	54	1,170	83	193	267	234
17	37	57	66	34.5	66	24.5	44	867	320	268	185	155
18	63	46	46	30	49	22	37	3,130	170	146	137	119
19	37	67	39	26	330	21	32	1,650	471	119	119	94
20	28	130	44	24	805	28	28	820	351	90	94	79
21	24.5	66	60	22.5	395	25	28	473	185	72	76	63
22	22.5	52	49	22.5	451	19.0	24.5	301	137	72	66	54
23	21	46	37	21	287	16.2	21.5	333	110	79	57	70
24	19.8	44	30	17.7	695	15.0	20.5	2,290	128	54	63	314
25	55	39	28	15.9	440	14.1	482	667	188	46	76	161
26	59	144	34.5	14.7	217	13.2	132	2,790	185	46	99	94
27	114	144	44	13.5	137	12.3	94	1,800	808	60	69	72
28	414	79	32	48	457	26	63	2,500	233	42	76	66
29	173	66	49	131	328	37.5	46	1,480	208	34.5	63	52
30	120	37	52	28.5	778	209	42	-----	724	34.5	114	72
31	189	46	-----	21	-----	151	*34.5	-----	354	-----	120	-----
Total	1,898.8	2,966	1,332.0	1,745.8	6,254.0	2,574.8	3,455.0	21,375.4	9,228	5,687.0	8,086.5	5,567
Mean:	61.3	95.7	44.4	56.3	208	83.1	111	737	298	190	261	186
cfs	94	148	68.7	87.1	322	129	172	1,140	461	294	404	288
Ac-ft	5,830	9,100	4,090	5,360	19,190	7,900	10,600	65,600	28,320	17,450	24,820	17,080
Calendar year 1955: Max	1,600	Min	9.5	Mean(mgd)	167	Mean(cfs)	258	Ac-ft	186,800			
Fiscal year 1955-56: Max	3,130	Min	9.5	Mean(mgd)	192	Mean(cfs)	297	Ac-ft	215,300			

Peak discharge (base, 5,600 mgd).--Feb. 18 (11 p.m.) 7,980 mgd (12,300 cfs), 16.80 ft.

* Discharge measurement made on this day.

Kapehu ditch diversion near Hilo

Location.--Lat 19°43'45", long 155°11'05", on left bank 40 ft downstream from gate on Kapehu ditch, 3.1 miles northwest of Piihonua, and 6.2 miles west of Hilo.

Records available.--May 1954 to June 1956.

Gage.--Water-stage recorder and de Fabritis type-H flume.

Extremes.--1954-56: Maximum daily discharge, 6.6 mgd (10.2 cfs) Feb. 18, 1956; no flow occasionally.

Remarks.--Records good. Ditch diverts water from Kapehu ditch for fluming of sugarcane near Hilo.

Revisions.--Revised figures of discharge, in million gallons a day, for period May to June 1954 and fiscal year 1955 (complete daily tables), superseding those published in WSP 1399, are given herewith:

Discharge, in million gallons a day, 1954														
Day	May	June	Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	-	2.7	7	-	2.65	13	-	2.65	19	†2.4	2.75	25	2.8	2.65
2	-	2.65	8	-	2.8	14	-	2.8	20	2.7	2.75	26	2.65	2.65
3	-	2.65	9	-	2.85	15	-	2.55	21	2.3	2.7	27	2.55	2.7
4	-	2.6	10	-	2.75	16	-	2.55	22	2.4	2.65	28	2.75	2.8
5	-	2.6	11	-	2.7	17	-	2.6	23	2.25	2.65	29	3.05	2.75
6	-	2.55	12	-	2.7	18	-	2.7	24	2.5	*2.7	30	2.65	2.7
												31	2.7	-
Total.....													-	80.30
Mean, million gallons a day.....													-	2.68
Mean, cubic feet per second.....													-	4.15
Runoff in acre-feet.....													-	246

* Discharge measurement made on this day.

† Result of discharge measurement.

Discharge, in million gallons a day, fiscal year July 1954 to June 1955

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.75	3.0	0.01	0.01	0.01	0.02	0.01	0	0.01	0.02	0.01	0.01
2	3.1	2.75	.01	.01	.01	.02	.01	0	.01	.01	.01	.01
3	3.0	2.7	.01	.01	.01	.02	.01	0	.01	.01	.01	0
4	2.85	2.8	.01	.01	.01	.02	.01	0	.01	.01	.01	.01
5	2.85	2.85	.01	.02	.01	.02	.01	0	.01	.01	.01	.01
6	2.85	2.8	.01	.01	.01	.02	.01	0	.02	.01	.01	.01
7	2.8	2.75	.01	.01	.01	.02	.01	0	.02	.01	.01	.01
8	2.75	2.8	.02	.01	.01	.02	.01	0	.02	.01	.01	.01
9	2.75	2.8	.01	.01	.01	.03	.01	.01	.02	.01	.01	.01
10	2.7	2.75	.01	.01	.01	.01	.01	.01	.02	.01	.01	.75
11	2.7	3.15	.01	.01	.01	.03	.01	.01	.02	.01	.01	1.14
12	2.65	3.6	.01	.02	.01	.02	.01	.01	.02	.01	.01	1.11
13	3.1	3.3	.01	.01	.06	.02	.01	.01	.01	.01	.01	1.08
14	2.8	3.45	.01	.01	.07	.07	.01	.01	.01	.02	.01	1.05
15	2.85	3.25	.01	.01	.03	0	.01	.01	.01	.02	.01	1.08
16	2.8	3.15	.01	.01	.02	0	.01	.01	.01	.02	.01	1.08
17	2.75	3.1	.01	.01	.02	.01	.01	.01	.01	.03	.01	1.05
18	2.9	3.05	.05	.01	.02	.01	.01	.01	.01	.03	.01	1.24
19	2.75	3.15	.01	0	.02	0	.01	.01	.01	.03	.01	1.31
20	2.75	.80	.01	0	.02	0	.01	.01	.01	.02	.01	1.38
21	2.7	.03	.02	.01	.02	.01	.02	.01	.01	.02	.01	1.34
22	2.65	.03	.01	.01	.02	.01	.01	.01	.01	.01	.01	1.40
23	2.65	.02	.01	.05	.02	.01	.01	.01	.01	.01	.01	1.52
24	2.65	.02	.01	.07	.02	.01	.01	.02	.01	.02	.01	1.45
25	2.9	.01	.02	.01	.02	.01	.01	.01	.01	.01	.01	1.68
26	3.05	.01	.01	.02	.02	.01	.01	.01	.01	.01	.01	1.72
27	2.9	.01	.01	.02	.02	.01	.01	.01	.01	.01	.01	1.72
28	2.8	.01	.01	.02	.02	.01	.01	.01	.01	.01	.01	1.80
29	2.8	.01	.01	.01	.02	.01	.01	-----	.01	.01	.01	1.80
30	2.75	.01	.01	.01	.02	.01	.01	-----	.02	.01	.01	1.84
31	2.75	.01	-----	.01	-----	.01	.01	-----	.02	-----	.01	-----
Total	87.25	58.17	0.37	0.44	0.58	0.47	0.32	0.21	0.40	0.43	0.31	28.62
Mean:												
mgd	2.81	1.88	0.012	0.014	0.019	0.015	0.010	0.008	0.013	0.014	0.010	0.954
cfs	4.35	2.91	0.019	0.022	0.029	0.023	0.016	0.012	0.020	0.022	0.016	1.48
Ac-ft	268	179	1.1	1.4	1.8	1.4	1.0	0.6	1.2	1.3	1.0	88

Calendar year 1954: Max - Min - Mean(mgd) - Mean(cfs) - Ac-ft -
 Fiscal year 1954-55: Max 3.6 Min 0 Mean(mgd) 0.486 Mean(cfs) 0.752 Ac-ft 546

Note.--No gage-height record Sept. 5 to Oct. 19, Dec. 3-8; discharge estimated on basis of records for Kapehu ditch.

Kapehu ditch diversion near Hilo--Continued

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.84	1.92	0.01	0.01	2.05	0.01	0.01	*2.65	5.4	4.1	3.15	3.35
2	1.84	2.05	.01	.01	2.3	.01	.01	2.9	4.8	4.1	3.15	3.95
3	1.84	2.2	.01	.01	2.5	.01	.01	3.15	4.6	*4.1	3.1	3.95
4	1.84	*2.0	.01	.01	2.4	.01	1.52	2.85	4.4	4.1	3.3	3.75
5	1.96	2.05	.01	.01	2.3	.01	2.4	2.65	4.9	3.95	3.15	3.6
6	1.88	2.1	.01	.01	2.3	.01	2.5	2.55	4.4	3.8	4.0	3.3
7	1.88	2.05	.01	.01	2.2	.01	2.45	2.5	4.3	3.8	5.6	3.35
8	1.88	2.0	.01	.01	2.05	.01	2.4	2.65	4.8	3.8	4.8	3.5
9	1.96	2.05	.01	.01	1.96	.01	3.05	2.65	4.5	4.8	5.3	3.55
10	2.05	2.15	.01	.01	1.99	.01	2.7	3.4	4.4	5.0	5.3	3.75
11	1.92	2.3	.01	.01	2.2	.01	2.5	3.15	4.4	5.2	5.4	3.25
12	1.88	2.2	.01	.01	2.15	.01	2.6	2.65	4.3	5.3	5.1	3.75
13	1.88	2.1	.01	.01	2.05	.01	1.96	2.3	4.2	4.8	5.0	4.6
14	1.84	2.1	.01	.01	2.6	.01	1.64	2.3	4.4	4.5	5.1	4.3
15	1.88	2.1	.01	.01	2.25	.01	1.56	3.0	4.1	4.4	4.4	4.0
16	1.92	2.05	.01	.01	2.15	.01	1.68	4.3	4.6	4.6	3.95	3.45
17	1.92	2.1	.01	.01	2.05	.01	2.3	4.9	5.0	4.7	3.7	3.25
18	2.05	2.05	.01	1.03	2.05	.01	2.3	6.6	4.4	4.5	3.65	3.2
19	1.92	2.15	.01	1.80	.44	.01	2.55	5.1	5.4	4.4	3.6	3.2
20	1.88	2.15	.01	1.84	0	.01	2.65	4.8	4.8	4.2	3.5	3.1
21	1.84	2.05	.01	1.84	.01	.01	2.7	3.75	4.4	4.1	3.45	3.0
22	1.84	2.05	.01	1.84	.01	.01	2.65	3.35	4.2	4.1	3.4	3.0
23	1.80	.68	.01	1.84	.01	.02	2.65	3.95	4.1	4.0	3.5	3.4
24	1.76	.02	.01	1.80	.01	.02	2.6	5.8	4.4	3.8	3.7	4.2
25	1.92	.02	.01	1.76	.01	.02	2.55	4.8	4.6	3.7	3.7	3.2
26	1.88	.01	.01	1.84	.01	.02	2.4	6.2	4.5	3.7	3.7	3.0
27	2.1	.01	.01	2.2	.01	.02	2.45	5.8	5.1	3.7	3.45	3.9
28	2.1	.01	.01	2.7	.01	.02	2.3	5.8	4.4	3.5	3.4	2.9
29	2.0	.01	.01	2.15	.01	.02	2.1	5.4	4.5	3.4	*3.45	2.8
30	1.96	.01	.01	2.05	.01	.02	2.3	-----	4.8	3.3	3.8	3.2
31	2.05	.01	-----	2.05	-----	.02	2.45	-----	4.4	-----	3.5	-----
Total	59.31	46.75	0.30	26.91	40.09	0.40	65.94	111.90	141.5	125.45	123.30	103.55
Mean:												
mgd	1.91	1.51	0.010	0.868	1.34	0.013	2.13	3.86	4.56	4.18	3.98	3.45
cfs	2.96	2.34	0.016	1.34	2.07	0.020	3.30	5.97	7.06	6.47	6.16	5.34
Ac-ft	182	143	0.9	83	123	1.2	202	343	434	385	378	318
Calendar year 1955:	Max	2.7		Min	0	Mean(mgd)	0.559	Mean(cfs)	0.865	Ac-ft	626	
Fiscal year 1955-56:	Max	6.6		Min	0	Mean(mgd)	2.31	Mean(cfs)	3.57	Ac-ft	2,590	

* Discharge measurement made on this day.

Kapehu ditch near Hilo

Location.--Lat 19°43'40" long 155°11'00", 0.9 mile downstream from intake, 3 miles west of Piihonua, and 6 miles west of Hilo.

Records available.--March 1938 to June 1941, July 1942 to June 1948, July 1953 to June 1956.

Gage.--Water-stage recorder and de Fabritis flume. Altitude of gage is 2,000 ft (from topographic map).

Average discharge.--12 years (1938-41, 1942-48, 1953-56), 1.51 mgd (2.34 cfs).

Extremes.--1938-41, 1942-48, 1953-56: Maximum daily discharge, 6.5 mgd (10.1 cfs) Apr. 9, 1938; no flow at times.

Remarks.--Records good. Ditch diverts water from Kapehu Stream 0.6 mile northwest of station for domestic use in Hilo. Flow sometimes diverted into Kapehu diversion ditch (see preceding page).

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.29	0.11	2.45	2.4	0.04	2.8	2.8	0.06	0.08	0.05	0.06	0.04
2	.28	.09	2.4	2.5	.04	2.5	2.7	.03	.04	.07	.08	.08
3	.28	.08	2.4	2.5	.05	2.4	2.7	.03	.03	.07	.07	.08
4	.25	.14	2.4	2.45	.04	2.4	1.01	.03	.04	.07	.07	.08
5	.24	.21	2.4	2.55	.04	2.4	.03	.03	.06	.07	.06	.04
6	.21	.17	2.4	2.45	.04	2.4	.03	.03	.05	.08	.14	.03
7	.21	.15	2.4	2.4	.03	*2.4	.03	.03	.05	.08	.21	.04
8	.21	.12	2.4	2.4	.03	2.4	.03	.04	.10	.08	.07	.04
9	.21	.11	2.35	2.35	.03	2.4	.04	.04	.04	.12	.14	.05
10	.22	.09	2.35	*2.35	.04	2.4	.04	.04	.04	.15	.23	.08
11	.25	.07	2.4	2.4	.03	2.4	.06	.03	.05	.12	.15	.05
12	.25	.08	2.35	2.45	.04	2.55	.05	.03	.05	.11	.11	.08
13	.25	.08	2.4	2.35	.04	2.45	.04	.03	.05	.08	.11	.12
14	.25	.07	2.25	2.3	.07	2.6	.05	.03	.05	.07	.14	.06
15	.24	.07	2.6	2.3	.03	2.6	.07	1.59	.05	.07	.07	.06
16	.22	.07	2.8	2.25	.03	2.55	.07	1.11	.07	.10	.04	.05
17	.22	.07	2.4	2.25	.04	2.55	.07	.15	.10	.06	.04	.05
18	.22	.08	2.4	1.03	.04	2.55	.07	.37	.07	.05	.04	.05
19	.21	.07	2.35	.21	2.25	2.55	.08	.05	.11	.05	.04	.05
20	.20	.06	2.45	.16	2.65	2.6	.08	.03	.06	.05	.04	.04
21	.19	.06	2.4	.13	2.45	2.55	.08	.02	.05	.05	.04	.05
22	.18	.07	2.4	.11	2.45	2.55	.08	.02	.06	.05	.04	.05
23	.17	1.55	2.35	.09	2.5	2.5	.08	.06	.06	.05	.05	.06
24	.18	2.2	2.25	.08	3.2	2.5	.09	.15	.07	.05	.05	.06
25	.18	2.3	2.2	.08	2.5	2.45	.08	.07	.08	.05	.07	.04
26	.17	2.4	2.3	.08	2.4	2.45	.09	.41	.07	.05	.05	.04
27	.16	2.4	2.4	.07	2.4	2.45	.09	.14	.10	.05	.04	.04
28	.11	2.3	2.35	.08	2.7	2.6	.09	.11	.05	.05	.04	.04
29	.10	2.4	2.4	.03	2.45	2.6	.09	.07	.09	.05	.04	.04
30	.11	2.45	2.4	.03	3.25	2.95	.10	-----	.09	.06	.05	.05
31	.12	2.4	-----	.03	-----	2.95	.10	-----	.07	-----	.04	-----
Total	6.38	22.52	71.80	42.86	31.90	78.45	11.02	4.83	1.98	2.11	2.40	1.58
Mean:												
mgd	0.206	0.726	2.39	1.38	1.06	2.53	0.355	0.167	0.084	0.070	0.077	0.053
cfs	0.319	1.12	3.70	2.14	1.64	3.81	0.549	0.258	0.099	0.108	0.119	0.082
Ac-ft	20	69	220	132	98	241	34	15	6.1	6.5	7.4	4.8
Calendar year 1955: Max	3.55				Min 0.03	Mean(mgd)	1.92	Mean(cfs)	2.97	Ac-ft	2,140	
Fiscal year 1955-56: Max	3.25				Min 0.02	Mean(mgd)	0.759	Mean(cfs)	1.17	Ac-ft	854	

* Discharge measurement made on this day.

Wailikihi Stream near Waimanu

Location.--Lat 20°07'40", long 155°39'55", on right bank 30 ft upstream from Waimanu trail bridge, 1.7 miles upstream from confluence with Waimanu Stream, 1.9 miles south-east of head of Awini ditch, and 2.2 miles southwest of Waimanu.

Drainage area.--0.4 sq mi.

Records available.--March 1939 to June 1956. Prior to July 1941, published as Waimanu-Ikiki Stream near Waimanu.

Gage.--Water-stage recorder. Altitude of gage is 2,740 ft (by barometer).

Average discharge.--17 years, 6.48 mgd (10.0 cfs).

Extremes.--Maximum discharge during year, 210 mgd (325 cfs) Jan. 13, Feb. 18, from rating curve extended above 25 mgd as explained below; maximum gage height, 3.70 ft Jan. 13; minimum discharge, 0.73 mgd (1.13 cfs) Dec. 19.
1939-56: Maximum discharge, 544 mgd (842 cfs) Dec. 20, 1946 (gage height, 5.17 ft), from rating curve extended above 25 mgd by test on model of station site; minimum, 0.15 mgd (0.23 cfs) Mar. 17, 18, 1944.

Remarks.--Records fair except those for periods of no gage-height record, which are poor.

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Jan. 13					Jan. 14 to June 30				
0.4	0.32	1.4	12.5		0.5	0.70	1.5	13.7	
.5	.78	1.8	25.5		.6	1.30	2.0	32	
.8	3.1	2.2	43.5		.9	4.0	2.5	61	
1.1	6.2				1.2	7.9	3.0	110	

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	6.8	*8.8	7.9	1.73	1.32	1.69	0.78	0.80	3.2	1.77	8.1	*3.3
2	6.0	14.7	4.2	3.4	1.32	1.38	.85	5.3	2.3	16.6	7.7	9.4
3	4.4	7.0	3.15	9.3	1.25	1.32	1.32	8.7	1.77	36	8.7	7.7
4	13.4	4.2	2.55	12.6	1.18	1.25	.91	9.3	1.93	7.8	12.5	7.8
5	4.5	6.0	1.69	16.0	1.18	1.25	.85	1.90	2.5	3.5	4.9	8.8
6	4.6	3.85	1.45	14.8	1.18	1.25	.78	*1.10	1.69	*17.5	11.3	9.6
7	7.8	3.55	2.05	7.8	1.18	1.18	.78	.91	1.45	12.6	26.5	7.8
8	5.5	4.0	1.93	*8.3	1.18	1.12	.78	1.68	3.35	5.1	18.1	4.9
9	16.7	9.1	1.38	3.3	1.18	1.12	43	4.2	4.1	20	12.7	8.7
10	17.3	10.5	1.32	3.5	1.12	1.12	18.4	2.35	2.2	19.9	20.5	8.0
11	5.1	12.4	1.32	2.5	1.12	1.25	3.75	1.09	1.53	13.8	12.8	3.8
12	5.5	5.6	1.32	2.1	2.2	*1.61	16.0	.97	1.80	12.6	7.0	16.7
13	14.0	3.6	1.91	1.77	2.8	1.45	23	1.03	24.5	10.5	10.0	27
14	4.3	3.0	2.1	1.53	1.45	1.25	4.4	1.15	13.4	4.7	5.6	23.5
15	3.95	6.1	11.8	1.32	2.95	.98	1.89	5.2	4.6	4.2	3.6	13.0
16	13.5	4.7	9.3	1.25	2.6	.85	1.30	3.35	11.7	5.7	4.8	4.3
17	12.9	11.4	4.0	1.18	1.45	.78	1.03	2.5	28	4.3	11.1	4.5
18	12.5	10.2	2.35	1.12	1.32	.78	.91	67	5.2	2.5	6.3	21.5
19	4.0	4.1	1.69	1.12	5.5	.73	.85	15.1	2.65	1.95	7.4	19.9
20	3.6	2.85	2.85	1.12	32	23.5	.85	58	1.95	2.1	8.8	7.8
21	2.7	2.25	2.55	1.12	14.9	15.5	.80	11.2	2.3	2.95	3.6	3.2
22	2.35	1.85	1.61	1.12	10.7	3.1	.80	10.8	2.75	5.1	4.4	2.65
23	2.25	3.65	1.38	1.1	28.5	1.53	.90	7.7	2.3	6.5	4.9	9.6
24	8.5	3.95	1.32	4.8	30	1.45	.75	13.9	23	3.7	5.1	37
25	9.8	2.1	1.32	2.75	5.8	1.38	1.59	4.1	6.1	3.25	5.8	6.7
26	3.65	6.1	2.3	2.15	2.8	1.12	2.3	11.6	2.85	3.3	5.5	2.95
27	5.1	12.1	4.8	1.61	2.65	.98	1.09	18.2	2.05	1.95	3.05	3.1
28	7.7	2.9	4.6	1.38	11.2	.91	.85	73	2.5	1.53	2.45	4.2
29	3.85	2.0	7.4	1.45	3.85	.85	1.61	7.7	13.6	1.30	3.8	5.55
30	17.5	1.69	2.35	1.32	2.25	.85	1.20	-----	6.4	2.3	6.2	2.2
31	32.5	2.4	-----	1.32	-----	.85	.85	-----	2.5	-----	4.9	-----
Total	260.25	176.64	95.89	116.86	178.13	74.38	135.07	349.83	186.17	235.00	258.10	312.95
Mean:												
mgd	8.40	5.70	3.20	3.77	5.94	2.40	4.36	12.1	6.01	7.85	8.33	10.4
cfs	13.0	8.92	4.95	5.83	9.19	3.71	6.75	18.7	9.30	12.1	12.9	16.1
Ac-ft	799	542	294	359	547	228	415	1,070	571	721	792	960

Calendar year 1955: Max 140 Min 0.73 Mean(mgd) 6.91 Mean(cfs) 10.7 Ac-ft 7,740
Fiscal year 1955-56: Max 73 Min 0.73 Mean(mgd) 6.50 Mean(cfs) 10.1 Ac-ft 7,300

Peak discharge (base, 150 mgd).--Jan. 13 (4 a.m.) 210 mgd (325 cfs), 3.70 ft; Feb. 18 (2 p.m.) 210 mgd (325 cfs), 3.68 ft; Feb. 28 (12:30 a.m.) 170 mgd (263 cfs), 3.43 ft.

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 15-23, Oct. 28 to Nov. 12, Nov. 14, 17-19, Dec. 2-11; discharge estimated on basis of probable decrease in flow and records for nearby streams.

Awini ditch at East Honokaneiki Gulch, near Niulii

Location.--Lat 20°09'55", long 155°43'10", at flume across East Honokaneiki Gulch, 4.5 miles southeast of Niulii.

Records available.--October 1927 to June 1949, July 1950 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 2,000 ft (from topographic map).

Average discharge.--26 years (1928-38, 1939-49, 1950-56), 12.0 mgd (18.6 cfs).

Extremes.--1927-49, 1950-56: Maximum daily discharge, 33 mgd (51 cfs) Jan. 8, 1935, Aug. 10, 1938; no flow at times.

Remarks.--Records good except those for periods of no gage-height record, which are poor.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	24.5	18	21	8.0	2.95	6.5	2.95	2.9	11.9	6.5	24.5	13.1
2	24.5	20	18	8.0	2.75	5.6	3.15	10.5	10.7	13.6	21	22.1
3	19.5	21	11	21	2.55	5.2	9.4	22.5	9.0	22.5	19.5	21
4	21	18	9.0	25	2.4	4.7	4.9	*21	8.0	14.5	24.5	*23
5	18.8	15	7.7	25	2.2	4.4	3.7	11.9	8.0	12.7	17.2	26
6	15.0	13	7.0	25	2.05	4.3	3.3	7.5	7.0	24.5	19.5	26
7	17.2	12	6.7	22	1.94	4.6	2.95	5.6	7.0	24.5	26	26
8	19.5	15	6.6	22	1.89	4.5	4.8	4.9	8.4	19.5	24.5	24.5
9	15.0	19	6.5	13	1.89	*4.3	24.5	10.5	11.9	23	24.5	24.5
10	22	16	6.2	11	3.7	3.9	22.5	13.0	8.0	24.5	22.5	26
11	22	21	6.2	*9.0	4.0	4.6	14.4	9.4	6.5	24.5	24.5	21
12	18.8	16	6.0	8.0	4.7	7.0	17.2	10.7	5.6	22.5	22.5	22
13	21	11	6.0	6.5	9.9	5.6	18.8	9.6	22.5	22.5	22.5	23
14	21	10	6.0	5.6	5.2	5.2	12.6	7.6	20	19.5	21	26
15	16.5	13	21	5.1	12.3	4.4	8.0	16.8	11.9	18.8	17.2	24.5
16	15.8	16	20	4.7	10.8	3.85	6.0	15.0	12.0	17.2	15.0	18.8
17	22.5	20	15	4.3	5.6	3.65	5.0	12.5	24.5	17.2	22	18.0
18	24.5	18	10	3.9	3.9	3.15	4.3	21.5	13.6	12.5	18.8	24.5
19	20	17	8.0	3.65	9.0	2.95	4.0	19.5	9.0	10.7	22	24.5
20	15.0	11	7.0	3.9	24.5	18.9	3.9	26	8.0	9.6	22.5	22.5
21	11.9	9.0	6.0	3.3	21	22	3.65	20	7.0	11.3	17.2	17.2
22	10.1	8.5	5.6	3.15	19.5	13.1	3.45	20	6.5	14.8	14.4	15.0
23	9.0	11	5.3	3.85	24.5	8.5	3.3	13.6	6.0	21	19.5	18.0
24	8.5	15	5.1	10.7	24.5	7.5	3.0	22.5	16.2	15.8	20	26
25	16.5	9.0	5.0	12.5	17.2	6.0	5.2	13.1	14.7	11.9	21	24.5
26	15.8	15	5.0	6.0	11.3	5.0	9.7	15.0	8.5	14.4	20	16.5
27	12.5	21	10	4.8	8.5	4.6	5.2	20	7.0	9.6	14.4	13.7
28	19.5	12	11	4.0	19.4	4.0	3.75	24.5	7.0	8.0	11.3	15.0
29	*17.4	9.0	21	4.9	12.5	3.65	4.7	17.7	14.2	7.0	15.0	14
30	17.2	7.5	10	3.7	8.5	3.55	4.5	-----	15.4	8.7	16.5	24
31	22.5	10	-----	3.15	-----	3.15	3.15	-----	8.5	-----	18.8	-----
Total	555.0	447.0	288.9	292.70	281.12	188.35	225.95	427.3	334.5	483.3	619.8	645.8
Mean:												
mgd	17.9	14.4	9.63	9.44	9.37	6.08	7.29	14.7	10.8	16.1	20.0	21.5
cfs	27.7	22.3	14.9	14.6	14.5	9.41	11.3	22.7	16.7	24.9	30.9	33.3
Ac-ft	1,700	1,370	887	898	863	578	693	1,310	1,030	1,480	1,900	1,980
Calendar year 1955: Max	30				Min 1.77	Mean(mgd)	12.5	Mean(cfs)	19.3	Ac-ft	14,000	
Fiscal year 1955-56: Max	28				Min 1.89	Mean(mgd)	13.1	Mean(cfs)	20.3	Ac-ft	14,690	

* Discharge measurement made on this day.

Note.--No gage-height record Aug. 1 to Oct. 11, June 29, 30; discharge estimated on basis of records for nearby stations.

East Honokaneiki intake to Awini ditch at East Honokaneiki Gulch, near Niulii

Location.--Lat 20°09'55", long 155°43'15", on intake tunnel delivering water from East Honokaneiki Gulch to Awini ditch, on west side of gulch, 4.5 miles southeast of Niulii.

Records available.--October 1927 to June 1938, July 1939 to June 1949, July 1951 to June 1956.

Gage.--Water-stage recorder and sharp-crested weir. Altitude of gage is 2,000 ft (from topographic map).

Average discharge.--23 years (1928-36, 1937-38, 1939-40, 1941-49, 1951-56), 1.16 mgd (1.79 cfs).

Extremes.--1927-38, 1939-49, 1951-56: Maximum daily discharge, 8.0 mgd (12.4 cfs) Dec. 29, 1937, Mar. 20, Apr. 7, 1938, Jan. 12, 1946; no flow at times.

Remarks.--Records good except those for period of no gage-height record, which are poor.

Revisions (fiscal years).--WSP 725: 1928-30.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.80	1.92	1.85	0.17	0.06	0.41	0.08	0.08	1.22	0.32	0.44	0.67
2	1.30	3.15	1.03	.32	.06	.29	.09	1.39	1.16	2.2	.29	3.45
3	.85	2.6	.44	2.75	.04	.26	1.00	3.0	.79	2.1	.29	2.8
4	2.2	1.06	.29	4.0	.04	.17	.20	*3.0	.64	.38	.38	*3.15
5	.87	.97	.20	5.6	.04	.14	.12	.54	.60	.20	.20	3.5
6	.60	.71	.14	5.1	.03	.12	.08	.26	.44	.45	.23	5.0
7	.62	.60	.12	2.9	.03	.12	.06	.17	.41	.44	.46	3.0
8	.74	.89	.12	2.45	.03	.10	.23	.12	.80	.20	.34	1.82
9	1.64	1.50	.10	.84	.03	*.08	4.5	.56	1.56	.45	.29	3.1
10	3.5	1.31	.08	.68	.03	.06	2.8	.60	.52	.54	.56	3.9
11	1.30	2.7	.06	*.41	.26	.12	1.15	.54	.32	.50	.42	.98
12	.92	1.35	.06	.38	.22	.29	2.15	.62	.32	.44	.29	3.75
13	2.5	.74	.06	.32	.61	.14	.58	.48	4.4	.41	.29	4.9
14	1.01	.44	.08	.29	.23	.12	.02	.69	3.85	.26	.29	3.7
15	.68	1.33	3.25	.26	1.30	.08	.02	2.55	1.46	.26	.23	2.65
16	1.62	1.10	2.15	.23	.78	.06	.02	.79	1.50	.23	.23	1.60
17	3.5	2.3	1.02	.17	.26	.04	.22	.52	5.0	.23	1.11	1.52
18	2.5	2.35	.53	.17	.14	.04	.22	3.25	1.76	.20	1.31	3.2
19	1.01	1.23	.42	.14	1.90	.03	.29	2.55	.83	.17	2.5	as.0
20	.68	.52	1.20	.17	5.7	2.2	.23	3.55	.60	.17	2.9	at.4
21	.52	.35	.10	.14	3.45	5.7	.23	1.70	.44	.17	1.06	1.21
22	.41	.26	.06	.12	2.65	1.39	.17	1.60	.41	.23	.87	.97
23	.32	.65	.04	.14	3.65	.52	.17	1.35	.32	.29	1.97	2.1
24	.32	1.14	.04	.42	3.7	.41	.14	2.0	3.15	.20	1.86	4.2
25	1.10	.35	.03	.29	2.05	.29	.34	1.21	2.15	.20	2.1	2.25
26	.60	1.31	.03	.20	.97	.23	.68	1.35	.64	.23	1.46	1.21
27	.96	3.0	.29	.17	.64	.20	.29	1.85	.41	.17	.64	.97
28	2.25	.56	.67	.12	2.6	.14	.17	1.80	.35	.14	.44	1.02
29	*.90	.29	2.35	.12	1.40	.12	.12	1.01	2.1	.14	.67	.73
30	3.55	.20	.40	.10	.64	.12	.14	-----	2.15	.20	1.51	4.3
31	5.7	.40	-----	.08	-----	.08	.10	-----	.56	-----	1.48	-----
Total	46.45	37.28	16.21	29.25	33.84	14.07	16.61	39.13	40.66	12.12	26.71	77.05
Mean:												
mgd	1.50	1.20	0.540	0.944	1.13	0.454	0.536	1.35	1.31	0.404	0.862	2.57
cfs	2.32	1.86	0.836	1.46	1.75	0.702	0.829	2.09	2.03	0.625	1.33	3.98
Ac-ft	143	114	50	90	104	43	51	120	125	57	82	236
Calendar year 1955: Max	6.9			Min	0.01	Mean(mgd)	1.29	Mean(cfs)	2.00	Ac-ft	1,440	
Fiscal year 1955-56: Max	5.7			Min	0.02	Mean(mgd)	1.06	Mean(cfs)	1.64	Ac-ft	1,200	

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for Awini ditch.

Kohala ditch at Pololu, near Niulii

Location.--Lat 20°10'20", long 155°44'15", on right bank of open section of ditch in Pololu Valley just downstream from boundary between land of Honokane and land of Pololu, 2.8 miles upstream from mouth of Pololu Stream, and 4 miles south of Niulii.

Records available.--August 1927 to June 1956.

Gage.--Water-stage recorder. Altitude of gage is 1,100 ft (from topographic map).

Average discharge.--27 years (1928-38, 1939-56), 26.7 mgd (41.3 cfs).

Extremes.--1927-56: Maximum daily discharge, 63 mgd (98 cfs) May 1, July 17, 1952; no flow at times.

Remarks.--Records good. Kohala ditch receives flow of Awini ditch at Honokane Gulch and diverts water at altitude of about 1,200 ft from Honokane and all streams west. Water is used for irrigation in vicinity of Kohala.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	41	33.5	41	19.7	18.1	20.5	15.1	15.1	27	18.9	41	27
2	36	40	37	22.5	17.4	18.9	15.1	23	25	29.5	38.5	41
3	31.5	41	26	41	17.4	18.1	22.5	36	22.5	50	36	41
4	38.5	33.5	23	46	17.4	17.4	17.4	36	20.5	32.5	43	41
5	31.5	31.5	21.5	46	17.4	16.6	15.8	*24.5	20.5	27	33.5	*41
6	29.5	29.5	19.7	46	16.6	16.6	15.1	18.9	19.7	41	33.5	43
7	31.5	27	19.7	41	16.6	16.6	15.1	17.4	19.7	41	43	38.5
8	31.5	31.5	19.7	41	16.6	16.6	16.6	16.6	23.5	33.5	43	36
9	30.5	36	18.9	31.5	16.6	16.6	43	21	31.5	43	43	38.5
10	46	31.5	20.5	29.5	18.1	*15.8	41	25.5	22.5	*42	43	43
11	36	41	23	25	18.9	16.6	31.5	19.7	19.7	41	46	33.5
12	33.5	33.5	22.5	*22.5	18.1	18.9	26	23	18.9	38.5	41	42
13	41	27	22.5	20.5	24	17.4	23	22.5	38.5	36	41	51
14	36	25	22.5	22.5	20.5	17.4	21	18.1	41	31.5	41	46
15	31.5	31	41	24	29.5	16.6	17.4	33.5	31.5	29.5	36	40
16	33.5	33.5	41	22.5	27	15.8	16.6	26	29.5	31.5	29.5	27
17	49	38.5	31.5	21.5	20.5	15.8	15.8	24	46	33.5	36	27
18	43	36	25	20.5	18.9	15.1	15.8	43	31.5	27	33.5	43
19	33.5	33.5	21.5	20.5	21.5	15.1	15.8	29.5	23	25	36	41
20	29.5	26	19.7	20.5	43	38.5	15.8	46	21.5	23	38.5	37.5
21	26	23	18.9	19.7	43	35.5	15.1	20.5	19.7	25	31.5	26
22	25	22.5	18.1	18.9	38.5	19.4	14.4	25	18.9	31.5	27	24
23	24	26	17.4	19.7	41	23	14.4	22.5	18.1	7.5	33.5	34
24	24	31.5	17.4	25	41	19.7	14.4	43	30	2.3	36	54
25	36	23	16.6	23	33.5	18.1	16.6	29.5	33	2.45	36	37
26	29.5	32	17.4	21.5	27	17.4	21.5	31	23	2.25	36	27
27	30	41	24.5	20.5	21.5	17.4	16.6	41	20.5	8.8	29.5	26
28	43	27	26	18.9	33	16.6	15.1	50	19.7	18.1	24	31.5
29	33.5	23	41	19.7	29.5	15.8	15.1	29	26.5	19.7	27	27
30	*42	21.5	24	18.9	22.5	15.8	15.8	-----	33	21.5	31.5	44
31	51	25	-----	18.1	-----	15.8	15.1	-----	22.5	-----	33.5	-----
Total	1,078.0	955.5	738.5	806.1	744.6	575.4	589.5	810.8	798.4	814.00	1,121.5	1,108.5
Mean:												
mgd	34.8	30.8	24.6	26.1	24.8	18.6	19.0	28.0	25.8	27.1	36.2	37.0
cfs	53.8	47.7	38.1	40.4	38.4	28.8	29.4	43.3	39.9	41.9	56.0	57.2
Ac-ft	3,310	2,930	2,270	2,480	2,290	1,770	1,810	2,490	2,450	2,500	3,440	3,400
Calendar year 1955.	Max 55			Min 0.2		Mean(mgd) 25.6		Mean(cfs) 39.6		Ac-ft 28,720		
Fiscal year 1955-56:	Max 54			Min 2.25		Mean(mgd) 27.7		Mean(cfs) 42.9		Ac-ft 31,140		

* Discharge measurement made on this day.

Kehena ditch near Kohala

Location.--Lat 20°07'25", long 155°45'05", on right bank at old Honokane weir, near head of West Branch of Honokanenui Gulch, 8.5 miles southeast of Kahala.

Records available.--December 1917 to November 1919, April 1928 to June 1956.

Gage.--Water-stage recorder and sharp-crested weirs. Altitude of gage is 3,850 ft (from topographic map). Prior to Apr. 26, 1928, water-stage recorder at same site at different datum.

Average discharge.--28 years (1928-56), 7.74 mgd (12.0 cfs).

Extremes.--1917-19, 1928-56: Maximum daily discharge, 54 mgd (84 cfs) Mar. 23, 1919; no flow at times.

Remarks.--Records good except those for period of no gage-height record, which are poor. Intake on Honokanenui Stream 2 miles upstream from station at altitude of about 4,200 ft. Kahua Ranch diverts small quantity of water from ditch 2 miles above station for watering stock. Water used for irrigation in vicinity of Hawi.

Revisions (fiscal years).--WSP 740: 1930.

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	11.7	8.0	21.5	2.7	0.19	2.25	0.40	1.50	6.9	2.5	6.1	8.2
2	5.8	*12	11.1	6.9	0.19	1.65	.40	14.4	4.2	6.9	5.8	24
3	3.95	14.5	5.5	25.5	.10	1.13	.67	21	2.7	29.5	6.1	23
4	9.3	5.3	2.9	28	.10	.67	.40	23.5	2.05	15.7	15.7	20.5
5	4.2	5.0	2.05	35	.10	.53	.29	5.9	1.85	4.7	7.6	23
6	2.9	5.5	1.50	30.5	.10	.40	.29	2.9	1.65	8.0	9.0	27
7	2.5	4.5	2.5	19.9	.10	.40	.19	1.50	1.50	*20.5	21	17.2
8	2.25	5.4	2.9	17.0	.10	.29	.19	1.83	7.6	7.0	18.2	11.7
9	6.5	14.7	1.65	7.0	.10	.29	23.5	2.25	10.0	31	22.5	19.4
10	23	9.2	1.13	*5.4	.80	.19	21	1.50	4.5	37.5	18.0	28.5
11	9.4	19.4	.98	4.7	.82	.19	6.5	2.05	2.5	37.5	24	10.9
12	9.2	7.9	.82	2.7	.67	.29	23.5	4.3	2.05	25.5	17.1	29.5
13	19.3	5.0	1.30	2.05	1.50	.29	32.5	4.2	9.7	22	22	40
14	8.1	3.15	2.05	1.65	7.4	.29	18.0	3.05	24	9.2	18.8	54
15	6.2	12.2	22.5	1.30	11.9	.29	6.5	13.0	10.3	8.5	10.7	26
16	18.4	11.0	19.8	1.13	7.9	.19	3.15	5.5	16.1	7.7	4.7	8.6
17	25	12.0	5.7	.98	3.15	.19	1.85	5.2	30	6.4	6.1	14.4
18	17.2	9.0	2.9	.82	1.65	.19	1.13	30	9.8	3.4	5.0	28.5
19	5.6	4.5	2.5	.67	4.7	.19	.82	37.5	3.95	2.05	7.0	29
20	3.7	2.7	1.50	.67	29.5	34.5	.53	45	2.5	1.85	8.6	23.5
21	2.5	1.85	1.13	.53	28	40	.53	24	2.05	2.6	5.3	8.3
22	2.05	1.50	.98	.53	21	14.4	.40	16.6	2.05	11.3	3.7	11.0
23	1.85	5.8	.82	.53	25.5	5.0	.40	10.2	1.85	7.2	3.75	22
24	2.65	8.4	.67	.53	27.5	3.15	.40	28	12.3	3.4	6.4	40
25	7.4	3.15	.53	.53	13.7	2.05	1.78	12.3	16.8	2.05	13.8	19.1
26	3.95	12.3	1.68	.40	5.5	1.50	3.4	19.2	6.6	2.05	11.6	6.5
27	3.0	19.1	10.0	.40	3.4	1.13	2.05	30	3.4	1.50	5.5	4.5
28	21	5.3	8.7	.40	13.1	.98	1.13	40	3.4	1.13	4.5	7.8
29	9.5	2.7	18.0	.29	8.0	.67	.82	19.7	11.9	.98	4.8	6.1
30	23	1.65	4.9	.29	3.7	.53	.67	-----	16.7	.89	7.4	23
31	40	2.7	-----	.19	-----	.40	.67	-----	5.3	-----	11.4	-----
Total	311.10	235.40	160.17	199.19	220.47	114.22	154.06	426.08	236.40	320.30	332.15	595.2
Mean	10.0	7.59	5.34	6.43	7.35	3.68	4.97	14.7	7.63	10.7	10.7	19.8
mgd	15.5	11.7	8.26	9.95	11.4	5.69	7.69	22.7	11.8	16.6	16.6	30.6
cfs	955	722	492	611	677	351	473	1,310	725	983	1,020	1,830
Ac-ft												

Calendar year 1955: Max 51 Min 0.10 Mean(mgd) 9.39 Mean(cfs) 14.5 Ac-ft 10,510
 Fiscal year 1955-56: Max 45 Min 0.10 Mean(mgd) 9.03 Mean(cfs) 14.0 Ac-ft 10,150

* Discharge measurement made on this day.

Note.--No gage-height record July 27 to Aug. 2; discharge estimated on basis of records for nearby stations.

Waikoloa Stream near Kamuela

Location.--Lat 20°03'15", long 155°39'55", on left bank 350 ft downstream from Parker Ranch boundary and 2.1 miles north of Kamuela.

Drainage area.--1.0 sq mi.

Records available.--May 1947 to June 1956.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 3,500 ft (from topographic map).

Average discharge.--9 years, 4.91 mgd (7.60 cfs).

Extremes.--Maximum discharge during year, 210 mgd (325 cfs) Jan. 12 (gage height, 4.05 ft), from rating curve extended above 10 mgd by logarithmic plotting; minimum, 0.91 mgd (1.41 cfs) Jan. 7, 8.

1947-56: Maximum discharge, 545 mgd (843 cfs) Jan. 11, 1949, Dec. 10, 1954 (gage heights, 5.47 and 5.52 ft, respectively), from rating curve extended above 10 mgd; minimum, that of Jan. 7, 8, 1956.

Remarks.--Records good except those above 50 mgd, which are fair.

Revisions (fiscal years).--WSP 1155: 1948(M).

Rating tables, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Nov. 24

Nov. 25 to June 30

1.2	0.88	1.7	6.4	1.26	0.91	1.8	8.2
1.3	1.52	2.0	13.2	1.3	1.17	2.1	16.2
1.4	2.4	2.3	24	1.4	1.96	2.5	34
1.5	3.4			1.5	3.1	2.9	61

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	6.3	5.2	6.2	2.2	1.52	1.54	0.97	1.04	2.95	1.70	2.05	5.7
2	5.0	20	4.5	2.7	1.46	1.38	1.10	*2.25	2.15	1.54	4.6	8.3
3	4.2	6.2	3.2	5.0	1.46	1.31	1.04	5.1	1.78	3.85	5.4	6.2
4	9.6	4.4	2.5	7.7	1.46	1.24	1.10	7.4	1.62	3.8	9.8	5.8
5	4.1	5.1	2.2	10.3	1.46	1.17	.97	2.05	1.54	1.86	4.4	6.3
6	3.55	3.8	2.15	8.8	1.46	1.24	.97	1.46	1.39	3.8	7.2	8.2
7	4.2	3.3	2.2	8.1	1.46	1.17	.97	1.24	1.38	6.2	15.6	5.9
8	5.2	3.7	2.15	5.2	1.46	1.17	1.04	2.1	1.54	*2.9	14.4	4.3
9	8.7	9.0	2.05	3.0	1.46	1.10	18.6	7.0	1.78	5.1	12.2	7.1
10	12.5	7.6	1.96	*2.65	1.61	1.10	9.4	3.25	1.54	8.3	11.9	7.1
11	5.1	8.8	1.96	2.3	1.46	*1.13	2.85	1.70	1.38	8.1	8.6	3.25
12	3.8	5.2	1.87	2.15	1.70	1.24	22	1.54	1.49	6.4	7.4	8.4
13	6.1	4.3	1.87	2.05	2.05	1.38	19.7	1.46	9.6	7.2	9.4	15.3
14	3.95	3.55	1.96	1.96	1.78	1.24	4.8	1.31	8.3	4.5	6.2	12.7
15	3.4	4.9	4.7	1.96	1.87	1.10	2.05	2.5	3.55	3.9	4.5	10.3
16	7.1	4.4	5.8	1.87	1.96	1.04	1.70	2.1	7.1	3.8	2.95	4.9
17	9.5	5.2	2.8	1.87	1.70	.97	1.46	1.86	15.3	3.2	5.4	5.8
18	6.6	4.0	2.3	1.78	1.52	.97	1.38	28	4.1	1.96	5.9	14.8
19	3.7	2.9	2.05	1.78	2.6	.97	1.24	20.5	2.15	1.70	6.1	16.3
20	3.2	2.6	1.96	1.70	10.0	14.7	1.17	4.3	1.70	1.62	7.2	9.1
21	2.7	2.4	1.87	1.61	7.4	9.7	1.17	11.4	1.62	1.78	3.65	4.0
22	2.4	2.3	1.87	1.61	5.0	3.25	1.17	9.8	1.54	2.6	2.95	3.1
23	2.4	3.1	1.87	1.78	9.8	1.78	1.10	5.1	1.46	4.0	2.95	7.1
24	3.1	3.2	1.78	1.96	12.3	1.70	1.10	6.9	6.1	2.95	3.5	19.0
25	4.1	2.5	1.78	1.87	4.3	1.62	1.54	3.5	4.2	1.86	4.4	6.9
26	2.8	4.9	2.15	1.70	2.35	1.38	1.62	3.7	2.15	1.62	4.1	3.55
27	2.6	5.5	3.0	1.52	2.25	1.31	1.31	6.8	1.70	1.54	3.25	3.55
28	*5.3	2.9	3.5	1.52	5.6	1.17	1.17	29	1.70	1.46	3.05	4.5
29	3.4	2.4	5.6	1.52	2.65	1.17	1.17	6.3	3.95	1.38	2.95	6.1
30	10.9	2.3	2.6	1.46	1.78	1.10	1.10	-----	7.3	1.38	4.0	14.4
31	14.1	2.65	-----	1.52	-----	1.04	1.04	-----	3.1	-----	4.4	-----
Total	169.60	148.30	82.20	91.14	94.88	62.38	107.94	219.36	107.15	102.00	190.40	235.95
Mean	5.47	4.78	2.74	2.94	3.16	2.01	3.48	7.56	3.46	3.40	6.14	7.86
mgd	8.46	7.40	4.24	4.55	4.89	3.11	5.38	11.7	5.35	5.26	9.50	12.2
cfs	520	455	252	280	291	191	331	673	329	313	584	724

Calendar year 1955: Max 86 Min 0.97 Mean(mgd) 4.99 Mean(cfs) 7.72 Ac-ft 5,580
Fiscal year 1955-56: Max 43 Min 0.91 Mean(mgd) 4.40 Mean(cfs) 6.81 Ac-ft 4,940

Peak discharge (base, 100 mgd).--Aug. 2 (4:30 p.m.) 118 mgd (183 cfs), 3.43 ft; Jan. 12 (11 a.m.) 210 mgd (325 cfs), 4.05 ft; Feb. 18 (9 p.m.) 110 mgd (170 cfs), 3.40 ft.

* Discharge measurement made on this day.

Waikoloa Stream at Marine Dam, near Kamuela

Location.--Lat 20°02'45", long 155°39'55", on right bank 160 ft upstream from Marine Dam and 1.5 miles north of Kamuela.

Drainage area.--1.3 sq mi.

Records available.--May 1947 to June 1956.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 3,450 ft (from topographic map).

Average discharge.--9 years, 6.07 mgd (9.39 cfs).

Extremes.--Maximum discharge during year, 209 mgd (323 cfs) Jan. 12 (gage height, 4.01 ft), from rating curve extended above 14 mgd by logarithmic plotting; minimum, 0.96 mgd (1.49 cfs) Nov. 7-9, Jan. 6, 7, Feb. 2.
1947-56: Maximum discharge, 720 mgd (1,110 cfs) Dec. 10, 1954 (gage height, 5.80 ft), from rating curve extended above 14 mgd by logarithmic plotting; minimum, 0.65 mgd (1.01 cfs) Dec. 1, 1954.

Remarks.--Records good. Diversions above station for stock and domestic use.

Rating table, fiscal year 1955-56 (gage height, in feet, and discharge, in million gallons a day)

1.4	0.60	2.0	8.6
1.5	1.15	2.2	14.5
1.6	2.0	2.4	24
1.7	3.05	2.6	36.5
1.8	4.5	3.0	71
1.9	6.4		

Discharge, in million gallons a day, fiscal year July 1955 to June 1956

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	7.7	6.2	6.3	1.82	1.15	1.82	1.10	1.03	3.9	2.3	2.3	6.9
2	5.4	29.5	4.6	2.3	1.15	1.58	1.10	2.4	2.6	1.82	5.0	10.8
3	4.5	8.5	5.2	5.1	1.15	1.43	1.10	5.8	2.1	6.4	6.1	8.1
4	12.0	5.0	2.4	9.0	1.10	1.36	1.10	9.5	1.74	5.6	13.2	7.3
5	4.2	5.7	2.0	13.5	1.10	1.22	1.03	2.3	1.66	2.5	5.9	7.7
6	3.45	3.7	1.82	11.8	1.03	1.22	.96	1.50	1.50	4.9	9.9	10.4
7	4.3	3.3	2.0	7.8	1.03	1.22	1.43	1.22	1.43	8.9	23.5	7.4
8	5.6	3.75	1.82	6.1	1.03	1.15	1.10	2.35	1.37	*3.7	22	4.8
9	12.5	11.3	1.74	3.05	1.03	1.15	28	10.6	2.3	6.9	17.7	8.5
10	16.3	9.1	1.50	*2.5	1.22	1.15	13.0	4.1	1.74	12.2	18.8	9.1
11	5.8	11.9	1.50	2.2	1.10	*1.25	3.8	1.82	1.58	11.5	11.9	3.75
12	3.85	6.1	1.43	1.82	1.22	1.29	30	1.66	1.62	8.5	9.6	12.9
13	6.7	4.7	1.43	1.74	1.58	1.50	29.5	1.66	15.8	9.5	12.7	19.6
14	4.0	5.7	1.50	1.58	1.36	1.29	6.2	1.50	12.0	5.7	8.5	18.4
15	3.3	5.0	4.3	1.50	1.50	1.15	2.65	3.1	4.6	5.2	6.3	14.1
16	9.2	4.4	6.2	1.50	1.50	1.10	2.1	2.5	9.2	4.9	3.55	5.8
17	12.0	5.3	2.6	1.43	1.22	1.10	1.74	2.2	25	4.1	6.6	7.2
18	7.8	4.2	2.0	1.36	1.10	1.03	1.58	39	5.8	2.5	7.4	23.5
19	3.85	2.85	1.74	1.29	2.25	1.03	1.50	33.5	2.85	2.1	7.5	25
20	5.2	2.4	1.50	1.22	12.4	21.5	1.36	68	2.2	2.0	9.4	13.0
21	2.5	2.2	1.43	1.22	8.6	14.6	1.29	16.4	2.0	2.2	4.7	5.0
22	2.2	2.0	1.43	1.22	5.5	4.7	1.22	13.1	1.74	3.1	3.45	3.7
23	2.2	2.7	1.43	1.36	12.8	2.3	1.15	6.4	1.66	4.5	3.55	9.6
24	2.75	3.15	1.36	1.50	17.6	2.2	1.03	9.0	7.7	3.6	4.0	30.5
25	4.2	2.2	1.36	1.50	5.4	1.82	1.59	4.4	5.9	2.3	5.2	10.1
26	2.7	5.1	1.66	1.36	3.05	1.59	1.66	4.6	2.85	1.82	5.0	4.3
27	2.4	5.7	2.7	1.29	2.75	1.43	1.36	9.3	2.1	1.66	3.7	4.1
28	5.4	2.7	3.25	1.22	6.8	1.36	1.22	47	1.82	1.58	3.65	5.5
29	3.5	2.2	6.0	1.22	3.4	1.22	1.15	9.1	4.5	1.50	3.45	7.5
30	14.6	1.82	2.3	1.15	2.3	1.15	1.10	-----	10.1	1.50	4.5	21
31	21	2.15	-----	1.22	-----	1.10	1.03	-----	4.4	-----	5.8	-----
Total	199.10	168.52	74.50	92.87	104.42	79.00	143.98	315.04	144.26	134.98	254.85	325.55
Mean	6.42	5.44	2.49	3.00	3.48	2.55	4.64	10.9	4.65	4.50	8.22	10.9
cfs	9.95	8.42	3.94	4.64	5.38	3.95	7.18	16.9	7.19	6.96	12.7	16.9
Ac-ft	611	517	229	285	320	242	442	967	443	414	782	999

Calendar year 1955: Max	114	Min	1.03	Mean(mgd)	6.15	Mean(cfs)	9.52	Ac-ft	6,900
Fiscal year 1955-56: Max	68	Min	0.96	Mean(mgd)	5.57	Mean(cfs)	8.62	Ac-ft	6,250

Peak discharge (base, 100 mgd).--Aug. 2 (5 p.m.) 150 mgd (232 cfs), 3.63 ft; Jan. 12 (10:30 a.m.) 209 mgd (323 cfs), 4.01 ft; Feb. 18 (9 p.m.) 136 mgd (210 cfs), 3.53 ft.

* Discharge measurement made on this day.

Discharge measurements at points other than gaging stations

Measurements of streamflow on the island of Hawaii made at points other than regular gaging stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. Measurements believed to have been made under base-flow conditions are identified by an asterisk (*) to the left of the discharge figure. These measurements when correlated with the simultaneous discharge of a nearby stream where continuous records are available will give a picture of the low-flow potentiality of stream. The column headed, "Measured previously" shows the fiscal years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at points other than gaging stations on the island of Hawaii during fiscal year July 1955 to June 1956

Stream	Tributary to	Location	Measured previously (fiscal years)	Date	Discharge	
					Million gallons a day	Cubic feet per second
Kipi Stream.	Kapehu Stream.	Lat 19°44'00", long 155°10'35", at altitude 1,800 ft, in Hilo Forest Reserve, 700 ft above confluence with Kapehu Stream and 0.5 mile northeast of gaging station on Kapehu ditch, near Hilo.	1954-55	Apr. 3	5.78	8.95
Kapehu Stream.	Wailuku River.	Lat 19°44'00", long 155°10'30", at altitude 1,750 ft, in Hilo Forest Reserve, 30 ft below confluence with Kipi Stream and 0.6 mile northeast of gaging station on Kapehu ditch, near Hilo.	1954-55	Apr. 3	4.39	6.80
Hauani Stream.	Lanimaumau Stream.	Lat 20°02'40", long 155°39'15", 1.8 miles northeast of Kamuela.		July 26	.212	.328
Do.....	.....do.....	Lat 20°02'20", long 155°39'05", 1.7 miles northeast of Kamuela.		Aug. 6	.535	.827
Kohakohau Stream.	Keanuimano Stream.	Lat 20°03'00", long 155°41'00", 2 miles northwest of Kamuela.		Oct. 13	.679	1.05
Do.....do.....	Lat 20°01'45", long 155°42'05", at Waiaka, at bridge at junction of Kohala-Waimea and Kawaihae-Waimea roads, 2 miles west of Kamuela Post Office.		Aug. 3	9.76	15.1
				Sept. 21	.737	1.14
				Oct. 13	.659	1.02

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