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HAROLD L. ICKES, Secretary
GEOLOGICAL SURVEY
W. E. WRATHER, Director

Water-Supply Paper 935

SURFACE WATER SUPPLY *of* HAWAII

JULY 1, 1940, *to* JUNE 30, 1941

Prepared under the direction of
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In cooperation with the
TERRITORY OF HAWAII

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SURFACE WATER SUPPLY OF HAWAII, JULY 1, 1940, to JUNE 30, 1941

SCOPE OF WORK

This volume contains results of measurements of the flow of streams and ditches in the Territory of Hawaii during the year ending June 30, 1941. Since the beginning of stream-gaging work in Hawaii, in 1910, records of flow of streams and ditches have been obtained at about 489 stations for periods ranging from a few months to 30 years. In addition, hundreds of miscellaneous measurements have been made, and rather extensive studies of ground water have been made in the Kau district, island of Hawaii,[1] and on the islands of Oahu,[2] Maui, Molokai, Lanai,[3] and Kahoolawe.[3]

In this volume are given the records of daily flow obtained at stations that were operated during the year ending June 30, 1941, and the results of miscellaneous measurements of stream flow made during that year. The results of ground-water studies will be published in bulletins of the Territorial Division of Hydrography. See "Publications", on page 3, for a record of surface water-supply papers pertaining to Hawaii.

DEFINITION OF TERMS

The units in which stream-flow data are presented in this report are defined as follows:

"Second-feet" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of water flowing in a channel having a cross-sectional area of 1 square foot and an average velocity of 1 foot a second.

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

In the Territory of Hawaii the unit most commonly used in measuring water is the "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 second-feet, million gallons a day, and acre-feet: 1 second-foot flowing 24 hours equals about 2 acre-feet; 1,000,000 gallons equals about 3 acre-feet or about 1.55 second-feet.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the gage heights and discharge measurements in determining the daily discharge. All records of stage are obtained from

1 Stearns, H. T., and Clark, W. O., Geology and water resources of the Kau district, Hawaii: U. S. Geol. Survey Water-Supply Paper 616, 1930.

2 Stearns, H. T., and Vaksvik, K. N., Geology and ground-water resources of Oahu, Hawaii: T. H. Division of Hydrography Bull. 1, 1935. Stearns, H. T., Geologic map and guide of Oahu, Hawaii: T. H. Division of Hydrography Bull. 2, 1939. Stearns, N. D., Annotated bibliography and index of geology and water supply of the island of Oahu, Hawaii: T. H. Division of Hydrography Bull. 3, 1935. Stearns, H. T., and Vaksvik, K. N., Records of the drilled wells on the island of Oahu, Hawaii: T. H. Division of Hydrography Bull. 4, 1938. Stearns. H. T., Supplement to Geology and ground-water resources of Oahu, Hawaii: T. H. Division of Hydrography Bull. 5, 1940.

3 Stearns, H. T., Geology and ground-water resources of Lanai and Kahoolawe, Hawaii: T. H. Division of Hydrography Bull. 6, 1940.

water-stage recorders that give continuous records of the fluctuations. Measurements of discharge are usually made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge. Rating tables giving the discharge for any stage are prepared from the discharge measurements. The application of the daily gage heights to these rating tables gives the discharge from which the daily, monthly, and yearly discharges are determined. Occasionally discharge is determined from a weir or a rating flume, using standard formulas, and for several stations the high-water discharge has been determined by the use of models.

The data presented in this report comprise, for each gaging station, a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off. Skeleton rating tables are published except for ditch stations. All rates of flow are expressed as million gallons a day.

The description of the station gives location, drainage area, records available, discharge corresponding to maximum and minimum recorded stages, average discharge if there has been more than 10 years of record, and, under "Remarks", notes on accuracy of the records, diversions that decrease the flow at the gage, and artificial regulation.

The table of daily discharge gives, in general, the discharge corresponding to the mean daily gage heights. But when, owing to sudden or rapid diurnal fluctuation, the discharge obtained from the rating table by applying the mean daily gage height would not be within 2 percent of the true mean, the mean has been obtained by averaging discharges for intervals during the day or by use of the discharge or graphic integrators

In the table of monthly discharge the column headed "Maximum" gives the flow for the day when the total discharge was greatest. This does not correspond to the rate of flow at the crest of the flood. The maximum rate of flow is given in the station description under the heading "Extremes", and the corresponding stage is always taken from the water-stage recorder graph unless otherwise noted. Likewise, in the column headed "Minimum" the quantity given is the flow for the day when the total discharge was least. The columns headed "Mean" give the average flow in million gallons a day and cubic feet a second during the month. The "total run-off in million gallons" is the sum of the daily flows, and the "total run-off in acre-feet" is computed from the total monthly discharges in million gallons.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of stream-flow data depends primarily (1) on the permanency of the stage-discharge relation and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of records.

A general statement under "Remarks" gives the accuracy of records, the terms "excellent", "good", "fair", and "poor" indicating that the record is probably accurate within 5, 10, 15, and 20 percent, respectively.

It should be borne in mind that the observations in each succeeding year may be expected to throw new light on data previously published.

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

PUBLICATIONS

The following table gives by years the serial numbers of the papers on the surface water supply of Hawaii published from 1903 to 1940, and, used in conjunction with the

list of stations maintained, given in Water-Supply Paper 795, provides a convenient index for finding the data for any station. 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 has been postponed. Occasionally data are revised and republished in later papers. Miscellaneous 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, 1903-41

Year	Number	Year	Number	Year	Number
1903.....	*77	1920-21.....	535	1930-31.....	725
1909-11†.....	318	1921-22.....	555	1931-32.....	740
1912†.....	336	1922-23.....	575	1932-33.....	755
1913†.....	373	1923-24.....	595	1933-34.....	770
1913-15.....	430	1924-25.....	615	1934-35.....	795
1915-16.....	445	1925-26.....	635	1935-36.....	815
1916-17.....	465	1926-27.....	655	1936-37.....	835
1917-18.....	485	1927-28.....	675	1937-38.....	865
1918-19.....	515	1928-29.....	695	1938-39.....	885
1919-20.....	516	1929-30.....	710	1939-40.....	905
				1940-41.....	936

* Water resources of Molokai, by Waldemar Lindgren.
† Calendar years; reports subsequent to Water-Supply Paper 373 cover the year beginning July 1 and ending June 30.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The following table contains a list of gaging stations for the area covered by this report at which records of discharge were collected during the fiscal year July 1940 to June 1941 by agencies other than the Geological Survey. The records for these stations are not contained in the publications of the Geological Survey

Records of discharge collected by agencies other than the Geological Survey

ISLAND OF KAUAI

Stream	Location	Period	Operated by
East Lawai ditch.....	Near Government Road, near Kalaheo.	1924-41	McBryde Sugar Co.
Eleele ditch.....	Near Government Road, near Kalaheo.	1924-41	Do.
Hanalei ditch.....	Above Kalihiwai Reservoir, near Kilauea.	1923-41	Kilauea Sugar Plantation Co.
Hanamaulu ditch.....	Below intake, near Hanamaulu...	1925-41	Lihue Plantation Co.
Hanapepe ditch.....	At Makaweli Plantation boundary, near Makaweli.	1926-41	Hawaiian Sugar Co.
Hanapepe Field ditch....	Below Hanapepe River intake, near Eleele.	1924-41	McBryde Sugar Co.
Hanapepe Stream.....	At tidewater near Eleele.....	1924-41	Do.
Kamcoloa ditch.....	Near Koloa boundary, near Koloa	1924-41	Do.
Kapaia River diversion to field S reservoir.	Near Hanamaulu.....	1928-41	Lihue Plantation Co.
Kapaia River diversion to field 29.	Near Lihue.....	1927-41	Do.
East Lawai Stream.....	½ mile above cannery near Kalaheo.	1924-41	McBryde Sugar Co.
Lihue lower ditch.....	Below intake, near Lihue.....	1925-41	Lihue Plantation Co.
Lihue upper ditch.....	....do.....	1925-41	Do.
Old Tunnel ditch.....	Above confluence with main Koloa ditch, near Koloa.	1925-41	Koloa Sugar Co.
Olokele ditch.....	At powerhouse near Makaweli....	1926-41	Hawaiian Sugar Co.
Storm ditch.....	Above Kalaheo-Lihue main highway, near Koloa.	1926-41	Koloa Sugar Co.
Wahiawa Stream.....	Above Alexander Reservoir, near Kalaheo.	1924-41	McBryde Sugar Co.
Wahiawa Stream, East Branch of.	....do.....	1929-41	Do.
Wailua ditch.....	Near flume 4, near Kapaa.....	1922-41	East Kauai Water Co.
Wainiha Stream.....	Near Hanalei, at altitude about 960 feet.	1927-41	McBryde Sugar Co.
West Lawai ditch.....	Near camp 12, near Kalaheo.....	1924-41	Do.

ISLAND OF OAHU

Aiewa Heights Spring....	Below reservoir 3.....	1932-41*	Board of Water Supply City and County of Honolulu.
Booth Springs.....	In Pauao Valley, at altitude 685 feet.	1929-41*	Do.
Helemano ditch.....	About 3 miles below Upper Helemano Reservoir.	1933-41	Waialua Agricultural Co.

* Published in Biennial Reports of Honolulu Sewer & Water Commission and of Honolulu Board of Water Supply.

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

ISLAND OF OAHU--Continued

Stream	Location	Period	Operated by
Hering Springs	In Makiki Valley, at altitude 970 feet.	1925-41*	Board of Water Supply City and County of Honolulu.
Kahuawai Springs	In Pauao Valley, at altitude 618 feet.	1925-41*	Do.
Kalihi tunnels	At diversion, at altitude 650 feet.	1926-41*	Do.
Kamananui ditch	In Kawailoa Gulch about 500 yards above third siphon from Government Road.	1934-41	Waialua Agricultural Co.
Kipapa Stream	At altitude 375 feet	1917-41	Waiahole Water Co.
Makiki Springs	In Makiki Valley, at altitude 350 feet.	1926-41*	Board of Water Supply City and County of Honolulu.
Manoa tunnels	Upper Manoa Valley	1925-41*	Do.
Nuuanu tunnels	At Lower Luakaha	1926-41*	Do.
Nuuanu tunnel 3	At overflow, in upper Nuuanu Valley.	1931-41*	Do.
Palolo tunnel	Upper Palolo Valley	1926-41*	Do.
Wahiawa Reservoir Outlet	About 1,200 feet below dam	1912-41*	Wahiawa Water Co.
Waiahole Stream	At altitude 250 feet	1919-41	Do.
Waiahole tunnel	At adit 8	1916-41	Do.
Waiawa Stream	At altitude 750 feet	1917-41	Do.
Waikakalau Stream	....do	1917-41	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	1935-41	Wailuku Sugar Co.
Iao-Waikapu ditch	At lower end of tunnels, near Wailuku.	1923-41	Do.
Kama ditch	Below intake, near Wailuku	1933-41	Do.
Manianiu ditch	....do	1923-41	Do.
North Waiehu	Near end of Waiehu Camp road, near Wailuku.	1922-41	Do.
South Waikapu ditch	Above first lateral, near Waikapu.	1935-41	Do.
Do	Below tunnel sections, near Waikapu.	1923-41	Do.
Spreckels ditch	Below intake, near Waihee	1931-41	Do.
Waihee ditch	....do	1922-41	Do.
Honokohau tunnel	At outlet of tunnel, at Mahinahina Camp.	1917-41	Pioneer Mill Co., Ltd.
Kahoma tunnel	2,000 feet upstream from outlet above Lahaina.	1920-41	Do.
Kanaha ditch	At intake, above Lahainaluna School.	1921-41	Do.
Kauaula tunnel	At outlet, above Lahaina	1920-41	Do.
Launiupoko ditch	....do	1921-41	Do.
Ukumehame ditch	At outlet, near Olowalu	1931-41	Do.

ISLAND OF MAUI (East Maui)

Banana Spring	Near east wall of Keanae Valley, at altitude 700 feet.	1933-41	East Maui Irrigation Co.
Hanawi Spring upper nigh-level.	On east side of pali in Hanawi Gulch near Nahiku, at altitude 675 feet.	1932-41	Do.
Hanawi Spring lower high-level.	On east side of pali in Hanawi Gulch near Nahiku, at altitude 575 feet.	1932-41	Do.
Makapipi ditch	At west edge of Makapipi Gulch near Nahiku, at altitude 1,300 feet.	1933-41	Do.

ISLAND OF HAWAII

Kohala ditch	At Awini weir in Honokane, near Niulii.	1917-41†	Kohala Ditch Co.
Do	At Niulii weir, near Niulii	1917-41†	Do.
Pololu Inlet 1	At Pololu, near Niulii	1929-41	Do.
Pololu Inlet 2	In Waiakalae Gulch at Pololu, near Niulii.	1929-41	Do.
Pololu Inlet 3	In Opaepilau Gulch, above Kohala ditch, near Niulii.	1937-41	Do.
Waiapuka Stream	Above Kohala ditch, near Niulii	1929-41	Do.
Pololu Inlet 5	In Niulii Gulch, above Kohala ditch, near Niulii.	1937-41	Do.
Pololu Inlet 6	In Waikane Gulch, above Kohala ditch, near Niulii.	1937-41	Do.
Waipuhi Stream	Above Kohala ditch, near Halawa	1933-41	Do.
Makapala ditch	....do	1929-41	Do.
Waipunalau Stream	....do	1929-41	Do.
Pusaiole Stream	....do	1937-41	Do.
Mountain House tunnel	6.0 miles north of Waiohinu	1927-41	Hutchinson Sugar Plantation Co.
Plantation Springs tunnel.	8.7 miles north of Naalehu	1927-41	Do.
Shirakura tunnel 20	In Moaula Gulch, at altitude 4,650 feet, 6.5 miles from Pahala.	1929-41	Hawaiian Agricultural Co.
Domestic supply tunnel 16.	3.8 miles from Pahala, at altitude 2,800 feet.	1926-41	Do.
Tanaka tunnel 15	In Hiomamoa Gulch, at altitude 3,000 feet, 3.4 miles from Pahala.	1926-41	Do.

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

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

ISLAND OF HAWAII--Continued

Stream	Location	Period	Operated by
Double Arch tunnel 11...	In Piikea Gulch, at altitude 4,150 feet, 5.35 miles from Pahala.	1926-41	Hawaiian Agricultural Co.
Mud Flow tunnel 2.....	In Piikea Gulch, at altitude 3,750 feet, 4.8 miles from Pahala.	1926-41	Do.
Noguchi tunnel 19.....	5.3 miles from Pahala, at altitude 3,590 feet.	1928-41	Do.
Makakupu tunnel 13.....	In Waiakaloa Gulch, at altitude 3,750 feet, 6.1 miles from Pahala.	1926-41	Do.
Upper Hamakua ditch and Reservoir 3 weir.	At base of Puu Lala, near Honokaa.	1907-12, 1921-41‡	Hawaiian Irrigation Co.
Lower Hamakua ditch.....	At main weir, near Kukuihaele..	1921-41†	Do.
Honokaape ditch.....	At Kukuihaele Village.....	1925-41	Do.

† Records for some earlier years published in water-supply papers of Geological Survey.
‡ Records for 1913-20 published in water-supply papers of Geological Survey.
Note.- Records not published unless otherwise indicated.

COOPERATION

The work during the year ending June 30, 1941, 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 Wahiawa Water Co. Ltd.; on the island of Maui by the Pioneer Mill Co. Ltd., and the East Maui Irrigation Co. Ltd.; 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 data were collected and prepared for publication under the direction of M. H. Carson, district engineer, Honolulu, Hawaii.

ISLAND OF KAUAI

Waimea River below Kekaha ditch intake, near Waimea

Location.- Lat. 22°02'40", long. 159°38'35", in Waimea Canyon, 500 feet downstream from Kekaha ditch lower intake and 6½ miles northeast of Waimea. Altitude of gage, 490 feet (by barometer).
Drainage area.- 45.0 square miles.
Records available.- July 1921 to June 1941.
Average discharge.- 16 years (1925-41), 39.0 million gallons a day (60.3 second-feet).
Extremes.- Maximum discharge during year, 9,120 million gallons a day (14,100 second-feet) Oct. 2 (gage height, 17.60 feet), from rating curve extended above 500 million gallons a day by test on model of station site; no flow at times, owing to regulation.
1921-41: Maximum discharge, 10,700 million gallons a day (16,600 second-feet) Dec. 24, 1927 (gage height, 20.40 feet), from rating curve extended above 500 million gallons a day; no flow occasionally, owing to regulation.
Remarks.- Records fair except those for periods of faulty and no gage-height record, which are poor. Kokee and Kekaha ditches divert above the station, taking practically all the water at low and medium stages for irrigation near Waimea and Kekaha.

Rating tables, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Oct. 2						Oct. 3 to June 30					
4.4	0.12	5.2	8.1	8.0	460	4.4	0	5.2	4.5	7.0	195
4.5	.23	5.4	13.6	9.0	520	4.5	.12	5.4	9.3	7.5	301
4.6	.43	5.7	24	10.0	1,300	4.6	.28	5.7	22	8.0	430
4.7	.76	6.0	40			4.7	.50	6.0	46	8.5	595
4.8	1.32	6.5	88			4.8	.80	6.3	81	9.0	805
5.0	3.7	7.0	180			5.0	1.85	6.6	125		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.21	92	1.43	39.5	20.5	0.12	60	0.10	0.05	0.16	0	0.09
2	.21	5.6	33	700	39.5	.12	7.0	.09	.03	.12	0	.05
3	.21	1.51	8.9	100	46	.12	1.5	.07	.02	.08	0	.03
4	26.5	6.4	29	50	43	.16	.5	.05	.01	.07	0	0
5	2.9	7.2	31.5	5.0	7.4	.12	.3	.03	0	.08	0	0
6	1.00	.25	1.79	1.0	.70	.12	.2	.02	0	.08	0	0
7	7.4	.21	8.1	.8	.28	.20	.15	12.8	0	.03	315	0
8	.87	.21	5.9	.7	.23	.18	.12	.26	0	.01	285	0
9	.60	32	.18	.6	.21	.18	.12	.10	.01	0	28.5	0
10	.21	2.4	.16	.6	.21	.18	30	.07	.05	0	.38	0
11	.20	.22	.15	.6	.20	.17	1.5	.04	.08	0	1.31	0
12	.20	163	.15	.8	.16	.15	.5	.02	.09	0	.85	.20
13	.22	909	.15	.7	.16	.15	.2	.02	.10	0	1.18	.12
14	30.5	17.7	.14	.6	.15	.14	.15	.07	.10	.02	2.4	.04
15	9.2	.73	.14	.55	.16	.13	.12	.15	.15	.02	52	0
16	.33	30	.12	.5	.71	.12	.12	.10	20.5	.01	20.5	0
17	.21	16.4	.12	.48	.55	.12	.10	.09	28.5	.03	14.9	0
18	.20	4.9	.13	.43	.28	.4	.07	.08	25.5	f9.5	9.4	0
19	.20	5.7	.12	.41	12.5	.25	.07	.07	4.8	f.18	8.8	6.1
20	111	5.1	.12	.36	60	.16	.04	.08	.47	.15	.21	1.40
21	7.3	.15	.12	.36	.70	.13	.09	.12	.18	.12	.12	.12
22	.23	.14	.12	.34	.39	.12	.09	.38	.13	.07	.10	.12
23	.21	.14	.12	.38	.71	.6	.08	19.2	.09	.04	.10	.05
24	.20	.15	.12	.99	.28	45	.07	9.8	.08	.04	.20	8.2
25	.20	11.2	.12	.41	.21	1.5	.07	.25	.09	.04	.09	10.2
26	.21	2.4	7.0	.34	.18	.8	89	.15	.16	.01	.09	3.55
27	.21	.15	.20	.34	.15	.6	4.4	.10	.41	0	63	.12
28	.20	.15	.15	5.9	.15	.5	.21	.08	1.30	0	78	.07
29	.21	.96	.12	67	.13	.45	.15	-	147	0	2.1	0
30	10.2	3.3	1.70	14.8	.13	.6	.13	-	19.3	0	.18	.03
31	350	13.9	-	.79	-	100	.12	-	.49	-	.12	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	350	0.20	18.1	28.0	562	1,720
August	909	.14	43.0	66.5	1,330	4,090
September	33	.12	4.37	6.76	131	402
October	700	.34	32.1	49.7	995	3,050
November	60	.13	7.86	12.2	236	724
December	100	.12	4.95	7.66	154	471
Calendar year 1940	1,460	.09	24.3	37.6	8,890	27,260
January	89	.04	6.36	9.84	197	605
February	19.2	.02	1.59	2.46	44.4	136
March	147	0	8.05	12.5	250	766
April	9.5	0	.362	.560	10.9	33
May	315	0	28.5	44.1	885	2,710
June	10.2	0	1.02	1.58	30.5	94
Fiscal year 1940-41	909	0	13.2	20.4	4,830	14,800

Peak discharge.- Aug. 13 (3:15 a.m.) 5,560 m.g.d. (8,590 sec.-ft.); Aug. 13 (12:30 p.m.) 2,100 m.g.d. (3,250 sec.-ft.); Oct. (1 p.m.) 9,120 m.g.d. (14,100 sec.-ft.).
f Fragmentary gage-height record; discharge computed from partly estimated gage heights.
Note.- Discharge for periods of no gage-height record, Oct. 2-16, Dec. 11 to Jan. 17, Apr. 20-22, computed on basis of records for stations on nearby streams.

Kawaikoi Stream near Waimea

Location.- Concrete control, lat. 22°08'00", long. 159°37'15", at old trail crossing, 12¼ miles northeast of Waimea. Altitude of gage, 3,420 feet (by barometer).
Drainage area.- 4.1 square miles.
Records available.- April 1909 to June 1941. July 1917 to July 1919 (unpublished).
Average discharge.- 22 years (1919-41), 21.3 million gallons a day (33.0 second-feet).
Extremes.- Maximum discharge during year, 5,650 million gallons a day (8,740 second-feet) Oct. 2 (gage height, 12.00 feet), from rating curve extended above 180 million gallons a day; minimum, 2.0 million gallons a day (3.1 second-feet) May 3.
1909-41: Maximum discharge, that of Oct. 2, 1940; minimum, 1.3 million gallons a day (2.0 second-feet) Sept. 15, 1921.
Highest stage known, 15.2 feet, Dec. 18, 1916.
Remarks.- Records excellent except those for periods when clock was not running, which are poor. No diversions above station.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.9	1.8	2.6	14.4	4.5	241
2.0	2.7	3.0	30.5	5.0	355
2.2	5.1	3.5	70	5.5	500
2.4	8.9	4.0	141		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	6.6	48	25.5	a40	27.5	4.1	80	3.2	3.8	7.2	2.2	5.6
2	4.3	15.4	25.5	a500	36.5	3.8	13.5	3.0	3.1	6.0	2.1	5.1
3	12.2	16.3	13.6	a90	24.5	8.0	9.2	3.0	2.8	11.0	2.1	4.7
4	46	27.5	17.8	a70	29	4.8	8.1	10.9	2.9	7.0	2.1	4.4
5	14.1	14.3	15.5	f13.8	12.9	4.1	6.6	4.7	2.8	5.4	2.2	a4.2
6	21	7.8	7.8	10.9	8.3	10.1	7.4	3.5	4.2	4.7	58	a4.0
7	18.8	6.5	f13.9	12.3	6.0	6.4	20.5	44	3.4	4.3	394	a3.8
8	20.5	20.5	f10.4	10.9	5.1	4.2	6.6	8.3	2.8	4.7	90	a3.6
9	16.9	20.5	6.6	8.1	4.6	4.6	10.6	4.8	5.4	4.6	19.3	a3.5
10	7.2	10.4	5.3	7.2	5.0	6.3	51	4.1	4.6	3.7	18.0	a3.4
11	5.6	6.6	4.7	9.2	5.8	4.7	11.4	3.9	3.2	3.4	20.5	a3.4
12	16.0	71	5.4	f13.2	5.4	3.6	6.6	4.7	2.9	3.2	16.4	a4.5
13	18.1	128	6.1	7.8	4.6	13.0	5.6	3.9	7.2	3.5	23	a4.0
14	46	12.3	4.8	6.3	4.3	5.6	5.1	3.7	22.5	3.5	31	a3.5
15	19.1	28	5.4	5.8	8.1	3.9	4.7	3.4	19.4	3.0	50	a3.2
16	7.8	37	a5.6	5.0	9.6	3.8	4.6	7.4	79	2.7	30	a3.1
17	8.0	20	a6.3	5.8	6.0	3.2	13.8	4.7	36	37.5	16.7	3.0
18	18.4	12.3	7.2	8.0	4.6	14.1	6.8	3.6	45	43	10.9	3.0
19	15.9	14.6	4.8	5.0	28	9.0	5.0	3.2	12.5	8.5	8.5	6.2
20	17.9	14.1	4.2	4.4	19.1	4.4	4.4	3.0	6.5	6.0	7.8	4.8
21	9.5	7.8	3.9	4.2	6.5	3.5	4.2	7.6	4.7	4.2	10.6	7.6
22	6.0	6.5	3.7	3.9	28.5	3.1	4.2	25.5	4.1	3.6	11.2	7.6
23	5.6	5.8	3.5	3.8	22	8.1	3.9	21	3.5	3.5	12.3	4.4
24	5.0	5.4	3.7	3.8	6.8	32	3.8	7.8	11.4	3.2	8.6	6.8
25	4.4	38	5.6	3.6	5.0	8.5	4.1	4.8	14.2	2.9	7.0	4.6
26	9.3	11.4	12.0	3.5	4.4	11.4	11.8	4.2	19.8	2.7	33	4.6
27	9.4	6.8	5.3	18.8	4.2	9.9	6.7	3.5	27	2.5	104	3.8
28	5.1	7.4	3.9	31	6.0	12.5	4.6	3.7	47	2.4	19.6	5.8
29	11.4	10.6	3.5	27	9.7	50	3.9	-	128	2.2	10.2	5.3
30	98	25	a3.3	10.6	4.8	59	3.7	-	25	2.2	7.8	5.9
31	80	28	-	27.5	-	125	3.5	-	10.4	-	6.5	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	98	4.3	18.8	29.1	583	1,790
August	128	5.4	22.1	34.2	684	2,100
September	25.5	3.3	8.15	12.6	245	751
October	500	3.5	31.3	48.4	971	2,980
November	36.6	4.2	11.7	18.1	350	1,070
December	125	3.1	14.3	22.1	445	1,360
Calendar year 1940	500	2.6	19.3	29.9	7,070	21,700
January	80	3.5	10.8	16.7	336	1,030
February	44	3.0	7.47	11.6	209	642
March	128	2.8	18.2	28.2	563	1,730
April	45	2.2	6.74	10.4	202	621
May	394	2.1	33.4	51.7	1,040	3,190
June	7.6	3.0	4.58	7.09	137	422
Fiscal year 1940-41	500	2.1	15.8	24.4	5,760	17,680

a No gage-height record; discharge computed on basis of records for stations on all nearby streams.
f Computed on basis of partly estimated gage-height record.

Mohihi Stream at altitude 3,500 feet, near Waimea

Location.- Boulder concrete control, lat. 22°07'05", long. 159°36'15", at upper trail crossing, 3.8 miles northeast of confluence of Waiahulu and Poomau Streams, and 12 miles northeast of Waimea. Altitude of gage, 3,350 feet (from topographic map).
Drainage area.- 1.6 square miles.
Records available.- June 1920 to October 1926, October 1936 to June 1941. April 1909 to December 1912 at site 2 miles downstream (fragmentary).
Average discharge.- 10 years (1920-26, 1937-41), 5.04 million gallons a day (7.80 second-feet).
Extremes.- Maximum discharge during year, 915 million gallons a day (1,420 second-feet) Oct. 2 (gage height, 6.40 feet, from floodmarks), from rating curve extended above 21 million gallons a day; minimum, 0.05 million gallons a day (0.08 second-foot) May 3, 4. 1920-26, 1936-41: Maximum discharge, that of Oct. 2, 1940; minimum, that of May 3, 4, 1941.
Remarks.- Records good except those above 40 million gallons a day, which are poor. No diversions.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day

0.8	0.05	1.2	1.38	1.8	8.2	3.0	53
.9	.20	1.4	2.85	2.0	12.4	3.5	96
1.0	.50	1.6	5.0	2.5	27		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.18	13.6	2.45	7.7	5.0	0.65	13.5	0.58	0.58	1.44	0.10	1.03
2	.88	4.6	4.5	91	4.9	.61	3.2	.50	.50	1.08	.08	.98
3	1.17	3.3	2.6	20	9.6	.65	1.81	.50	.47	.93	.06	.80
4	9.9	4.9	3.7	18.9	6.4	.69	1.57	.47	.41	.88	.06	.77
5	4.1	5.7	4.9	4.8	4.2	.73	1.23	.47	.38	.93	.08	.69
6	3.15	1.88	2.4	2.85	2.35	.73	1.08	.47	.38	.80	.12	.61
7	3.7	1.38	2.96	2.25	1.57	1.03	1.08	.61	.38	.69	26.5	.58
8	2.6	1.41	3.15	2.25	1.18	.98	1.08	.65	.38	.61	28	.61
9	2.6	6.5	1.75	1.81	.98	.88	1.09	.54	.35	.54	6.2	.58
10	1.50	3.2	1.38	1.50	.88	.88	6.1	.47	.47	.47	2.0	.54
11	1.13	1.57	1.13	1.33	.88	.88	2.7	.44	.50	.41	2.6	.50
12	2.35	11.2	1.03	1.28	.90	.88	1.44	.44	.44	.38	2.15	.54
13	2.45	60	1.03	1.23	.73	.80	.98	.44	.41	.35	3.85	.58
14	10.9	5.2	1.03	1.18	.69	.80	.84	.44	.71	.35	7.5	.50
15	4.4	3.05	.88	1.08	.69	.77	.73	.47	1.38	.32	16.0	.47
16	1.88	8.0	.84	1.03	1.86	.69	.69	.47	3.95	.29	9.0	.47
17	1.18	6.5	.93	.98	1.50	.69	.69	.54	8.4	.26	5.9	.47
18	.98	3.9	1.08	.98	1.03	.73	.80	.54	7.7	2.4	3.85	.44
19	1.03	3.45	.84	.98	1.37	1.18	.73	.47	3.85	1.18	2.4	.69
20	11.2	3.2	.73	.88	7.5	1.08	.65	.44	2.1	.69	1.44	1.13
21	3.55	1.94	.65	.88	2.05	.84	.61	.44	1.13	.54	1.57	1.13
22	1.50	1.50	.61	.84	1.23	.77	.61	1.24	.84	.44	1.50	1.13
23	1.57	1.33	.54	.98	2.0	.69	.58	7.8	.65	.35	2.15	.77
24	1.08	1.23	.54	1.13	1.63	.87	.58	2.85	.61	.29	1.81	1.53
25	.88	3.65	.65	.93	1.08	1.88	.62	1.33	1.08	.35	1.18	1.03
26	.84	2.4	1.70	.80	.88	2.05	7.1	.93	1.23	.26	1.13	.98
27	.93	1.50	1.28	.84	.77	2.6	2.05	.73	3.65	.18	16.8	.84
28	.77	1.33	.80	2.5	.73	2.0	1.13	.61	4.3	.16	13.8	.69
29	.77	1.57	.65	6.4	.69	2.05	.88	-	19.4	.14	3.25	.61
30	3.05	2.7	.67	3.4	.69	6.6	.73	-	7.6	.11	1.73	.54
31	27	4.2	-	2.1	-	8.8	.61	-	2.7	-	1.28	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	27	0.77	3.56	5.51	110	338
August	60	1.23	5.67	8.77	176	540
September	4.9	.54	1.58	2.44	47.4	145
October	91	.80	5.96	9.22	185	567
November	9.6	.69	2.20	3.40	65.9	202
December	8.8	.61	1.47	2.27	45.5	140
Calendar year 1940	91	.4	3.45	5.34	1,260	3,880
January	13.8	.58	1.85	2.86	57.5	176
February	7.8	.44	.924	1.43	25.9	79
March	19.4	.35	2.48	3.84	77.0	236
April	2.1	.11	.584	.904	17.5	54
May	28	.06	5.29	8.18	164	504
June	1.55	.44	.741	1.15	22.2	68
Fiscal year 1940-41	91	.06	2.72	4.21	994	3,050

Kokee ditch near Waimea

Location.- Suppressed weir control, lat. 22°06'25", long. 159°40'45", 1,000 feet west of road and 10⅜ miles north of Waimea. Altitude of gage, 3,310 feet (by barometer).

Records available.- September 1926 to June 1941.

Average discharge.- 14 years (1927-41), 18.0 million gallons a day (27.9 second-feet).

Extremes.- Maximum discharge during year, 74 million gallons a day (114 second-feet) Oct. 2 (gage height, 2.65 feet); no flow May 19, when water was shut out of ditch.
1926-41: Maximum discharge, 76 million gallons a day (118 second-feet) Mar. 26, 1938 (gage height, 2.69 feet); no flow occasionally, when water was shut out of ditch.

Remarks.- Records excellent except those for periods when clock was not running, which are fair. Kokee ditch diverts water at altitude 3,400 feet from all streams tributary to Waimea River west of Mohihi Stream for irrigation near Kekaha. Flow regulated by head gates.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	10.4	48	21	34.5	37	5.6	50	4.9	8.4	13.0	3.4	8.9
2	7.6	21.5	27.5	27	28.5	5.2	25	4.7	7.4	10.0	3.25	8.0
3	11.7	21	17.4	33	34	8.6	13	4.7	6.6	10.0	3.25	7.3
4	42	26	17.7	42	33	7.1	10	4.4	6.0	13.0	3.15	6.8
5	21.5	22.5	17.0	24.5	18.2	6.0	9.0	4.4	6.0	9.1	3.4	6.4
6	26.5	11.0	10.2	18.2	12.3	9.8	10	4.4	6.0	7.8	3.4	6.0
7	22	8.9	13.4	17.0	8.9	9.9	40	40	5.3	6.9	53	5.6
8	21.5	15.2	15.0	17.0	7.6	6.3	15	11	4.7	6.3	58	5.5
9	24.5	26.5	9.1	12.8	6.8	6.0	9.0	8.0	5.8	7.1	36	5.2
10	11.7	14.4	7.4	11.2	6.9	8.1	50	7.0	6.9	6.3	22	5.0
11	8.9	9.1	6.4	11.9	8.3	7.1	19.4	6.3	5.2	5.5	25	4.8
12	16.9	25.5	6.1	15.8	7.3	5.5	11.9	5.8	4.6	5.0	21	7.1
13	18.5	44	8.0	11.5	6.4	13.9	9.6	5.4	4.2	5.0	25.5	5.8
14	42	19.5	6.1	9.6	5.8	9.9	8.7	5.0	23.5	5.0	24.5	5.0
15	26.5	25	6.8	8.7	7.8	5.3	8.1	4.8	20.5	5.0	52	4.5
16	12.1	44	8.4	7.8	12.1	5.8	7.8	8.0	30	4.5	50	4.1
17	9.1	24.5	17.4	8.6	8.3	5.2	15.0	6.0	48	40	26	3.95
18	17.9	17.0	9.2	10	6.3	11.6	10.8	5.0	44	50	18.2	3.65
19	20.5	15.6	6.3	8.0	12.8	9.0	8.0	4.5	24.5	13.0	12.3	5.6
20	22	17.0	5.3	7.0	31	7.0	7.1	4.2	12.3	8.7	10.4	6.8
21	14.4	10.6	5.0	7.0	10.4	6.0	6.6	4.1	8.3	6.6	13.9	7.5
22	9.1	8.7	4.7	6.4	11.8	5.0	6.6	54	6.9	5.5	13.0	9.4
23	8.1	7.8	4.4	6.0	31.5	8.0	6.3	40	6.1	5.2	15.8	8.1
24	7.4	7.1	4.4	6.0	10.4	30	6.1	20	6.0	5.0	11.5	7.1
25	6.8	31.5	5.3	5.6	7.5	20	6.1	10	19.9	4.6	11.7	5.8
26	7.9	15.3	12.5	5.3	6.4	22	15.8	8.0	11.5	4.2	18.4	5.6
27	13.6	8.9	7.4	13.7	6.0	25	12.0	7.4	36	4.1	50	4.7
28	7.8	8.9	5.0	21	5.6	27	7.8	7.8	27.5	3.8	44	6.3
29	10.9	11.2	4.2	33.5	12.4	19	6.4	-	50	3.65	18.2	6.3
30	24	19.1	7.2	15.8	6.8	15	5.8	-	46	3.5	12.8	5.9
31	50	28.5	-	19.0	-	56	5.2	-	22	-	10.2	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	50	6.8	17.9	27.7	564	1,700
August	48	7.1	19.8	30.6	614	1,880
September	27.5	4.2	9.86	15.3	296	908
October	42	5.3	15.3	23.7	473	1,460
November	37	5.5	13.6	21.0	408	1,250
December	56	5.0	12.5	19.3	387	1,190
Calendar year 1940	58	1.0	15.9	24.6	5,830	17,880
January	50	5.2	13.6	21.0	422	1,290
February	54	4.1	10.7	16.6	300	920
March	50	4.2	16.8	26.0	520	1,600
April	50	3.5	9.25	14.3	277	851
May	58	3.15	21.8	33.7	674	2,070
June	9.4	3.65	6.03	9.33	181	555
Fiscal year 1940-41	58	3.15	14.0	21.7	5,110	15,660

Note.- Discharge for periods of no gage-height record, Oct. 16-23, Dec. 19 to Jan. 8, Jan. 30 to Mar. 5, Apr. 17, 18, computed on basis of records for stations on nearby streams.

Waiahulu Stream near Waimea

Location.- Crude masonry dam control, lat. 22°04'45", long. 159°39'15", in Waimea Canyon, half a mile upstream from confluence with Koaie Stream and 8½ miles north of Waimea. Altitude of gage, 890 feet (by barometer).
Drainage area.- 20.0 square miles.
Records available.- February to October 1916, October 1917 to June 1918, May 1925 to June 1941. July 1918 to November 1920 at same site (fragmentary and unreliable; unpublished).
Average discharge.- 16 years (1925-41), 28.0 million gallons a day (43.3 second-feet).
Extremes.- Maximum discharge during year, 2,480 million gallons a day (3,840 second-feet) Oct. 2 (gage height, 9.74 feet, from floodmarks), from rating curve extended above 400 million gallons a day; minimum, 7.3 million gallons a day (11.3 second-feet) Apr. 30. 1918, 1917-18, 1925-41: Maximum discharge, 2,550 million gallons a day (3,950 second-feet) Dec. 24, 1927 (gage height, 9.92 feet), from rating curve extended above 400 million gallons a day; minimum, 5.2 million gallons a day (8.0 second-feet) Nov. 4, 1927.
Remarks.- Records good except those from Sept. 11 to Jan. 22, which are poor. Kokee ditch diverts water above station for irrigation near Kekaha.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day

0.7	5.7	1.0	12.7	1.6	48	3.0	232
.8	7.7	1.2	21.5	2.0	86	4.0	465
.9	9.7	1.4	33	2.5	148		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	9.8	43	12.4	20	40	9.0	60	8.3	8.1	9.3	7.5	8.9
2	9.3	16.3	16.3	200	20	8.6	20	8.1	8.1	8.7	7.5	8.7
3	9.1	12.1	13.1	130	35	9.3	15	8.1	7.9	8.5	7.5	8.5
4	26	12.1	12.1	120	25	8.6	13	8.3	7.9	8.5	7.5	8.3
5	15.9	17.4	15.5	50	15	8.4	11	8.3	7.9	8.5	7.5	8.5
6	12.1	10.9	12.7	28	11	9.0	9.8	8.3	7.9	8.3	7.5	8.3
7	12.1	9.7	10.9	22	9.6	10	9.4	47	7.7	8.1	337	7.9
8	11.8	9.5	15.9	16	9.2	9.6	9.0	10.0	7.7	7.9	238	7.9
9	11.5	14.2	11.2	13	9.0	9.4	9.0	8.7	7.7	7.9	27.5	8.1
10	10.3	13.1	10.3	11	9.0	9.2	30	8.5	7.7	7.9	11.2	7.9
11	9.5	10.3	9.6	12	10	9.0	16	8.3	7.9	7.7	10.0	7.9
12	9.7	69	9.5	13	9.7	8.8	11	8.1	7.9	7.7	10.9	7.9
13	11.5	215	9.5	13	9.2	8.5	10	8.1	7.9	7.7	10.0	7.9
14	27	19.2	9.4	11	8.8	8.2	9.6	8.1	8.1	7.7	13.9	7.9
15	15.9	12.4	9.4	10	9.4	8.2	9.4	8.1	9.1	7.7	65	7.9
16	11.5	18.1	9.4	9.0	15	8.0	9.4	8.1	40	7.7	31.5	7.7
17	9.7	16.3	9.6	10	11	8.0	8.8	8.1	33.5	7.7	16.5	7.7
18	9.5	14.3	10	11	9.8	9.0	8.6	8.1	28.5	46	13.9	7.7
19	10.3	11.5	9.8	10	13	10	8.6	8.1	14.2	9.7	10.9	7.7
20	21	12.4	9.8	9.6	40	8.4	8.5	8.1	10.5	8.4	9.7	8.3
21	15.6	10.9	9.6	9.2	9.0	8.4	8.4	8.1	9.1	8.1	9.3	8.3
22	10.6	10.0	9.2	9.0	10	8.4	8.2	8.9	8.5	7.7	9.5	8.5
23	10.3	9.7	9.0	9.0	25	8.4	8.1	14.2	8.3	7.7	9.5	8.3
24	10.0	9.5	8.8	10	11	40	8.3	13.1	8.1	7.7	10.6	8.3
25	9.7	12.2	9.0	9.0	10	20	9.0	9.7	8.3	7.7	9.3	8.7
26	9.7	13.9	10	8.6	9.6	13	22.5	8.9	9.1	7.7	9.1	8.3
27	10.3	10.9	9.4	10	9.4	15	12.7	8.6	12.2	7.7	69	8.3
28	9.7	10.0	9.0	15	9.4	13	10.0	8.3	12.1	7.7	78	8.1
29	9.7	10.0	8.8	35	9.4	11	9.3	-	156	7.5	14.5	7.9
30	33	10.6	8.4	15	9.0	13	8.7	-	23	7.5	10.3	7.7
31	159	19.9	-	16	-	70	8.5	-	11.5	-	9.3	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	159	9.1	17.8	27.5	551	1,690
August	215	9.5	22.1	34.2	684	2,100
September	16.5	8.4	10.5	16.2	316	969
October	200	8.6	27.8	43.0	861	2,640
November	40	8.8	14.4	22.3	430	1,320
December	70	8.0	13.8	19.8	398	1,220
Calendar year 1940	591	8.0	23.3	36.1	8,530	26,180
January	60	8.1	12.9	20.0	400	1,230
February	47	8.1	10.2	15.8	294	873
March	156	7.7	16.5	25.5	512	1,570
April	46	7.5	9.29	14.4	279	855
May	337	7.5	34.8	53.8	1,080	3,310
June	8.9	7.7	8.15	12.8	244	748
Fiscal year 1940-41	337	7.3	16.5	25.5	4,040	12,520

Note.- Discharge for period of no gage-height record, Sept. 11 to Jan. 22, computed on basis of records for stations on nearby streams.

Kekaha ditch at camp 1, near Waimea

Location.- Lat. 22°02'35", long. 159°38'30", in Waimea Canyon, a quarter of a mile downstream from lower intake and 6¼ miles northeast of Waimea. Altitude of gage, 520 feet (by barometer).

Records available.- November 1907 to June 1941.

Average discharge.- 22 years (1918-24, 1925-41), 37.0 million gallons a day (57.2 second-feet).

Extremes.- Maximum discharge during year, 70 million gallons a day (108 second-feet) probably Aug. 13 (gage height, 3.97 feet); minimum, 2.1 million gallons a day (3.2 second-feet) Oct. 2.
1907-41: Maximum discharge, 71 million gallons a day (110 second-feet) Apr. 25, 1928 (gage height, 4.33 feet); no flow occasionally, when water was shut out of ditch.

Remarks.- Records excellent except those for periods when clock was not running, which are poor. Ditch diverts water from Waiahulu Stream and Koaie River, 3 miles above lower intake, for hydroelectric plant. Lower intake is on Waimea River 300 feet downstream from power house and 1 mile downstream from confluence with Waialae River. Flow regulated by head gates. Water used for irrigation in vicinity of Kekaha.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	28.5	52	50	55	50	23.5	41	23.5	22.5	28.5	19	28
2	27.5	49	50	31	48	23.5	41	22.5	21.5	24.5	19	27
3	27.5	40	45	29	53	23.5	32	22.5	20.5	23.5	19	26
4	50	50	40	31	53	23.5	32	22.5	20.5	23.5	19	26
5	50	40	40	26.5	53	23.5	28.5	22.5	20.5	25.5	20	25
6	50	35	35	21.5	45	24.5	26.5	21.5	20.5	23.5	45	24
7	50	32	40	18.4	34	27.5	25.5	38	20.5	22.5	50	23
8	48	45	36	16.4	29.5	25.5	25.5	24.5	19.4	21.5	52	23
9	48	50	34	19.4	27.5	26.5	27.5	28.5	20.5	20.5	40	23
10	36	35	32	21.5	28.5	25.5	41	21.5	20.5	20.5	36	22.5
11	29.5	30	31	24.5	27.5	24.5	36	20.5	21.5	20.5	33	22
12	32	50	29.5	27.5	26.5	23.5	29.5	21.5	20.5	20.5	31	32
13	43	52	28.5	27.5	25.5	23.5	26.5	21.5	20.5	19.4	36	27.5
14	50	40	26.5	28.5	24.5	23.5	24.5	26.5	21.5	19.4	45	24.5
15	53	50	26.5	28.5	27	22.5	23.5	25.5	24.5	19.4	50	22.5
16	45	52	25.5	27.5	48	22.5	22.5	23.5	36	19.4	45	20.5
17	31	50	26.5	27.5	37.5	21.5	22.5	22.5	50	19.4	36	19.4
18	27.5	50	26.5	27.5	31	26.5	23.5	21.5	50	44	30	19.4
19	29.5	40	24.5	26.5	38	29.5	22.5	21.5	50	28.5	28	34
20	45	32	24.5	26.5	41	24.5	22.5	21.5	36	23.5	26	36
21	50	29	23.5	26.5	36	23.5	22.5	22.5	26.5	22.5	30	32
22	34	27	23.5	26.5	32	22.5	22.5	32	23.5	21.5	32	28.5
23	31	26	22.5	28.5	41	22.5	22.5	50	22.5	20.5	33	30.5
24	27.5	25	22.5	31	32	23.5	22.5	48	22.5	20.5	28	45
25	25.5	50	23.5	26.5	28.5	25.5	28.5	34	28.5	20.5	25	41
26	26.5	35	46	24.5	26.5	31	36	27.5	27.5	20	45	38.5
27	29.5	30	36	28	25.5	36	41	24.5	41	20	50	26.5
28	32	35	28.5	45	24.5	41	32	22.5	43	20	52	24.5
29	30	45	24.5	50	24.5	43	28.5	-	53	19	50	25.5
30	40	50	25	50	24.5	45	25.5	-	50	19	36	27.5
31	52	50	-	41	-	45	24.5	-	38.5	-	30	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	53	25.5	38.0	58.8	1,180	3,620
August	52	25	41.2	63.7	1,280	3,920
September	50	22.5	31.5	48.7	945	2,900
October	55	18.4	29.7	46.0	921	2,830
November	53	24.5	34.7	53.7	1,040	3,190
December	45	21.5	27.3	42.2	846	2,600
Calendar year 1940	55	18.4	34.1	52.8	12,490	38,320
January	41	22.5	28.4	43.9	880	2,700
February	50	20.5	26.0	40.2	728	2,240
March	53	19.4	29.4	45.5	911	2,800
April	44	19	22.4	34.7	672	2,060
May	52	19	35.0	54.2	1,090	3,350
June	45	19.4	27.4	42.4	822	2,520
Fiscal year 1940-41	55	18.4	31.0	48.0	11,320	34,720

Note.- Discharge for periods of no gage-height record, July 28 to Sept. 11, Apr. 25 to June 11, computed on basis of records for stations on nearby streams and ditches.

Hanapepe River at Koula, near Eleele

Location.- Lat. 21°57'20", long. 159°33'15", just downstream from confluence with Manuahi Stream and 4 miles northeast of Eleele. Altitude of gage, 150 feet (by barometer).
Drainage area.- 18.8 square miles.
Records available.- May 1917 to January 1921, December 1926 to June 1941. August 1910 to December 1916 at site half a mile upstream; records not equivalent.
Average discharge.- 17 years (1917-20, 1927-41), 54.6 million gallons a day (84.5 second-feet).
Extremes.- Maximum discharge during year, 5,220 million gallons a day (8,080 second-feet) Oct. 2 (gage height, 8.29 feet), from rating curve extended above 2,400 million gallons a day by test on model of station site; minimum, 6.5 million gallons a day (10.1 second-feet) Feb. 2, Mar. 6, Apr. 27.
1910-21, 1926-41: Maximum discharge, 5,550 million gallons a day (8,590 second-feet) Mar. 19, 1937 (gage height, 8.59 feet), from rating curve extended above 2,400 million gallons a day by test on model of station site; minimum, 6.2 million gallons a day (9.6 second-feet) Oct. 4, 5, 1939.
Remarks.- Records good except those for period when clock was not running, which are poor. Hanapepe ditch diverts water from river 3 miles above station for irrigation in vicinity of Makaweli.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.2	7.0	1.0	60	2.5	395
.3	10.2	1.3	98	3.0	605
.6	25.5	1.6	148	3.5	860
.8	41	2.0	238		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	9.2	364	a130	23	30.5	9.2	9.6	7.6	7.3	7.0	7.6	9.2
2	8.0	85	a100	473	118	8.6	8.3	7.6	7.0	7.0	7.6	9.6
3	10.9	73	a90	301	105	12.6	60	7.6	7.0	8.0	7.6	8.6
4	38	66	a100	206	187	9.9	14.4	7.6	7.3	19.1	7.6	8.3
5	17.9	52	a60	52	62	11.4	8.6	7.8	7.6	11.9	14.0	8.9
6	22	29	a40	32	30.5	10.6	11.0	7.6	7.0	16.8	7.6	8.6
7	28.5	28.5	112	27.5	20	8.6	13.5	7.6	7.3	7.6	9.9	29
8	20	104	54	24.5	16.3	8.0	9.3	7.3	7.6	7.6	19.1	43
9	12.7	188	40	19.4	13.5	8.9	19.2	7.3	7.6	7.5	8.6	10.6
10	16.5	74	37.5	16.8	15.2	8.9	26	7.3	7.3	7.8	11.3	8.6
11	12.7	50	25	13.9	14.3	8.3	9.6	7.3	9.6	7.6	32	13.1
12	30.5	754	35	12.7	11.0	8.3	8.3	7.0	9.2	7.6	24	27
13	18.5	616	23.5	12.2	10.2	8.3	7.6	8.3	7.3	8.0	26	15.4
14	64	99	20.5	11.8	11.1	8.0	8.0	77	7.6	8.0	14.7	9.2
15	20.5	88	17.4	11.8	95	8.0	8.0	12.5	7.6	7.3	17.4	8.6
16	11.0	159	14.8	11.8	62	8.0	8.3	8.3	58	7.6	21	8.3
17	8.9	154	13.9	11.4	23	8.0	8.3	8.0	44	9.6	75	8.3
18	9.2	a90	12.7	11.4	23	9.3	8.0	7.6	62	9.6	116	8.3
19	47	a100	11.8	10.6	54	9.8	8.0	8.6	47	7.6	42	24
20	360	a60	11.0	21.5	44	8.3	7.6	9.2	13.9	8.0	14.8	11.4
21	38	a40	11.0	13.5	18.4	8.3	7.6	12.9	9.6	7.6	12.0	29.5
22	19.5	a30	10.2	10.6	14.3	8.0	7.6	33	34.5	7.0	8.9	11.4
23	14.4	a25	10.2	57	14.8	8.0	7.6	24	9.9	7.0	12.0	45
24	10.6	a22	32	13.3	11.8	8.0	7.6	13.1	10.2	8.8	9.4	48
25	9.6	a150	20	9.6	10.6	7.6	10.4	8.6	12.8	7.3	13.1	149
26	9.6	a40	124	10.2	9.9	7.3	42	8.0	8.3	7.0	8.6	38
27	9.6	a42	18.0	19.9	9.9	7.6	8.9	7.6	8.6	7.3	39	17.4
28	13.2	a50	13.1	20.5	9.6	19.2	8.3	7.3	9.2	7.3	74	12.7
29	50	a70	11.0	101	10.2	28	8.0	-	22	7.6	17.0	20.5
30	82	a150	10.2	42	9.2	16.0	7.8	-	12.1	7.6	11.4	15.2
31	607	a250	-	21	-	10.6	7.6	-	7.6	-	9.2	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	607	8.0	52.6	81.4	1,630	5,000
August	754	22	132	204	4,100	12,590
September	150	10.2	40.3	62.4	1,210	3,710
October	473	9.6	52.4	81.1	1,630	4,990
November	187	9.2	35.5	54.9	1,060	3,270
December	28	7.3	9.99	15.5	310	950
Calendar year 1940	754	6.8	41.0	63.4	14,990	46,020
January	60	7.6	12.4	19.2	384	1,180
February	77	7.0	12.3	19.0	343	1,050
March	62	7.0	15.6	24.1	484	1,490
April	19.1	7.0	8.50	13.2	255	783
May	116	7.6	22.5	34.8	698	2,140
June	149	8.3	22.1	34.2	663	2,030
Fiscal year 1940-41	754	7.0	35.0	54.2	12,770	39,180

Peak discharge.- July 20 (9:30 a.m.) 1,950 m.g.d. (3,030 sec.-ft.); July 31 (9:30 a.m.) 1,380 m.g.d. (2,140 sec.-ft.); Aug. 12 (1 p.m.) 3,990 m.g.d. (6,160 sec.-ft.); Aug. 12 (11 p.m.) 2,220 m.g.d. (3,430 sec.-ft.); Aug. 13 (1 p.m.) 2,290 m.g.d. (3,540 sec.-ft.); Oct. 2 (4 p.m.) 5,220 m.g.d. (8,080 sec.-ft.).
a No gage-height record; discharge computed on basis of records for stations on nearby streams.

Hanapepe ditch at Koula, near Eleele

Location.- Lat. 21°57'10", long. 159°33'00", at first flume downstream from siphon at Koula, 3 miles downstream from intake and 4 miles north of Eleele. Altitude of gage, 490 feet (by barometer).

Records available.- January 1910 to June 1921, March 1927 to June 1941.

Average discharge.- 24 years (1910-20, 1927-41) 25.8 million gallons a day (39.9 second-feet).

Extremes.- Maximum discharge during year, 35.5 million gallons a day (54.9 second-feet) Aug. 12, Oct. 2 (gage height, 3.15 feet); no flow at times, when water was shut out of ditch.

1910-21, 1927-41: Maximum discharge, 38.5 million gallons a day (59.6 second-feet) Mar. 19, 1937 (gage height, 3.18 feet); ditch dry occasionally, owing to closing of head gates.

Remarks.- Records good except those for period of no gage-height record, which are poor. Ditch diverts water from Hanapepe River 3 miles above station for irrigation in vicinity of Makaweli. Flow regulated by head gates.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	23	31.5	31.5	31.5	27	23	20	17.6	18.8	20	16.5	20
2	23	31.5	31.5	31.5	27	23	20	17.6	18.8	20	16.5	18.8
3	27	31.5	31.5	34	27	25	25	17.6	18.8	20	16.5	18.8
4	31.5	31.5	34	18.9	27	25	25	17.6	20	24.5	16.5	17.6
5	31.5	29	31.5	23	27	25	21.5	17.6	18.8	23	19.4	18.8
6	31.5	31.5	31.5	25	27	23	27	17.6	18.8	15.2	16.5	17.6
7	31.5	31.5	31.5	27	27	23	25	17.6	17.6	20	20.5	23
8	31.5	24.5	31.5	27	27	23	21.5	17.6	17.6	18.8	25	25
9	29	31.5	31.5	29	27	23	25	17.6	18.8	18.8	18.8	21.5
10	29	31.5	31.5	27	27	23	27	17.6	17.6	17.6	19.6	20
11	29	31.5	31.5	27	27	21.5	21.5	17.6	20.5	17.6	25	23
12	31.5	31.5	31.5	27	25	21.5	20	17.6	18.8	17.6	27	25
13	31.5	31.5	31.5	25	25	21.5	20	19.8	18.8	18.8	27	23
14	34	31.5	31.5	25	27	20	20	27	17.6	a18	23	20
15	31.5	31.5	31.5	25	27	20	18.8	23	17.6	a17	25	18.8
16	29	31.5	31.5	25	27	20	18.8	20	22.5	a30	25	18.8
17	27	31.5	31.5	25	27	20	18.8	18.8	25.5	a31	25	18.8
18	27	31.5	31.5	23	27	21.5	18.8	18.8	29	a27	25	18.8
19	31.5	31.5	31.5	23	29	21.5	18.8	21	27	a23	23	24
20	34	31.5	31.5	27	27	20	18.8	21.5	25	a20	25	21.5
21	31.5	31.5	31.5	27	27	20	18.8	21.5	23	18.8	19.4	25
22	31.8	31.5	29	25	27	20	18.8	19.0	27	17.6	20	21.8
23	23	31.5	29	29	27	20	18.8	27	23	17.8	21.5	24
24	27	31.5	31.5	27	25	20	18.8	25	25	18.8	20	27
25	27	31.5	31.5	25	25	18.8	21	21.5	25	17.6	21.5	29
26	27	31.5	31.5	25	25	20	25	20	23	16.5	20	29
27	25	31.5	31.5	26	25	21.5	20	20	21.5	16.5	25	27
28	27	31.5	31.5	27	25	25	20	20	22.6	16.5	27	25
29	29	31.5	31.5	27	25	25	18.8	-	27	16.5	25	25
30	31.5	31.5	29	27	23	25	18.8	-	25	16.5	21.6	25
31	34	31.5	-	27	-	23	18.8	-	21.5	-	20	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	34	23	29.3	45.3	908	2,790
August	31.5	29	31.2	48.3	967	2,970
September	34	29	31.3	48.4	940	2,880
October	34	18.9	26.4	40.8	817	2,510
November	29	23	26.4	40.8	792	2,430
December	26	18.8	22.0	34.0	682	2,090
Calendar year 1940	34	18.8	27.2	42.1	9,950	30,520
January	27	18.8	20.9	32.3	649	1,990
February	27	17.6	19.8	30.6	555	1,700
March	29	17.6	21.7	33.6	671	2,060
April	31	15.2	19.7	30.5	591	1,810
May	27	16.5	21.8	33.7	677	2,080
June	29	17.6	22.3	34.5	670	2,060
Fiscal year 1940-41	34	15.2	24.4	37.8	8,920	27,370

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

Kuia Stream near Koloa

Location.- Lat. 21°58'55", long. 159°29'10", 5.6 miles north of Koloa and 7.3 miles west of Lihue. Altitude of gage, 1,050 feet (by barometer).

Drainage area.- 0.4 square mile.

Records available.- November 1939 to July 1941 (discontinued).

Extremes.- Maximum discharge during year, 768 million gallons a day (1,190 second-feet) Aug. 12 (gage height, 3.61 feet), from rating curve extended above 7.5 million gallons a day; minimum, 0.60 million gallons a day (0.93 second-foot) May 1.
1939-41: Maximum discharge, that of Aug. 12, 1940; minimum, that of May 1, 1941.

Remarks.- Records good except those for periods when clock was not running, which are fair. No diversions.

Discharge, in million gallons, 1940-41

1940-41

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.80	6.9	2.75	1.78	1.55	0.88	0.81	1.01	0.88	1.01	0.64	0.81
2	.80	3.25	4.9	11.3	6.1	.94	.75	1.01	.81	1.01	.68	.75
3	.98	3.0	1.80	6.3	3.2	1.29	8.4	.94	.81	1.08	.68	.75
4	2.45	2.6	5.1	4.4	5.1	1.01	1.21	.94	.88	1.21	.75	.68
5	.98	2.25	4.6	1.66	1.76	1.08	.88	.94	a.88	1.01	.81	.75
6	1.20	1.70	1.80	1.55	1.27	1.01	1.21	.94	a.88	1.01	.68	.68
7	1.78	1.70	4.1	1.55	1.21	.94	1.08	.94	a.88	1.01	1.68	2.05
8	1.33	5.5	1.84	1.55	1.08	.94	.81	.94	.88	1.01	2.25	2.5
9	1.04	4.6	2.05	1.21	1.08	1.08	2.1	.94	.94	.94	.94	1.77
10	.98	2.25	1.89	1.14	1.08	.94	1.21	.94	.88	.94	1.16	.88
11	.86	1.80	1.30	1.08	1.08	.94	.88	.94	1.08	1.01	2.55	1.22
12	1.30	4.0	1.20	1.08	1.01	.94	.88	.88	.94	1.01	1.34	1.25
13	1.48	4.6	1.10	1.01	.94	.94	.88	1.25	.94	1.01	1.66	.94
14	2.0	1.70	1.10	a.94	1.01	.94	.88	3.2	.94	.94	1.14	.88
15	1.30	1.91	1.04	a.94	2.2	.94	.88	1.08	.94	.88	1.45	.88
16	.98	3.45	.98	a.99	1.66	.94	.88	1.01	3.75	.88	1.55	.81
17	.86	3.8	1.04	a.90	1.14	.88	.94	1.01	2.65	1.08	2.55	.81
18	1.10	4.0	.98	a.90	2.5	1.01	.94	1.01	4.1	1.01	3.35	.88
19	2.45	3.25	.98	a.88	2.9	.88	.94	1.21	2.6	1.75	3.3	1.15
20	7.4	1.60	.98	a1.55	1.55	.88	.94	1.73	1.27	1.08	1.58	1.14
21	1.60	1.20	.98	a1.00	1.14	.88	.94	1.56	1.21	.88	1.01	1.66
22	1.30	1.10	.98	a1.00	1.14	.88	1.01	3.3	1.14	.81	.88	1.08
23	1.10	1.10	.92	1.66	1.08	.81	1.01	2.1	1.08	.81	1.00	1.95
24	.98	1.40	1.95	1.01	1.08	.81	.94	1.27	1.66	9.4	.81	2.1
25	1.20	3.6	1.45	.94	1.01	.81	1.18	1.08	1.21	.81	.81	6.4
26	1.10	1.50	3.6	1.21	1.01	.81	2.05	1.01	1.27	.68	.88	1.55
27	.98	1.74	1.04	2.25	.94	.88	1.01	.88	1.14	.75	2.25	1.14
28	1.62	1.40	.98	2.8	1.01	1.27	1.01	.88	1.55	.68	3.4	1.14
29	2.85	2.15	.92	3.1	.94	1.14	.94	-	2.65	.75	1.08	1.84
30	3.6	3.05	1.38	1.55	.88	.94	.94	-	1.27	.68	.88	2.0
31	10.2	2.6	-	1.65	-	.88	.94	-	1.14	-	.81	-

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

1941

Day	July	Day	July	Day	July	Day	July
1	9.3	5	1.45	9	1.55	13	1.08
2	2.3	6	1.21	10	2.3	14	1.01
3	2.55	7	1.14	11	1.34	15	1.01
4	2.95	8	1.66	12	1.14	16	1.21

Monthly discharge, in million gallons, 1940-41

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	10.2	0.80	1.93	3.02	60.6	186
August	6.9	1.10	2.75	4.22	84.7	260
September	5.1	.92	1.86	2.88	55.8	171
October	11.3	.88	1.96	3.03	60.8	187
November	6.1	.88	1.66	2.87	49.6	152
December	1.29	.81	.952	1.47	29.5	91
Calendar year 1940	13.4	.75	1.72	2.66	631	1,940
January 1941	8.4	.75	1.27	1.96	39.5	121
February	5.5	.88	1.25	1.93	34.9	107
March	4.1	.81	1.40	2.17	43.2	133
April	2.4	.68	1.01	1.56	30.2	93
May	3.4	.64	1.44	2.23	44.6	137
June	6.4	.68	1.40	2.17	42.1	129
Fiscal year 1940-41	11.3	.64	1.58	2.44	575	1,770
July 1-16, 1941	6.9	1.01	2.14	3.31	34.2	105

Kamooloa Stream near Koloa

Location.- Lat. 21°59'40", long. 159°28'40", 6.3 miles north of Koloa and 7 miles west of Lihue. Altitude of gage, 1,050 feet (by barometer).

Drainage area.- 1.3 square miles.

Records available.- November 1939 to July 1941 (discontinued).

Extremes.- Maximum discharge during year, 740 million gallons a day (1,140 second-feet) Aug. 12 (gage height, 5.15 feet), from rating curve extended above 8.8 million gallons a day; minimum, 0.65 million gallons a day (1.01 second-feet) Feb. 7-9, 12.
1939-41: Maximum discharge, that of Aug. 12, 1940; minimum, that of Feb. 7-9, 12, 1941.

Remarks.- Records good. No diversions above station.

Discharge, in million gallons, 1940-41

1940-41

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.45	30.5	17.1	7.5	3.96	1.75	1.35	0.86	1.07	1.45	1.00	1.75
2	2.2	9.3	28	42	24	1.65	1.28	.86	1.00	1.35	1.00	1.65
3	3.1	9.1	8.0	27.5	15.5	3.35	46	.79	1.00	1.35	1.00	1.45
4	7.6	9.0	36	16.8	24	2.4	3.35	.79	1.14	3.35	1.00	1.35
5	4.1	7.4	23	5.2	5.2	2.5	1.85	.79	1.00	1.55	1.07	1.65
6	4.8	4.6	7.5	4.8	3.55	1.95	3.7	.72	.93	1.35	1.00	1.28
7	7.5	7.4	14.1	4.5	3.05	1.65	2.65	.72	.79	1.21	2.1	7.7
8	5.4	19.5	5.8	5.3	2.7	1.55	1.65	.72	.79	1.21	6.4	14.9
9	3.6	16.9	6.0	4.2	2.45	2.7	6.6	.72	1.00	1.14	2.0	5.1
10	4.4	7.0	5.9	4.1	2.36	1.85	2.85	.72	.86	1.07	2.9	2.15
11	3.4	5.0	4.4	3.3	2.25	1.65	1.55	.72	2.45	1.07	7.8	3.7
12	8.9	86	4.7	2.95	2.15	1.45	1.35	.72	1.21	1.07	5.3	4.3
13	5.9	25	4.0	2.85	1.95	1.35	1.28	1.00	.93	1.28	5.1	2.45
14	10.3	7.2	3.55	2.6	2.4	1.35	1.21	24	.86	1.21	2.6	1.95
15	5.7	8.6	3.3	2.6	15.0	1.35	1.21	2.55	.86	1.07	2.7	1.76
16	4.0	18.8	3.05	2.45	8.7	1.28	1.14	1.45	17.0	1.00	4.3	1.55
17	3.2	16.8	3.75	2.45	3.55	1.28	1.14	1.21	8.4	1.34	9.7	1.45
18	4.4	20.5	2.95	2.35	10.0	1.79	1.07	1.07	14.0	1.45	15.1	1.45
19	11.6	19.5	2.7	2.25	11.4	1.45	1.07	2.45	9.8	3.95	9.6	3.3
20	34.5	7.9	2.6	3.0	4.7	1.28	1.00	5.2	2.95	2.65	5.2	2.1
21	4.4	5.5	2.45	2.45	2.95	1.28	.93	2.45	2.15	1.65	2.7	5.4
22	3.55	4.7	2.35	2.65	2.7	1.21	1.00	6.1	2.35	1.21	2.15	1.95
23	2.85	4.7	2.35	10.8	3.05	1.21	1.00	4.6	1.65	1.07	2.4	5.9
24	2.45	5.5	4.2	2.45	2.26	1.21	1.00	2.6	3.8	3.05	1.75	5.4
25	2.7	15.8	5.1	1.85	2.15	1.14	1.28	1.65	3.5	1.35	1.65	22
26	2.6	5.0	17.2	2.15	2.15	1.14	8.8	1.35	1.95	1.14	1.55	5.0
27	2.5	5.0	5.2	5.6	2.05	1.28	1.21	1.21	1.75	1.21	8.6	3.3
28	4.4	4.5	2.85	7.6	1.95	4.6	1.07	1.14	2.7	1.07	18.1	3.2
29	12.3	8.3	2.45	14.3	2.25	3.25	1.00	-	5.8	1.28	3.2	6.0
30	41	15.9	3.3	5.2	1.85	2.1	1.00	-	2.6	1.07	2.25	4.3
31	59	11.2	-	4.1	-	1.85	.93	-	1.75	-	1.95	-

1941

Day	July	Day	July	Day	July	Day	July	Day	July
1	38.5	5	4.0	9	3.6	13	2.15	17	6.0
2	6.9	6	3.2	10	6.7	14	1.95	18	2.25
3	6.7	7	2.7	11	3.05	15	1.85	19	4.2
4	8.4	8	4.2	12	2.35	16	3.3		

Monthly discharge, in million gallons, 1940-41

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July 1940	59	2.2	8.86	13.7	275	843
August	86	4.5	13.6	21.0	422	1,290
September	36	2.35	7.73	12.0	232	712
October	42	1.85	6.70	10.4	208	638
November	24	1.85	6.74	8.88	172	528
December	4.6	1.14	1.80	2.79	56.0	172
Calendar year 1940	86	1.14	6.31	9.76	2,310	7,080
January 1941	46	.93	3.31	5.12	103	315
February	24	.72	2.47	3.82	69.2	212
March	17.0	.79	3.15	4.89	98.0	301
April	3.95	1.00	1.51	2.34	46.2	139
May	18.1	1.00	4.30	6.65	135	409
June	22	1.88	4.18	6.47	125	385
Fiscal year 1940-41	86	.72	5.31	8.22	1,940	5,940
July 1-19, 1941	38.5	1.85	5.89	9.11	112	344

South Fork of Wailua River near Lihue

Location.- Lat. 22°02'10", long. 159°22'55", a third of a mile upstream from Wailua Falls and 5 miles north of Lihue. Altitude of gage, 230 feet (by barometer).
Drainage area.- 22.4 square miles.
Records available.- December 1911 to June 1941. December 1911 to November 1918, at site a third of a mile upstream.
Average discharge.- 19 years (1921-24, 1925-41), 68.3 million gallons a day (106 second-feet).
Extremes.- Maximum discharge during year, 4,500 million gallons a day (6,960 second-feet) Aug. 12 (gage height, 7.60 feet), from rating curve extended above 1,550 million gallons a day by test on model of station site; minimum, 2.1 million gallons a day (3.2 second-feet) Mar. 7.
1911-41: Maximum discharge, 29,000 million gallons a day (44,900 second-feet) Jan. 16, 1920 (gage height, 11.25 feet), from rating curve extended above 9,000 million gallons a day; minimum, 1.2 million gallons a day (1.9 second-feet) May 3, 1926.
Remarks.- Records good. Lihue and Hanamaulu ditches divert water above station, at altitudes of 600 and 500 feet, respectively, for irrigation in the vicinity of Lihue.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.8	1.75	1.8	26	4.0	640
.9	2.4	2.2	56	4.5	950
1.0	3.3	2.6	112	5.0	1,340
1.2	6.0	3.0	200		
1.5	13.0	3.5	380		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.2	358	72	88	5.0	17.9	34	2.75	2.7	6.0	2.55	2.6
2	3.1	76	167	509	71	12.7	21.5	2.6	9.6	3.2	2.5	2.75
3	3.55	66	45	418	72	15.9	288	2.6	4.0	2.95	2.85	3.05
4	8.7	60	193	303	82	24.5	70	2.65	2.75	14.9	2.4	2.6
5	4.5	30	289	118	50	23.5	40	2.65	2.4	7.1	4.8	2.6
6	3.8	8.0	83	92	40	23.5	37.5	2.6	2.2	5.2	3.55	2.35
7	3.65	7.3	133	83	30	22	20	2.65	2.15	4.6	3.9	2.35
8	7.0	25	84	86	31.5	23.5	3.4	2.35	2.2	3.3	6.1	77
9	3.85	183	46	76	29.5	16.5	8.0	2.65	2.35	3.55	5.4	9.5
10	3.05	67	21	75	42	4.8	7.9	2.65	2.25	5.55	3.2	5.0
11	3.05	40	16.9	66	28.5	3.55	3.3	3.05	2.75	3.05	4.7	3.65
12	3.95	977	25.5	60	6.0	2.85	2.6	3.05	2.95	3.3	3.95	3.55
13	4.9	584	51	54	4.4	2.65	2.35	2.95	2.65	3.05	3.4	3.2
14	27.5	182	54	36.5	3.9	2.6	2.75	113	2.75	3.4	3.2	2.65
15	5.4	134	43	8.3	29.5	2.5	2.65	9.5	2.85	3.8	3.3	2.5
16	3.9	182	9.2	7.3	35.5	2.4	2.75	3.3	14.2	3.8	3.3	2.4
17	3.55	231	5.9	6.7	30	2.35	3.05	2.75	15.5	3.9	11.7	2.4
18	3.3	246	4.8	6.2	23.5	2.25	3.05	2.6	13.2	4.6	23	2.5
19	16.4	296	4.1	5.8	20	2.35	2.65	2.65	44	3.65	32.5	2.6
20	165	160	4.1	6.2	13.5	2.4	2.65	2.6	25	5.6	3.3	3.15
21	10.7	104	4.1	6.0	4.5	2.5	3.1	2.65	11.3	3.65	2.4	3.2
22	4.0	100	4.1	5.4	3.8	2.4	3.1	14.7	79	3.2	2.15	3.2
23	3.4	79	4.0	63	3.9	2.6	3.2	23	34.5	3.2	2.65	2.85
24	3.1	71	4.0	6.6	3.55	3.2	3.2	25	24.5	3.6	3.1	9.6
25	3.4	173	3.9	4.5	3.3	2.5	3.4	28.5	32	3.1	2.35	35
26	3.65	62	43	4.5	3.4	2.6	6.7	11.3	27	3.1	2.6	6.0
27	4.2	28	5.0	5.1	14.9	3.75	4.1	5.4	23.5	2.6	3.1	2.95
28	3.55	23.5	3.65	5.8	13.3	4.5	3.4	3.1	17.5	2.5	5.0	2.75
29	7.0	29	3.55	40	15.4	5.6	2.95	-	20	2.65	4.4	2.75
30	22	29	3.9	65	19.7	15.3	3.05	-	25	2.6	3.05	2.85
31	435	107	-	6.0	-	41	2.95	-	8.1	-	2.75	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	435	3.05	25.2	39.0	781	2,400
August	977	7.3	152	235	4,720	14,480
September	289	3.55	47.6	73.6	1,430	4,380
October	509	4.5	74.7	116	2,320	7,110
November	82	3.3	24.5	37.9	734	2,250
December	41	2.25	9.57	14.8	297	910
Calendar year 1940	3,140	2.25	52.9	81.8	19,370	59,380
January	288	2.35	19.3	29.9	597	1,830
February	113	2.6	10.2	15.8	286	878
March	79	2.15	14.9	23.1	461	1,410
April	14.9	2.5	4.09	6.33	123	377
May	32.5	2.15	5.26	8.14	163	501
June	77	2.35	6.98	10.8	210	643
Fiscal year 1940-41	977	2.15	33.2	51.4	12,120	37,170

Peak discharge.- Aug. 12 (2:45 p.m.) 4,500 m.g.d. (6,960 sec.-ft.); Aug. 12 (9:15 p.m.) 1,420 m.g.d. (2,200 sec.-ft.); Oct. 2 (4:15 p.m.) 2,550 m.g.d. (3,950 sec.-ft.); Oct. 3 (10:30 p.m.) 1,100 m.g.d. (1,700 sec.-ft.).

North Fork of Wailua River at altitude 650 feet, near Lihue

Location.- Lat. 22°03'50", long. 159°26'20", 1¼ miles upstream from intake of Kanaha ditch and 7⅞ miles northwest of Lihue. Altitude of gage, 650 feet (from topographic map).
Drainage area.- 6.6 square miles.
Records available.- August 1910 to June 1941. December 1910 to September 1914, at site 300 feet downstream from confluence of main and east branches; records not equivalent.
Average discharge.- 20 years (1921-41), 52.0 million gallons a day (80.5 second-feet).
Extremes.- Maximum discharge during year, 2,400 million gallons a day (3,710 second-feet) Oct. 2 (gage height, 7.12 feet), from rating curve extended above 600 million gallons a day on basis of slope-area determination of 2,250 million gallons a day; minimum, 1.20 million gallons a day (1.86 second-feet) Mar. 13.
1910-41: Maximum discharge, 3,720 million gallons a day (5,760 second-feet) Mar. 19, 1937 (gage height, 8.67 feet); minimum, 0.75 million gallons a day (1.16 second-feet) Sept. 3, 1938.
Remarks.- Records fair. Since 1925 Hanalei tunnel has discharged its water into river, and North Wailua and Stable Storm ditches have diverted water above station for irrigation in vicinity of Lihue.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

-0.8	1.20	-0.2	10.7	1.0	72
-.7	1.90	0	16.5	1.5	126
-.6	3.0	.3	28.5	2.0	198
-.4	6.1	.6	44	2.5	302

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	10.4	214	92	86	52	24	47	1.55	21.5	25.5	1.76	8.2
2	5.1	111	126	244	77	24	31.5	1.48	21	25	2.35	6.0
3	9.5	103	68	146	65	27	178	1.48	24	15.4	2.0	5.2
4	50	93	174	92	121	29	57	1.92	29	72	2.6	4.1
5	54	68	168	52	79	31	36	1.55	17.1	39.5	14.9	4.8
6	51	53	96	38.5	52	29	55	1.48	1.52	35.5	2.2	3.7
7	67	57	88	46	41	24.5	43	3.15	1.34	26.5	58	58
8	52	115	64	52	36	23	29.5	1.62	1.34	14.2	70	62
9	37.5	160	54	56	32	23	31.5	1.48	1.62	3.85	24	39.5
10	49	86	55	50	32	24	41	1.48	1.34	1.62	11.0	10.6
11	35.5	60	41	48	31.5	23.5	27	1.48	5.0	1.55	33.5	31.5
12	36	294	52	41	28.5	23	24.5	1.69	1.52	1.55	49	41
13	45	285	48	36	18.4	23	13.4	10.6	2.35	1.69	50	21
14	87	102	41	33	21	22.5	8.7	99	3.9	1.90	62	12.7
15	53	97	38.5	32	102	22.5	8.0	15.9	4.2	1.48	49	11.5
16	38.5	108	38	28	86	22.5	7.8	13.7	46	1.48	41	10.0
17	32	134	33.5	31.5	46	22.5	12.0	7.3	124	13.2	80	9.4
18	35	123	30	28	38.5	14.9	7.6	5.2	74	12.3	122	5.4
19	81	180	29.5	26	45	11.3	6.9	11.3	67	17.0	68	14.7
20	185	86	28	63	38	6.3	6.5	5.8	36.5	21	42	3.55
21	66	64	26.5	30	30.5	2.55	6.3	10.3	49	11.6	19.5	8.8
22	59	68	26	18.3	36	2.25	3.2	55	96	2.25	8.2	3.4
23	43	76	25.5	72	34	2.45	1.62	104	43	1.83	14.6	23
24	33	79	63	27	28.5	3.9	1.55	61	57	2.2	12.2	15.2
25	28	105	39	16.5	26	1.90	2.15	38	45	2.25	12.2	76
26	15.3	60	116	22.5	26	2.0	9.2	27	43	1.90	26.5	30.5
27	19.2	64	38.5	58	24.5	2.0	1.55	24	37	2.0	97	7.9
28	21	57	32	46	30	28	1.48	23.5	49	1.76	85	3.4
29	64	64	27.5	105	30	32	1.62	-	52	1.83	41	15.4
30	81	90	77	64	25	60	1.62	-	38	1.83	26.5	30.5
31	199	68	-	52	-	48	1.69	-	29.5	-	7.8	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	199	5.1	53.0	82.0	1,640	5,040
August	294	63	107	166	3,320	10,190
September	174	25.5	61.2	94.7	1,840	5,630
October	244	16.5	56.1	86.8	1,740	5,340
November	121	18.4	44.4	68.7	1,330	4,090
December	60	1.90	20.5	31.7	636	1,950
Calendar year 1940	415	1.41	49.5	76.6	18,110	55,560
January	178	1.48	22.7	35.1	704	2,160
February	104	1.48	19.0	29.4	532	1,630
March	124	1.34	33.0	51.1	1,020	3,140
April	72	1.48	12.1	18.7	362	1,110
May	122	1.76	36.6	56.6	1,130	3,480
June	76	3.4	19.2	29.7	575	1,760
Fiscal year 1940-41	294	1.34	40.6	62.8	14,830	45,520

Hanalei tunnel outlet near Lihue

Location.- Weir control, lat. 22°05'10", long. 159°28'15", at end of Hanalei tunnel, 2¼ miles downstream from intake on Kaapoko Stream and 9¾ miles northwest of Lihue. Altitude of gage, 1,210 feet (Lihue Plantation Co. levels).

Records available.- July 1932 to June 1941.

Extremes.- Maximum discharge during year, 69 million gallons a day (107 second-feet) Aug. 12 (gage height, 1.68 feet); minimum, 10.7 million gallons a day (16.6 second-feet) Oct. 9.

1932-41: Maximum discharge, 78 million gallons a day (121 second-feet) Mar. 19, 1937, Apr. 27, 1939 (gage height, 1.83 feet); no flow occasionally, when water was shut out of ditch.

Remarks.- Records excellent. Tunnel diverts water from Kaapoko Stream and Hanalei River and empties it into north branch of North Fork of Wailua River, from which it is later diverted and used for irrigation in vicinity of Lihue and Kapaa. Flow regulated by spillway and head gates.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	17.8	49	34.5	34.5	25.5	18.0	30	15.3	16.8	18.4	14.9	19.7
2	17.0	39	39	32.5	29	16.0	23.5	15.3	16.4	17.8	16.4	18.4
3	25.5	38.5	28	22	27	18.7	39	15.3	17.8	19.9	15.6	17.8
4	34.5	36.5	47	15.8	34.5	19.9	26.5	16.4	19.3	29.5	17.5	17.2
5	29.5	27.5	44	12.0	30	19.9	23.5	15.3	17.8	23.5	22	18.2
6	27.5	23.5	36.5	11.7	25	21	27	14.9	16.4	20.5	16.8	16.8
7	32	27	34.5	13.4	23	18.4	23.5	18.4	15.6	18.4	36.5	33
8	27.5	36.5	26	12.7	21.5	18.0	20.5	15.6	16.2	18.4	36.5	25
9	21.5	47	24	19.8	20.5	18.4	20.5	15.3	18.4	17.2	24.5	20.5
10	26	32	24	23.5	21	18.5	26.5	15.3	16.0	16.8	26	18.0
11	21.5	25	20.5	25	20.5	18.0	20.5	15.6	19.5	16.8	28	26.5
12	25	47	21.5	23.5	19.9	17.2	19.1	16.2	16.5	16.0	29	23.6
13	30	55	23.5	21.5	19.1	17.2	18.7	20.5	18.7	17.6	28.5	20
14	36.5	36.5	20.5	21	22	15.8	18.4	36.5	22.5	17.2	26	18.0
15	26.5	36.5	19.5	20.5	32	16.8	17.6	20.5	23.5	15.5	27	17.2
16	21	39	23	19.6	31	16.8	17.6	23.5	34.5	15.6	27	16.4
17	20	42	20.5	22	24	16.4	20.5	18.9	36.5	25	31.5	16.0
18	23.5	36.5	18.7	19.7	22	17.0	17.2	17.8	29.5	23	34.5	17.2
19	36.5	44	18.0	19.1	23.5	16.8	16.8	20.5	28.5	24.5	27	23
20	50	29	17.6	28.5	22	16.4	16.8	18.0	22	24	23	17.8
21	28.5	24	17.2	23.5	20.5	16.4	16.4	22	25.5	19.3	22.5	20.5
22	24.5	26	17.2	20.5	23	16.4	16.4	30.5	31	17.2	19.9	17.2
23	21.5	29	17.2	26.6	21.5	18.0	16.0	27.5	23.5	16.8	23	27
24	19.7	30.5	26	21.5	19.9	23.5	16.0	24	25	16.8	21	25.5
25	19.5	39	24.5	19.9	19.1	17.6	16.6	20.5	22.5	16.4	20	33.5
26	18.7	23.5	36.5	20.5	19.1	18.6	18.9	18.4	23	15.8	26	24
27	19.3	25.5	20.5	28.5	18.7	18.6	16.4	17.8	21.5	16.2	35.5	21
28	21.5	26	19.5	26.5	19.5	27	16.0	18.0	27	15.3	30.5	19.5
29	32	29	18.6	34.5	18.9	26.5	15.6	-	28	15.3	24	19.9
30	38	36.5	27.5	27	18.4	31.5	15.6	-	23.5	15.6	21.5	21
31	52	27	-	27	-	30	15.3	-	19.9	-	19.7	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	52	17.0	27.2	42.1	844	2,590
August	55	23.5	34.2	52.9	1,060	5,260
September	47	17.2	25.5	39.5	766	2,350
October	34.5	11.7	22.4	34.7	693	2,130
November	34.5	18.4	23.1	38.7	592	2,120
December	31.5	16.4	19.4	30.0	601	1,850
Calendar year 1940	58	12.3	25.1	38.8	9,170	28,150
January	39	15.3	20.1	31.1	623	1,910
February	36.5	14.9	19.4	30.0	544	1,670
March	36.5	15.5	22.4	34.7	693	2,130
April	29.5	15.3	18.7	28.9	560	1,720
May	36.5	14.9	24.9	38.5	772	2,370
June	33.5	18.0	21.0	32.8	629	1,930
Fiscal year 1940-41	55	11.7	23.2	36.9	8,460	26,030

North Wailua ditch near Lihue

Location.- Weir control, lat. 22°03'40", long. 159°27'55", 300 feet downstream from intake diversion dam on North Fork of Wailua River, 8 miles west of Wailua, and 8½ miles northwest of Lihue. Datum of gage is 1,105.45 feet above mean sea level (Lihue Plantation Co. levels).

Records available.- July 1932 to June 1941. Records from 1926 to June 1932 collected by Lihue Plantation Co.

Extremes.- Maximum discharge during year, 50 million gallons a day (77 second-feet) Feb. 14 (gage height, 1.62 feet); no flow Oct. 3, when water was shut out of ditch.
1932-41: Maximum discharge, 59 million gallons a day (91 second-feet) Feb. 25, 1935 (gage height, 1.57 feet); no flow occasionally, when water was shut out of ditch.

Remarks.- Records excellent. Flow regulated by gates. Water used for power and irrigation in vicinity of Lihue.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	12.6	0.33	3.3	3.65	8.6	11.2	11.2	9.6	11.1	11.6	9.9	12.2
2	12.0	.22	.28	3.25	3.9	11.0	11.2	9.4	10.8	11.0	11.7	11.9
3	20.5	.22	.91	.36	2.5	10.4	.61	9.4	10.8	12.2	10.5	11.6
4	22.	.22	.71	.18	3.25	10.5	5.2	9.6	9.7	4.9	13.9	10.7
5	12.6	1.20	.22	4.8	2.5	9.8	10.6	9.3	11.3	5.6	15.2	13.1
6	10.7	6.3	.29	8.8	6.8	11.2	5.4	9.3	10.8	8.0	11.9	11.0
7	10.3	9.3	.22	7.5	10.7	11.2	8.5	9.4	10.6	10.7	23.5	27
8	9.2	4.3	2.35	5.4	12.6	11.2	11.0	9.2	10.8	11.6	17.4	22
9	11.4	.24	7.4	4.4	12.5	11.3	9.5	9.2	11.9	11.3	13.7	18.7
10	13.6	.35	4.1	5.4	11.6	11.2	10.1	9.2	10.6	11.0	18.3	14.3
11	14.3	4.5	9.3	7.0	11.3	11.0	11.0	9.4	13.4	11.0	21.5	21
12	16.5	1.89	8.2	9.3	11.9	10.7	11.0	9.4	11.1	10.7	23.5	18.7
13	14.3	.24	9.3	10.6	11.9	10.7	10.8	15.6	10.4	11.9	17.2	15.9
14	5.7	.15	9.9	11.9	10.4	10.6	10.7	36	10.6	11.6	7.1	12.8
15	7.6	.18	10.0	12.5	2.4	10.6	10.6	14.4	11.6	10.5	16.5	12.2
16	10.4	.22	11.8	12.0	.25	10.5	10.5	15.4	16.2	10.5	19.6	11.3
17	13.5	.24	13.0	11.6	6.9	10.4	11.2	12.0	.18	19.3	8.9	11.3
18	17.5	.23	13.1	11.6	8.5	10.7	10.5	11.2	1.72	16.0	.22	12.4
19	16.5	.26	12.8	11.4	8.8	10.5	10.4	15.9	3.35	16.5	3.1	17.2
20	5.7	.22	12.5	7.4	9.4	10.4	10.2	14.4	8.8	18.6	12.6	13.1
21	4.1	3.05	12.2	9.6	11.2	10.4	10.2	14.6	11.0	14.0	13.4	17.2
22	4.2	4.7	11.9	12.2	10.5	10.2	10.5	15.2	2.65	12.2	12.8	11.9
23	10.4	.58	12.2	7.4	10.5	10.2	10.4	3.0	7.5	11.9	15.2	19.5
24	14.1	.65	6.6	10.7	11.9	10.6	10.2	2.5	5.2	13.6	18.4	19.6
25	14.5	.26	11.8	12.5	11.9	10.0	10.8	8.3	7.2	13.5	11.3	14.8
26	14.0	1.95	6.2	12.4	12.0	10.6	11.4	11.4	7.8	11.3	11.5	15.5
27	15.1	1.79	10.0	9.0	11.6	11.2	10.5	11.6	10.0	11.0	10.8	14.9
28	17.9	2.95	12.4	11.2	9.0	3.55	10.0	11.8	8.7	10.5	6.7	14.0
29	16.0	2.95	12.8	4.6	9.8	7.7	9.9	-	9.0	10.5	11.6	14.5
30	9.9	.99	10.3	3.75	11.3	8.6	9.8	-	10.4	10.7	12.8	16.1
31	.36	.68	-	8.5	-	10.0	9.5	-	11.6	-	12.5	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	22	0.36	12.1	18.7	377	1,160
August	9.3	.15	1.65	2.57	51.4	158
September	13.1	.22	7.87	12.2	236	725
October	12.5	.18	8.09	12.5	251	770
November	12.6	.26	8.88	13.7	267	818
December	11.3	3.55	10.3	15.9	318	976
Calendar year 1940	25	.15	11.3	17.5	4,130	12,680
January	11.4	.61	9.79	15.1	304	931
February	36	2.5	11.7	18.1	327	1,000
March	16.2	.18	9.25	14.3	287	880
April	19.3	4.9	11.8	18.3	354	1,090
May	23.5	.22	13.1	20.3	405	1,240
June	27	10.7	15.2	23.6	456	1,400
Fiscal year 1940-41	36	.15	9.95	15.4	3,630	11,150

Stable storm ditch near Lihue

Location.- Weir control, lat. 22°04'00", long. 159°26'45", 100 feet downstream from intake, 7.8 miles northwest of Lihue, and 8.2 miles west of Kapaa.

Records available.- December 1936 to June 1941. Records for April 1931 to December 1936 collected by Lihue Plantation Co. from staff gage at site 1 mile downstream.

Extremes.- Maximum discharge during year, 40 million gallons a day (62 second-feet) June 25 (gage height, 1.58 feet); no flow at times, when water was shut out of ditch.
1936-41: Maximum discharge, 66 million gallons a day (102 second-feet) Apr. 2, 1940 (gage height, 2.13 feet); no flow at times, when water was shut out of ditch.

Remarks.- Records good except those for period when clock was not running, which are poor. Ditch diverts water from North Fork of Wailua River for irrigation of sugarcane in vicinity of Lihue. Flow regulated by head gates.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	14.5	0.21	0	0	0	0	0	17.0	0	0	17.8	22
2	18.2	.12	0	.08	0	0	0	17.0	0	0	19.0	20.5
3	25	.12	0	0	.07	0	.18	17.0	0	10.9	18.2	20
4	6.5	.12	0	0	.07	0	0	17.9	0	8.4	19.3	19.3
5	.07	.12	0	0	.07	0	0	16.7	7.3	6.8	22	19.6
6	.07	.12	0	0	0	0	0	16.7	19.6	.07	19.0	19.0
7	.07	.12	0	0	0	0	0	18.8	18.8	.07	30.5	23.5
8	.02	.18	.07	0	0	0	0	16.7	19.3	10.6	21	9.6
9	.02	.18	.07	0	0	0	0	16.7	20.5	19.3	18.8	10.5
10	.02	.18	.12	0	0	0	0	16.7	18.8	20.5	25	19.6
11	.02	.12	.12	0	0	0	0	16.7	22	20.5	8.6	15.7
12	.02	.74	.18	0	0	0	0	17.3	19.3	19.6	.02	.02
13	.02	.34	.07	0	9.4	0	10.3	19.0	h19.4	20.5	.02	10.7
14	.02	.12	.18	0	14.4	0	14.7	11.5	h21.5	20.5	.07	14.7
15	.02	.12	.12	0	4.9	0	14.4	12.5	h21.5	19.0	.07	14.4
16	0	.12	0	.30	.07	0	14.4	16.4	h14.5	19.3	.07	14.4
17	0	.12	0	0	0	0	15.0	15.9	h.07	25	1.86	14.4
18	11.5	.12	0	0	0	6.7	14.4	15.6	h.07	27	.22	18.8
19	4.5	.18	0	0	0	9.6	14.4	16.2	f.07	25	.07	23.5
20	.02	.07	0	0	0	13.9	14.2	18.2	.07	20	0	20.8
21	.02	.07	0	9.7	0	17.0	14.2	19.3	.07	17.2	16.5	22
22	.02	.07	0	12.1	0	17.0	17.9	12.0	.03	20.5	22	19.9
23	.07	.02	0	5.2	0	19.0	19.0	.12	0	20.5	22	23.5
24	.02	.02	.24	9.7	0	23.5	19.0	.07	.01	20.5	22	25
25	4.8	.02	.52	11.8	0	19.0	19.9	0	.02	20	18.5	19.4
26	14.7	0	.52	5.2	0	19.9	22	0	.02	19.0	13.4	12.2
27	15.0	0	.52	.02	0	20	19.0	0	.02	19.3	.12	23.5
28	15.0	0	.52	0	0	32	18.5	0	.07	18.5	.12	23.5
29	7.4	0	.42	0	0	14.2	17.9	-	.07	18.2	.12	18.2
30	.07	0	.09	.02	0	.07	17.6	-	0	18.5	8.2	.12
31	.12	0	-	0	-	.07	17.3	-	0	-	20.5	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	25	0	4.45	6.89	138	423
August	.74	0	.120	.186	3.72	11
September	.52	0	.125	.193	3.76	12
October	12.1	0	1.75	2.71	54.1	166
November	14.4	0	.966	1.49	29.0	89
December	32	0	6.84	10.6	212	650
Calendar year 1940	34	0	4.74	7.33	1,730	5,320
January	22	0	10.1	15.6	314	964
February	19.3	0	12.9	20.0	362	1,110
March	22	0	7.20	11.1	223	685
April	27	0	16.2	25.1	485	1,490
May	30.5	0	11.8	18.3	365	1,120
June	25	.02	17.2	26.6	515	1,580
Fiscal year 1940-41	32	0	7.41	11.5	2,700	8,300

f Computed on basis of partly estimated gage-height record.
h Computed by staff gage readings.

Kanaha ditch near Lihue

Location.- Sharp-crested weir, lat. 22°03'50", long. 159°25'30", 750 feet downstream from intake and 7 miles northwest of Lihue. Altitude of gage, 540 feet (by barometer).

Records available.- August 1910 to June 1941.

Average discharge.- 21 years (1916-22, 1926-41), 7.22 million gallons a day (11.2 second-feet.

Extremes.- Maximum discharge during year, 6.2 million gallons a day (9.6 second-feet) July 1 (gage height, 0.32 foot); no flow at times, when intake gate was closed, 1910-41: Maximum discharge recorded, 45 million gallons a day (70 second-feet) Dec. 24, 1927 (gage height, 3.22 feet, site and datum then in use); no flow occasionally, when water was shut out of ditch.

Remarks.- Records excellent. Ditch diverts water from North Fork of Wailua River for domestic use only. Flow regulated by head gate.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	5.3	0.43	0.55	0.43	0.16	0.43	0.43	0.31	0.43	0.37	0.31	0.16
2	3.05	.43	.43	.49	.16	.43	.43	.31	.43	.37	.43	.21
3	3.2	.43	.43	.43	.16	.43	.43	.31	.43	.31	.31	.31
4	2.6	.31	.49	.31	.16	.43	.43	.37	.43	.31	.31	.37
5	.80	.43	.49	.31	.16	.43	.43	.31	.37	.37	.31	.37
6	.31	.43	.49	.21	.21	.37	.43	.31	.31	.43	.26	.31
7	.31	.31	.43	.21	.21	.31	.43	.43	.37	.37	.31	.37
8	.31	.31	.43	.31	.31	.37	.43	.21	.43	.31	.17	.31
9	.31	.31	.55	.43	.31	.31	.43	.31	.31	.31	.21	.26
10	.31	.49	.55	.37	.21	.26	.49	.15	.21	.37	.21	.31
11	.31	.43	.55	.43	.31	.26	.37	.15	.21	.37	.21	.37
12	.21	.36	.55	.37	.31	.26	.43	.05	.31	.37	.21	.37
13	.26	.37	.55	.31	.31	.31	.43	0	.31	.43	.37	.31
14	.31	.43	.55	.31	.31	.31	.43	.15	.21	.43	.31	.37
15	.31	.55	.55	.37	.31	.31	.43	.21	.21	.31	.21	.37
16	.21	.37	.55	.43	.31	.43	.43	.21	.21	.21	.21	.31
17	.21	.31	.55	.37	.31	.43	.43	.31	.21	.21	.21	.31
18	.37	.43	.55	.31	.31	.43	.43	.21	.21	.21	.21	.31
19	.49	.43	.55	.31	.31	.43	.43	.21	.21	.21	.21	.31
20	.67	.43	.49	.31	.31	.43	.49	.21	.21	.21	.21	.31
21	.55	.31	.43	.21	.43	.43	.49	.21	.31	.21	.21	.31
22	.48	.43	.43	.29	.43	.43	.31	.31	.21	.21	.21	.21
23	.43	.43	.49	.37	.37	.43	.31	.26	.31	.31	.16	.26
24	.48	.55	.55	.49	.31	.43	.40	.21	.31	.31	.21	.21
25	.48	.67	.55	.43	.21	.43	.37	.31	.37	.26	.16	.26
26	.43	.43	.55	.37	.31	.55	.31	.31	.31	.31	.21	.21
27	.55	.43	.55	.31	.37	.49	.31	.37	.31	.31	.21	.21
28	.55	.43	.43	.21	.37	.49	.43	.43	.43	.31	.21	.21
29	.55	.49	.31	.16	.43	.43	.37	-	.43	.31	.21	.21
30	.55	.43	.43	.12	.43	.43	.37	-	.42	.31	.16	.31
31	.43	.43	-	.21	-	.43	.43	-	.43	-	.16	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	5.3	0.21	0.817	1.26	25.3	78
August	.67	.31	.420	.650	13.0	40
September	.55	.31	.501	.775	15.0	46
October	.49	.12	.329	.509	10.2	31
November	.43	.16	.294	.455	8.81	27
December	.55	.26	.398	.616	12.3	38
Calendar year 1940	6.5	.12	2.11	3.26	774	2,380
January	.49	.31	.412	.637	12.8	39
February	.43	0	.255	.395	7.14	22
March	.43	.21	.318	.492	9.86	30
April	.45	.21	.311	.481	9.33	29
May	.43	.16	.256	.364	7.30	22
June	.37	.15	.291	.466	8.72	27
Fiscal year 1940-41	5.3	0	.383	.593	140	429

Wailua ditch near Kapaa

Location.- Lat. 22°04'25", long. 159°24'05", 2,000 feet downstream from Wailua Reservoir, 5¼ miles west of Kapaa, and 7 miles north of Lihue. Altitude of gage, 462 ± 5 feet (by estimating slope of 2,000-foot length of ditch on basis of Lihue Plantation Co. levels).

Records available.- November 1936 to June 1941. Records collected by East Kauai Water Co. July 1922 to April 1932 at site 2 miles upstream, below intake, and April 1932 to November 1936 at present site.

Extremes.- Maximum discharge during year, 39.5 million gallons a day (61.1 second-feet) Oct. 1 (gage height, 3.40 feet); minimum, 0.1 million gallons a day (0.2 second-foot) Aug. 15-17.

1936-41: Maximum discharge, 46 million gallons a day (71 second-feet) Oct. 6, 1938 (gage height, 3.96 feet); no flow May 15 to June 4, 1940.

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

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	29	13.9	8.1	16.6	21	6.1	3.7	18.1	6.6	21	15.9	16.9
2	36	9.1	15.5	4.7	15.7	11.8	3.8	30.5	8.8	22.5	18.4	33.5
3	25.5	6.9	18.7	4.2	8.8	16.3	3.8	29.5	13.3	22.5	17.5	30.5
4	13.0	4.3	27.5	4.1	15.1	11.1	3.8	32	13.3	21	13.9	26.5
5	14.8	4.3	24	4.0	18.7	6.6	3.7	22.5	17.5	13.8	19.6	25
6	9.8	4.5	14.6	3.9	22.5	6.6	3.7	24	21	10.4	26.5	25
7	7.0	18.8	7.6	3.9	26.5	5.3	5.2	21	15.1	15.8	22.5	17.3
8	18.5	25	8.1	4.0	28	4.8	19.1	12.1	8.8	17.5	18.7	14.3
9	27.5	21	7.6	4.1	16.4	4.7	21	4.8	6.6	14.5	22.5	29
10	30	13.0	21	4.2	6.6	7.6	18.7	15.8	15.1	16.3	9.5	32
11	30.5	12.4	34.5	4.2	6.1	12.9	13.9	17.5	20	16.3	3.1	32
12	30.5	16.1	33.8	4.3	16.1	16.3	7.6	17.5	18.7	17.9	10.0	32
13	19.1	5.6	14.7	4.4	21	16.3	17.5	17.5	18.7	11.5	21	32
14	10.8	1.8	5.2	4.4	14.7	11.2	22.5	17.5	18.7	12.0	25	22.5
15	20	.1	4.4	4.5	7.1	7.1	22.5	17.5	11.8	14.4	26.5	18.5
16	25	.1	17.7	4.5	7.1	13.4	21	17.5	6.1	15.0	26.5	26.5
17	27.5	2.0	25	22	7.1	17.5	21	16.3	10.5	15.3	16.8	21
18	23.5	3.0	25.5	24	15.6	17.5	12.8	15.1	13.9	11.6	6.0	25
19	16.0	2.1	26.5	12.7	25	17.5	7.1	15.1	13.9	7.1	17.6	26.5
20	14.2	2.2	20	14.5	28	24.5	14.2	12.7	9.9	5.4	25	26.5
21	10.2	2.1	6.6	27	28	17.3	16.3	10.6	11.7	3.7	28	17.9
22	17.2	2.1	5.6	29.5	20.5	7.1	10.4	3.9	11.0	3.7	28	12.8
23	22.5	2.3	21	18.0	7.1	15.5	10.4	4.1	7.6	10.5	26.5	25
24	25	2.3	30.5	21.5	5.9	10.5	8.2	5.4	16.9	18.0	15.7	26.5
25	29	2.3	35	18.0	12.4	5.8	5.6	6.0	22.5	28	9.3	26.5
26	33	9.4	36.5	10.4	16.3	5.8	5.6	6.8	22.5	25	17.0	25
27	26	12.8	19.5	13.9	16.3	4.7	7.6	6.6	28	22.5	25	25
28	15.4	12.5	8.2	17.5	16.3	3.9	15.7	6.6	30.5	16.6	26	19.9
29	30	12.8	11.5	20	16.3	3.7	18.7	-	16.6	17.5	30.5	18.7
30	29	13.4	31	20	11.0	3.4	13.5	-	12.4	15.1	33.3	26.5
31	23.5	9.6	-	20	-	3.4	8.8	-	21	-	21.5	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	36	7.0	22.2	34.3	689	2,110
August	25	.1	7.97	12.3	247	758
September	36.5	4.4	18.8	29.1	565	1,730
October	29.5	3.9	11.9	18.4	369	1,130
November	28	5.9	15.9	24.6	477	1,460
December	24.5	3.4	10.2	15.8	318	970
Calendar year 1940	36.5	0	14.7	22.7	5,390	16,550
January	22.5	3.7	11.9	18.4	368	1,130
February	32	3.9	15.2	23.5	424	1,300
March	30.5	6.1	15.1	23.4	469	1,440
April	28	3.7	15.4	23.8	462	1,420
May	33.5	3.1	20.1	31.1	622	1,910
June	33.5	12.8	24.5	37.9	736	2,260
Fiscal year 1940-41	36.5	.1	15.7	24.3	5,740	17,620

East Branch of North Fork of Wailua River near Lihue

Location.- Lat. 22°04'10", long. 159°25'05", 1,200 feet upstream from confluence with North Fork and 7½ miles northwest of Lihue. Altitude of gage, 500 feet (by barometer).

Drainage area.- 6.2 square miles.

Records available.- July 1912 to June 1941.

Average discharge.- 21 years (1920-41), 30.8 million gallons a day (47.7 second-feet).

Extremes.- Maximum discharge during year, 976 million gallons a day (1,510 second-feet) Aug. 12 (gage height, 6.82 feet), from rating curve extended above 270 million gallons a day; minimum, 7.0 million gallons a day (10.8 second-feet) Feb. 11, Mar. 7.
1912-41: Maximum discharge, 3,340 million gallons a day (5,170 second-feet) Dec. 24, 1927 (gage height, 10.57 feet), from rating curve extended above 500 million gallons a day; minimum, 4.4 million gallons a day (6.8 second-feet) July 3, 13, 1926.

Remarks.- Records good. No diversions above station.

Rating tables, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Oct. 2				Oct. 3 to June 30			
1.1	10.2	1.8	41	3.0	153	1.0	6.8	1.7	35
1.2	13.0	2.0	55	3.5	215	1.2	12.5	2.0	55
1.4	20	2.3	82			1.4	20	2.3	82
1.6	29	2.6	112						

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	11.1	80	34	70	20	12.5	26.5	7.6	8.3	12.9	7.8	13.9
2	10.8	41	44	175	25	12.4	13.3	7.8	8.0	11.9	8.0	13.2
3	12.7	41	30	100	23	14.7	81	7.8	7.8	11.5	8.0	12.5
4	23	37	49	70	52	13.2	24	8.0	8.8	16.8	7.8	11.9
5	17.1	27.5	50	40	31.5	13.2	16.1	7.6	8.3	11.9	10.9	11.5
6	20	23.5	32.6	34	22	13.2	18.4	7.3	7.6	10.9	8.0	11.2
7	24.5	24.5	34.5	36	19.2	12.2	18.6	6.8	7.3	9.9	56	22.5
8	20	34.5	28	33	18.4	11.5	13.2	7.3	7.3	9.6	57	62
9	15.9	47	25.5	27.6	16.9	10.9	12.2	7.3	8.3	9.0	19.8	32
10	19.0	28.5	22.5	25.5	16.1	10.6	19.5	7.3	7.6	9.0	15.4	18.4
11	16.8	24	21	25	15.4	10.9	12.2	7.3	8.3	8.8	22.5	21.5
12	17.3	169	22	22	14.7	10.6	10.9	7.3	8.3	8.6	17.7	22.5
13	16.6	100	20.5	20	13.9	10.6	10.3	7.6	8.0	8.6	24.5	17.3
14	34	48	20	19.3	14.7	10.3	9.9	22.5	11.2	8.8	23.5	15.0
15	22	39	18.9	18.6	29.6	9.9	9.6	10.3	10.8	8.6	23	13.6
16	17.1	48	21.5	17.8	32	9.9	9.3	8.6	33	8.8	20	12.9
17	15.7	57	21	17.3	20	9.9	11.2	8.3	46	21	22	12.5
18	18.2	40	17.5	16.5	17.7	9.6	9.6	7.8	31.5	24	27	12.2
19	26	64	16.8	15.4	17.3	9.6	9.0	8.6	19.6	11.5	19.6	13.8
20	30	38	16.1	16.9	16.9	9.3	9.0	8.8	13.6	12.5	15.7	11.9
21	19.1	31	15.4	15.4	15.0	9.3	8.8	9.2	14.7	11.2	14.7	14.3
22	18.9	27.6	14.7	14.7	17.3	9.0	8.6	38.5	45	9.3	13.2	11.9
23	17.3	26.5	14.4	30	17.4	9.6	8.6	40	17.3	9.9	17.6	14.1
24	15.4	27	23.5	16.1	14.7	11.2	8.6	20	24.5	9.9	14.5	16.1
25	16.1	38.5	16.6	14.3	13.9	9.0	8.6	11.9	18.0	9.6	13.6	21.5
26	14.8	24.5	29	13.9	13.9	8.8	9.0	9.6	17.4	8.6	15.1	16.5
27	15.5	22	16.6	20.5	13.2	8.8	8.6	9.0	17.0	8.6	46	13.6
28	17.9	22	15.7	21.5	13.8	14.6	8.3	8.8	21.5	8.3	34	12.5
29	26.5	24.5	14.5	39.5	17.3	17.6	8.0	-	28.5	8.0	19.2	12.2
30	34	28.5	43	25.5	13.6	29	7.8	-	20	7.8	15.7	14.7
31	57	26.5	-	19.6	-	29	7.8	-	15.0	-	14.3	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	67	10.8	20.6	31.9	639	1,960
August	169	22	42.3	65.4	1,310	4,020
September	50	14.4	25.0	38.7	749	2,300
October	175	13.9	33.3	51.5	1,030	3,160
November	52	13.2	19.5	30.2	586	1,800
December	29	8.8	12.3	19.0	381	1,170
Calendar year 1940	348	8.7	23.9	37.0	8,740	26,820
January	81	7.8	14.1	21.8	436	1,340
February	40	7.3	11.5	17.8	321	985
March	46	7.3	16.3	25.2	506	1,550
April	24	7.8	10.9	16.9	326	1,000
May	57	7.8	20.4	31.6	632	1,940
June	62	11.2	17.0	26.5	510	1,560
Fiscal year 1940-41	175	7.3	20.3	31.4	7,430	22,780

Kapaa River at Kapahi ditch intake, near Kapaa

Location.- Concrete masonry dam, lat. 22°06'05", long. 159°22'30", 4 miles northwest of Kapaa and 4.5 miles northwest of Wailua. Altitude of gage, 365 feet (by barometer).

Drainage area.- 3.3 square miles.

Records available.- December 1936 to June 1941. July 1910 to May 1915 at site half a mile upstream, published as Kapaa River at Kapaa, June 1915 to April 1920 at site three-quarters of a mile upstream, published as Kapaa River near Kealia.

Extremes.- Maximum discharge during year, 2,370 million gallons a day (3,670 second-feet) Aug. 12 (gage height, 3.88 feet), from rating curve extended above 330 million gallons a day; no flow at times, when low flow is diverted into Kapahi ditch.
1936-41: Maximum discharge, 3,390 million gallons a day (5,250 second-feet) Mar. 19, 1937 (gage height, 4.50 feet), from rating curve extended above 330 million gallons a day; no flow at times, when low flow is diverted into Kapahi ditch.

Remarks.- Records good. Entire low flow is diverted into several ditches above station.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

-0.05	0	0.4	13.2	1.3	166
0	.2	.5	21	1.6	274
.1	.9	.7	42	2.0	470
.2	3.2	.9	70		
.3	7.2	1.1	111		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	34	18.2	106	2.3	8.4	23.5	0	6.4	1.4	0	1.2
2	0	23.5	9.6	84	13.2	7.7	15.0	0	7.2	0	0	1.2
3	5.0	28	1.8	70	9.6	8.2	102	0	3.2	0	0	1.3
4	19.8	19.0	13.3	39.5	27	2.2	17.0	0	3.2	10.2	.2	.1
5	4.8	17.9	12.4	21	15.6	4.6	13.2	0	.3	1.2	.9	0
6	13.0	12.6	7.6	19.4	5.1	4.3	20	0	.9	2.3	0	0
7	17.9	6.1	18.7	26	6.0	5.6	6.2	.7	1.1	.2	67	14.1
8	15.5	18.0	10.2	19.0	6.4	4.8	0	0	.3	0	29.5	27
9	8.0	20.5	6.3	16.3	1.6	1.7	.8	0	1.8	0	.8	.7
10	4.8	3.9	0	16.3	1.7	.8	13.8	0	.4	.1	6.8	.1
11	4.4	3.4	0	17.1	5.2	4.3	.5	0	.4	0	14.9	1.3
12	6.9	327	1.4	15.5	.5	1.6	0	0	.9	0	1.8	0
13	9.9	60	2.8	11.3	0	1.3	.1	0	1.2	1.7	6.3	0
14	27	23	5.6	11.4	4.1	4.9	.1	1.2	2.1	.3	4.8	0
15	9.6	22	5.2	7.4	25	8.4	0	0	9.1	0	.4	0
16	1.4	31	14.1	1.1	13.4	6.8	0	0	41	3.1	2.6	0
17	.1	36	9.4	0	7.6	5.6	6.3	0	48	39.5	11.9	0
18	2.8	22	9.4	.3	.8	1.0	0	0	25	21	16.2	0
19	9.3	36	6.0	0	.3	.2	0	0	16.3	11.1	5.3	0
20	2.9	20	2.7	0	1.4	0	0	0	12.0	11.4	0	0
21	.5	15.5	.6	0	1.6	0	.1	.1	15.9	7.8	1.5	0
22	3.6	13.2	0	1.4	11.1	0	.2	20	29.5	4.3	.9	0
23	2.7	10.2	0	13.2	9.0	0	.8	22.5	13.2	.2	4.9	0
24	.2	7.5	8.3	2.2	2.4	13.6	1.1	13.8	18.0	4.9	2.1	.9
25	.6	15.5	0	.3	.6	9.6	.3	10.2	4.8	.3	.7	4.7
26	0	1.8	3.9	0	.7	7.8	0	8.7	8.5	0	2.8	1.2
27	1.0		1.1	18.8	1.7	8.4	0	8.4	4.7	.1	13.3	1.0
28	.7	0	.8	11.9	6.4	16.8	.8	9.6	9.4	0	9.7	.2
29	12.2	0	0	25.6	16.5	19.1	1.0	-	16.1	0	0	1.0
30	15.5	4.2	47	9.7	7.8	32	1.1	-	10.1	0	0	.2
31	30	4.1	-	5.1	-	30	.2	-	3.9	-	1.2	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	30	0	7.42	11.5	230	706
August	327	0	27.0	41.8	836	2,570
September	47	0	7.21	11.2	216	664
October	106	0	18.4	28.5	570	1,750
November	[illegible]	[illegible]	6.82	10.6	205	628
December	32	0	7.09	11.0	220	674
Calendar year 1940	723	0	13.5	20.9	4,930	15,140
January	102	0	7.25	11.2	225	690
February	22.5	0	3.40	5.26	95.2	292
March	48	.3	10.2	15.8	315	966
April	39.5	0	4.04	6.25	121	372
May	67	0	6.66	10.3	206	634
June	27	0	1.87	2.89	56.2	172
Fiscal year 1940-41	327	0	9.03	14.0	3,300	10,130

Kapahi ditch near Kealia

Location.- Parshall flume, lat. 22°06'00", long. 159°22'30", 500 feet downstream from intake and 4½ miles west of Kealia. Altitude of gage, 360 feet (by barometer).

Records available.- April 1909 to May 1914, May 1915 to June 1941.

Average discharge.- 23 years (1917-20, 1921-42), 6.39 million gallons a day (9.89 second-feet).

Extremes.- Maximum discharge during year, 44 million gallons a day (68 second-feet) Feb. 22 (gage height, 2.50 feet); no flow Aug. 12, 13, May 14.
1909-14, 1915-41: Maximum discharge, 233 million gallons a day (361 second-feet) Mar. 31, 1923 (gage height, 3.15 feet); no flow occasionally, when water was shut out of ditch.

Remarks.- Records excellent. Ditch diverts water from Kapaa River for irrigation in vicinity of Kapaa. Flow regulated by head gates.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.6	4.3	0.31	2.45	5.6	1.40	0.23	2.2	2.15	2.6	4.0	1.51
2	3.35	7.2	4.8	.45	3.25	1.45	.24	2.15	.62	2.65	3.65	2.5
3	3.75	.31	6.0	.34	.23	5.0	.29	2.95	1.89	3.25	4.1	3.0
4	.27	4.3	12.2	.16	2.1	3.75	.31	4.1	3.15	3.9	2.25	3.15
5	2.8	.35	5.1	.10	2.05	2.25	.27	4.2	4.3	3.75	5.2	4.1
6	2.15	1.40	6.3	.07	3.5	2.7	1.88	3.7	3.35	1.29	4.1	4.2
7	.27	7.3	.31	.08	1.08	.15	7.7	5.0	2.6	3.7	12.7	5.4
8	1.36	1.82	4.6	.08	.35	.16	5.0	3.6	3.4	4.1	24.5	6.5
9	.27	2.7	8.0	.17	3.75	2.3	3.9	1.99	1.18	4.0	13.5	5.6
10	2.65	9.3	5.1	.10	3.3	3.85	3.9	1.90	2.75	3.05	3.65	5.7
11	2.15	9.6	4.7	.07	.35	5.9	4.4	1.99	3.65	2.1	2.4	6.9
12	2.15	8.0	5.5	.07	3.85	6.9	3.6	2.65	2.2	3.35	6.7	6.3
13	.68	.06	3.45	2.45	3.7	6.9	3.15	2.65	1.94	.84	9.1	5.0
14	2.4	.07	.27	2.4	2.45	3.75	2.95	4.8	1.89	4.4	4.8	3.7
15	5.8	.10	.27	6.0	.96	.35	2.65	2.15	1.97	3.5	8.0	2.65
16	5.1	.13	5.0	9.6	7.3	1.86	2.65	1.73	.56	2.4	7.9	4.2
17	3.9	.16	3.3	6.6	3.25	1.96	3.9	1.82	1.66	3.35	3.3	4.3
18	3.25	.16	3.85	4.0	5.6	1.50	3.05	1.73	.40	.45	4.5	4.3
19	4.6	.16	2.15	3.8	4.6	2.1	2.75	3.05	2.25	.40	5.6	4.5
20	4.9	.13	2.9	5.1	3.5	2.45	2.65	3.75	.35	.35	6.2	4.0
21	3.6	.13	4.4	4.3	2.45	2.35	1.82	8.5	1.82	2.7	3.2	4.6
22	2.45	.13	4.2	3.65	.83	2.35	2.5	16.6	1.64	2.9	2.1	2.65
23	2.25	.13	4.0	3.95	.19	2.75	1.83	.62	.31	2.9	3.15	3.95
24	2.75	.13	6.5	2.95	3.15	3.75	2.15	.50	7.3	2.25	3.15	3.35
25	3.8	.10	6.6	3.45	3.6	.16	2.55	.45	10.3	3.15	3.05	3.0
26	3.15	4.4	9.9	4.0	4.5	.92	2.75	.40	3.15	3.05	1.80	2.8
27	4.2	5.0	3.85	1.88	2.45	.40	3.15	.40	3.7	2.2	9.4	2.55
28	5.3	5.0	3.1	5.7	2.55	.31	2.35	.40	4.0	2.75	6.8	3.1
29	5.6	5.7	3.35	6.6	1.17	.23	1.68	-	1.98	3.7	4.1	2.55
30	3.4	3.55	7.5	3.15	.23	.27	1.49	-	.27	3.7	2.85	4.8
31	3.95	2.6	-	5.0	-	.27	2.05	-	1.66	-	1.66	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	5.8	0.27	3.09	4.78	95.8	294
August	9.6	.06	2.73	4.22	84.5	259
September	12.2	.27	4.58	7.09	138	422
October	9.6	.07	2.86	4.43	88.7	272
November	7.3	.19	2.73	4.22	81.9	251
December	6.9	.16	2.27	3.51	70.4	216
Calendar year 1940	12.2	0	2.72	4.21	996	3,060
January	7.7	.23	2.57	3.98	79.8	245
February	16.6	.40	3.07	4.75	86.0	264
March	10.3	.27	2.54	3.93	78.6	241
April	4.4	.35	2.76	4.27	82.7	254
May	24.5	1.66	5.73	8.87	178	545
June	6.9	1.51	4.03	6.24	121	371
Fiscal year 1940-41	24.5	.06	3.25	5.03	1,190	3,630

Makaleha ditch near Kealia

Location.- Parshall flume, lat. 22°06'55", long. 159°02'00", at end of last tunnel from which water spills down slope into Mimino Reservoir, 3.9 miles northwest of Kealia, and 4.1 miles northwest of Kapaa.

Records available.- November 1936 to June 1941. Equivalent records for July 1925 to November 1936, at site 150 feet downstream, collected by East Kauai Water Co.

Extremes.- Maximum discharge during year, 25 million gallons a day (39 second-feet) Aug. 12 (gage height, 2.73 feet); minimum, 0.05 million gallons a day (0.08 second-foot) Mar. 2, 3.
1936-41: Maximum discharge, that of Aug. 12, 1940; minimum, 0.03 million gallons a day (0.05 second-foot) several days in November and December 1936, January 1937, February 1938.

Remarks.- Records excellent. Ditch diverts water from Makaleha Stream for irrigation of sugarcane. Flow regulated by gates at intake and wasteway 1 mile upstream.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	4.3	6.9	10.7	5.8	6.2	0.14	0.30	4.7	0.06	5.0	2.35	5.0
2	4.0	.58	12.4	.19	6.4	.14	.21	4.7	.05	4.9	2.95	3.95
3	6.3	.51	11.2	.16	6.4	3.3	.23	3.85	3.3	4.4	2.9	3.95
4	8.2	.54	12.4	.11	6.4	5.0	.16	3.3	5.9	5.4	5.5	3.8
5	7.2	.48	12.4	.08	5.9	5.0	.12	2.65	4.0	4.7	6.7	2.95
6	4.9	.34	3.6	.08	5.4	5.1	.12	2.9	3.45	5.0	3.3	2.7
7	.21	4.2	.16	.07	5.4	4.8	3.3	5.1	3.55	3.45	12.8	6.2
8	.21	7.7	.12	.07	5.4	4.8	5.0	3.4	4.1	2.85	9.1	11.2
9	4.1	7.7	1.40	.07	5.4	4.8	5.0	4.7	9.1	2.75	5.4	8.6
10	7.2	3.35	6.4	.07	5.0	3.8	5.8	4.7	4.8	3.55	6.8	3.1
11	7.2	.25	6.8	.07	5.0	.14	5.0	4.7	6.7	4.6	7.7	6.3
12	7.7	6.2	7.4	.06	5.0	.12	5.0	4.1	5.9	3.4	7.2	7.9
13	5.9	1.36	7.7	.06	5.0	.11	5.0	4.0	5.7	5.9	7.7	5.5
14	3.65	.10	7.2	.06	5.4	.11	5.0	8.6	10.0	3.35	7.2	4.4
15	3.5	.10	6.8	.06	5.9	.11	5.0	5.9	4.3	3.35	7.2	4.7
16	6.1	.10	11.4	.07	5.9	.10	5.0	5.9	.21	5.2	4.9	2.75
17	7.2	.08	7.9	4.7	5.4	1.08	9.9	5.4	.23	9.7	3.55	2.45
18	8.9	.08	.34	6.2	5.4	4.9	6.4	4.9	.21	6.9	3.65	2.5
19	12.9	.08	3.55	5.4	5.0	5.0	5.4	7.8	.19	1.82	3.45	4.1
20	9.2	.08	5.4	7.2	5.0	4.9	5.4	4.0	.17	.23	3.35	3.25
21	7.2	.08	5.4	5.9	5.0	5.0	5.4	5.5	.21	.19	5.3	8.0
22	7.2	1.10	5.4	4.5	5.5	5.0	5.4	12.9	.21	1.82	5.9	4.8
23	7.2	4.2	5.4	5.7	5.4	6.4	5.4	10.6	.17	6.4	7.1	5.6
24	6.4	8.0	5.4	5.9	5.4	3.6	4.5	2.75	.28	6.5	6.8	6.8
25	7.2	12.4	4.8	5.8	5.0	.16	5.0	.17	.25	5.7	6.8	9.6
26	6.8	8.7	5.0	5.9	5.0	.14	5.9	.17	3.7	4.6	6.4	6.3
27	7.2	6.8	5.4	6.8	5.0	.12	4.4	.07	5.4	5.0	8.2	4.9
28	7.7	7.7	6.4	6.4	5.4	.07	4.4	.06	5.9	4.0	8.2	4.8
29	11.2	8.7	5.9	6.8	5.6	.12	4.8	-	5.9	2.9	7.2	6.4
30	12.9	9.2	7.4	6.4	3.4	.17	4.8	-	5.4	2.75	6.2	5.8
31	11.2	9.2	-	6.4	-	.43	4.8	-	5.0	-	5.4	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	12.9	0.21	6.81	10.5	211	648
August	12.4	.08	3.77	5.83	117	358
September	12.4	.12	6.39	9.89	192	589
October	7.2	.06	3.13	4.84	97.1	298
November	6.4	3.4	5.39	8.34	162	496
December	6.4	.07	2.41	3.73	74.7	229
Calendar year 1940	12.9	.05	4.38	6.78	1,600	4,920
January	9.9	.12	4.26	6.59	132	406
February	12.9	.06	4.55	7.04	128	391
March	10.0	.06	3.37	5.21	104	320
April	9.7	.19	4.21	6.51	126	388
May	12.8	2.35	6.04	9.35	187	574
June	11.2	2.45	5.21	8.06	156	480
Fiscal year 1940-41	12.9	.06	4.62	7.15	1,690	5,180

Anahola River near Kealia

Location.- Concrete dam and orifice control, lat. 22°08'55", long. 159°21'20", just upstream from intake of Lower Anahola ditch, 4½ miles northwest of Kealia. Altitude of gage, 220 feet (by barometer).

Drainage area.- 5.5 square miles.

Records available.- August to November 1910, December 1912 to June 1941.

Average discharge.- 22 years (1919-41), 13.6 million gallons a day (21.0 second-feet).

Extremes.- Maximum discharge during year, 5,780 million gallons a day (8,940 second-feet) Aug. 12 (gage height, 9.53 feet), from rating curve extended above 230 million gallons a day; minimum, 3.1 million gallons a day (4.8 second-feet) June 23, 28, 29. 1910, 1912-41: Maximum discharge, that of Aug. 12, 1940; minimum, 1.4 million gallons a day (2.2 second-feet) Sept. 12, 13, 1923.

Remarks.- Records good except those for periods when clock was not running, which are poor. Anahola ditch diverts water 3 miles above station for irrigation in vicinity of Kealia.

Rating tables, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day

(Shifting-control method used Aug. 26 to Sept. 13)

July 1 to Sept. 13								Sept. 14 to June 30					
1.0	3.0	1.5	8.6	2.0	34.5	3.0	162	0.9	3.15	1.6	13.5	2.6	95
1.2	4.4	1.8	11.5	2.3	59	3.5	282	1.0	3.95	1.8	22	3.0	162
1.4	6.6	1.8	22	2.6	95	4.0	456	1.2	6.8	2.0	34.5		
								1.4	8.0	2.3	59		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.35	26.5	17.6	114	7.7	4.8	13.1	4.0	4.9	6.2	3.85	4.3
2	3.2	11.1	26.5	67	8.8	6.0	8.2	4.0	4.6	5.8	3.8	4.1
3	4.3	14.3	15.0	52	7.3	12.7	36.5	3.95	4.5	5.6	3.7	4.3
4	8.8	10.9	31.5	36.5	10.5	7.5	9.5	7.6	5.1	15.8	4.0	4.0
5	4.7	8.6	28	18.5	7.2	7.1	8.0	4.7	4.6	6.8	5.1	4.0
6	4.8	6.8	17.6	14.8	6.3	7.1	14.6	3.95	4.2	5.8	3.95	3.8
7	8.3	7.6	18.2	16.6	5.8	5.9	25	6.5	3.95	5.4	70	3.95
8	4.3	7.4	15.0	13.0	5.6	5.6	8.0	4.3	4.1	5.2	60	22.5
9	3.75	11.8	13.0	10.7	5.4	7.1	7.4	3.7	4.3	4.9	11.3	4.6
10	3.55	7.0	10.3	10.1	6.2	6.5	56	3.55	3.95	4.7	9.0	3.85
11	3.7	5.8	9.4	9.3	6.5	6.0	9.1	3.55	4.2	4.6	12.0	4.1
12	5.8	424	9.7	8.8	5.5	5.2	8.0	3.55	4.0	4.6	7.9	4.4
13	4.5	69	9.2	8.2	5.0	5.2	7.4	3.4	24.5	4.5	8.0	3.95
14	18.8	32.5	8.0	9.0	5.2	4.9	7.0	3.45	15.4	4.4	6.8	3.65
15	9.1	28.5	7.1	9.5	8.6	4.7	6.5	3.4	12.4	4.2	7.1	3.45
16	4.8	37	22.5	7.4	11.5	4.6	6.2	3.55	62	4.3	8.2	3.4
17	4.3	36	44	9.7	8.6	4.4	9.0	3.4	24.5	28	8.1	3.5
18	6.7	51.5	19.4	8.4	7.8	4.5	7.0	3.3	14.8	31.5	10.6	3.3
19	23.5	37.5	13.0	7.1	7.4	4.5	6.3	9.7	10.1	7.8	7.1	3.3
20	7.2	30.5	9.1	7.3	6.7	4.3	6.0	4.0	8.0	7.8	6.0	3.25
21	4.9	25.5	8.4	6.7	5.6	4.1	5.6	27	13.0	5.9	5.8	3.4
22	4.5	21	7.2	6.2	28	4.1	5.5	72	20.5	5.3	5.5	3.3
23	4.3	17.6	6.7	15.2	11.5	8.6	5.4	18.1	9.3	5.1	6.1	3.3
24	4.0	15.6	8.7	6.5	7.4	24.5	5.0	10.7	12.3	5.6	5.3	4.1
25	4.0	26	6.6	5.7	5.0	6.8	5.0	7.4	10.3	5.3	5.2	6.0
26	4.0	14.5	7.5	5.6	4.8	5.1	5.0	6.0	7.8	4.5	5.3	4.3
27	5.7	13.0	5.9	9.4	4.8	4.8	4.7	5.5	7.2	4.4	7.5	3.55
28	4.4	12.5	5.7	9.3	18.6	7.2	4.5	5.3	9.4	4.2	9.1	3.25
29	20.5	12.0	5.3	15.6	7.4	15.6	4.4	-	13.9	4.0	5.4	4.0
30	17.8	14.0	34.5	10.4	5.3	28	4.5	-	8.8	3.95	4.8	5.0
31	26	13.5	-	8.7	-	19.9	4.1	-	6.8	-	4.5	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	26	3.2	7.63	11.8	237	726
August	424	5.8	33.1	51.2	1,030	3,160
September	44	5.3	14.7	22.7	441	1,350
October	114	5.6	17.3	26.8	536	1,640
November	28	4.8	8.07	12.5	242	745
December	28	4.1	7.98	12.3	247	759
Calendar year 1940	1,130	2.85	19.2	29.7	7,040	21,580
January	56	4.1	10.1	15.6	312	959
February	72	3.3	8.56	13.2	240	735
March	52	3.95	10.8	16.7	333	1,020
April	31.5	3.95	7.20	11.1	216	663
May	70	3.7	10.4	16.1	321	985
June	22.5	3.25	4.52	6.99	136	416
Fiscal year 1940-41	424	3.2	11.7	18.1	4,290	13,150

Note.- Discharge for periods of no gage-height record, Nov. 16 to Dec. 2, Jan. 12-20, computed on basis of records for stations on nearby streams.

Anahola ditch above Kaneha Reservoir, near Kealia

Location.- Parshall flume, lat. 22°08'00", long. 159°22'30", at point of discharge into Kaneha Reservoir, 5 miles northwest of Kealia. Datum of gage is 821.8 feet (revised) above mean sea level (Lihue Plantation bench mark).

Records available.- May 1915 to June 1941.

Average discharge.- 18 years (1921-25, 1927-41), 3.35 million gallons a day (5.18 second-feet).

Extremes.- Maximum discharge during year, 52 million gallons a day (80 second-feet) Oct. 1 (gage height, 2.77 feet); minimum, 0.02 million gallons a day (0.03 second-foot) Mar. 27.

1915-41: Maximum discharge recorded, 130 million gallons a day (201 second-feet) Jan. 16, 1921 (gage height, 6.25 feet, site and datum then in use); no flow occasionally, when water was shut out of ditch.

Remarks.- Records good. Ditch diverts water from Anahola River to Kaneha Reservoir, where it is stored for irrigation. Flow regulated by wasteway gates.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.2	0.10	9.7	10.2	5.6	3.7	0.10	1.41	1.92	2.5	1.41	2.6
2	1.82	.09	14.0	.34	7.5	3.5	.06	1.41	1.74	2.8	1.49	2.4
3	4.7	.08	7.3	.25	4.9	8.2	.09	1.41	1.65	2.7	1.49	2.95
4	9.4	.10	9.9	.08	11.2	4.0	.04	7.0	3.3	8.7	1.65	2.2
5	3.6	.08	.10	.06	.10	4.5	.04	2.0	2.1	3.15	5.1	2.2
6	5.8	.08	.10	.06	2.8	3.6	.06	1.49	1.65	2.7	1.74	2.0
7	8.6	2.7	.10	.06	3.25	2.8	.06	5.0	1.41	2.4	34.5	5.1
8	5.3	9.7	.10	.06	3.05	2.6	3.5	1.74	1.49	2.1	10.2	9.9
9	3.6	3.36	4.2	.06	2.7	2.8	8.1	1.41	2.1	2.0	3.1	2.8
10	3.35	.10	4.9	.06	5.3	2.7	10.1	1.33	1.57	1.83	7.7	2.1
11	3.25	.10	4.3	.04	3.7	2.7	.13	1.33	2.35	1.83	12.8	3.1
12	6.9	3.3	4.5	.04	2.7	2.2	.13	1.33	1.92	1.92	5.8	3.55
13	6.2	.08	4.4	.04	2.4	2.1	2.6	1.25	12.7	1.83	8.8	2.85
14	12.9	.44	3.15	.04	2.98	1.92	3.25	2.1	15.2	1.92	4.9	2.0
15	9.2	.60	3.6	.04	14.5	1.83	2.95	1.74	9.1	1.74	7.0	1.85
16	4.4	.25	13.9	1.10	11.4	1.92	3.7	1.41	21	4.2	7.4	1.74
17	4.5	.04	5.3	8.5	6.0	1.65	7.2	1.33	9.7	19.1	9.7	1.57
18	9.0	.04	.97	3.9	4.3	1.57	2.35	1.25	2.3	15.4	2.7	1.49
19	11.6	.06	2.35	2.95	3.9	1.65	2.8	4.5	.10	4.8	.08	1.85
20	9.3	.06	4.2	5.6	3.8	1.49	2.6	1.83	3.2	4.2	2.35	1.59
21	4.6	.06	3.8	3.6	2.7	1.49	2.4	11.3	3.6	3.25	4.0	2.4
22	4.0	.04	3.05	2.95	12.1	1.49	2.4	28.5	.10	2.3	3.6	1.74
23	3.35	2.25	2.8	9.6	8.7	8.5	2.2	12.6	.06	2.2	4.9	2.75
24	2.95	5.3	9.0	3.45	4.7	18.2	2.0	5.8	.06	2.6	3.75	5.2
25	3.6	18.6	3.6	2.85	3.35	3.15	1.83	3.8	.06	2.06	3.25	9.4
26	3.5	5.8	6.1	2.6	4.3	2.1	1.92	2.7	.04	1.92	7.2	3.45
27	4.2	4.8	3.1	13.7	2.8	2.0	1.83	2.3	2.0	1.83	9.6	2.5
28	3.6	4.9	2.8	8.3	13.4	6.6	1.57	2.2	11.2	1.65	14.6	2.2
29	11.1	5.4	2.6	18.6	12.6	17.9	1.49	-	4.8	1.49	4.4	4.7
30	12.8	9.2	10.4	7.9	4.6	9.7	1.49	-	.08	1.41	3.45	6.6
31	10.1	7.0	-	6.8	-	.16	1.41	-	.06	-	2.96	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	12.9	1.82	6.11	9.45	189	581
August	18.6	.04	2.73	4.22	84.7	260
September	14.0	.10	4.81	7.44	144	443
October	18.6	.04	3.67	5.68	114	349
November	14.5	.10	5.71	8.83	171	526
December	18.2	.16	4.15	6.42	129	395
Calendar year 1940	23	.01	3.57	5.52	1,310	4,010
January	10.1	.04	2.26	3.50	70.2	215
February	28.5	1.25	3.98	6.16	111	342
March	21	.04	5.82	5.91	119	364
April	19.1	1.41	3.62	5.60	109	335
May	34.5	.08	6.20	9.59	192	590
June	9.9	1.49	3.22	4.98	96.7	297
Fiscal year 1940-41	34.5	.04	4.19	6.48	1,530	4,700

Anahola ditch wasteway near Kealia

Location.- Sharp-crested weir, lat. 22°08'10", long. 159°22'30", 300 feet downstream from wasteway gates on Anahola ditch, 500 feet upstream from Kaneha Reservoir, 3.8 miles west of Anahola, and 4.9 miles northwest of Kealia.

Records available.- December 1936 to June 1941.

Extremes.- Maximum discharge during year, 110 million gallons a day (170 second-feet) Aug. 12 (gage height, 2.95 feet); no flow at times, when water was turned out of ditch. 1936-41: Maximum discharge, that of Aug. 12, 1940; no flow at times, when water was turned out of ditch.

Remarks.- Records good. Water that passes station is returned to Anahola River.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	15.3	0	14.7	0	0.06	12.0	0.13	0	1.15	0	0.06
2	0	11.0	0	22.5	0	.06	5.1	.13	0	.19	0	.06
3	.07	10.7	0	20.5	0	.06	25	.16	0	.19	0	.06
4	.13	12.2	10.3	14.2	3.05	.06	7.0	.16	0	.13	.06	0
5	0	8.0	11.6	7.2	5.7	.06	5.8	.06	0	.06	0	0
6	.07	5.7	7.8	7.1	1.37	.06	12.4	.06	0	.06	0	0
7	.13	5.6	9.8	12.9	.16	.06	12.0	.06	0	.06	.13	0
8	.13	.13	7.7	7.0	.16	.06	1.91	.06	0	.06	19.3	0
9	.06	10.0	4.0	5.1	.16	.06	.32	.06	0	.06	6.1	0
10	0	6.2	.13	5.6	.16	.06	9.6	.06	0	.06	.19	0
11	.06	4.7	.13	6.6	.13	.06	5.7	.06	0	.06	.13	0
12	.19	14.9	.13	3.95	.13	.06	4.3	.06	0	.10	.13	0
13	.19	1.37	.13	3.5	.13	.06	1.20	.06	0	.10	.13	0
14	.19	.38	0	3.9	.13	.06	.19	.06	0	.10	.10	0
15	0	.19	0	4.6	.13	.06	.19	.06	0	.10	.10	0
16	0	.51	0	2.25	.13	.06	.19	.06	8.8	.10	.06	0
17	0	.64	0	.19	.13	.06	8.3	.06	14.1	.13	.06	0
18	0	.64	0	.13	.13	.06	1.20	.06	11.7	.10	9.4	0
19	0	.64	0	.13	.13	.10	.16	.06	8.4	0	5.3	0
20	0	.58	0	.13	.10	.10	.16	.06	1.72	0	1.19	0
21	0	.58	0	.13	.10	0	.19	.06	9.6	0	.19	0
22	0	.64	0	.13	.13	0	.19	.06	17.9	0	.19	0
23	0	.57	0	.13	0	0	.16	0	6.2	0	.19	0
24	0	.13	0	0	0	0	.13	0	12.6	0	.19	0
25	0	0	0	0	0	0	.13	0	9.4	0	.16	0
26	0	0	0	0	0	0	.13	0	6.0	0	.19	0
27	0	0	0	0	0	0	.13	0	3.6	0	.13	0
28	0	0	0	0	0	0	.13	0	.19	0	.10	0
29	0	0	0	.13	.06	.13	.13	-	9.5	0	.06	0
30	0	0	0	.06	.06	9.8	.13	-	7.0	0	.06	0
31	6.4	0	-	0	-	19.7	.13	-	4.2	-	.06	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	6.4	0	0.246	0.381	7.62	23
August	15.3	0	3.59	5.55	111	342
September	11.6	0	1.72	2.66	51.7	159
October	22.5	0	4.61	7.13	143	438
November	5.7	0	.413	.639	12.4	38
December	19.7	0	.997	1.54	30.9	95
Calendar year 1940	43	0	2.73	4.22	1,000	3,070
January	25	.13	3.69	5.71	114	351
February	.16	0	.059	.091	1.66	5.1
March	17.9	0	4.22	6.53	131	402
April	1.15	0	.094	.145	2.81	8.6
May	19.3	0	1.42	2.20	43.9	135
June	.06	0	.006	.009	.18	.6
Fiscal year 1940-41	25	0	1.78	2.75	650	2,000

Lower Anahola ditch near Kealia

Location.- Parshall flume, lat. 22°08'00", long. 159°19'30", 100 feet downstream from last wasteway, 1.3 miles southwest of mouth of Anahola River, and 2.5 miles northwest of Kealia. Altitude of gage, about 270 feet (by levels from approximate site of two demolished Geological Survey bench marks).

Records available.- December 1936 to June 1941. Records collected by East Kauai Water Co. July 1925 to January 1935 at site half a mile downstream and January 1935 to December 1936 at present site.

Extremes.- Maximum discharge during year, 11.9 million gallons a day (18.4 second-feet) Sept. 16 (gage height, 1.67 feet); no flow at times, when water was turned out of ditch.

1936-41: Maximum discharge, 16.5 million gallons a day (25.5 second-feet) Apr. 19, 1937 (gage height, 2.11 feet); no flow at times, when water was turned out of ditch.

Remarks.- Records excellent except those for period when clock was not running, which are fair. Ditch diverts water from Anahola River for irrigation of sugarcane. Flow regulated by spillways and gates.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	4.7	0.01	7.0	1.97	0	0	0	4.4	3.25	0.96	4.2	4.8
2	4.5	0	7.0	0	0	0	0	4.3	4.1	0	4.2	4.7
3	5.1	0	6.8	0	0	3.45	0	4.2	4.1	0	4.0	4.4
4	5.6	0	7.5	0	0	3.2	0	5.4	4.0	3.15	4.1	4.3
5	3.4	0	8.0	0	0	0	0	4.9	4.1	5.3	4.8	4.1
6	0	0	7.4	0	0	0	0	4.2	4.2	5.2	4.1	3.9
7	0	3.05	5.1	0	0	0	0	5.4	4.2	5.2	7.0	3.9
8	1.65	5.2	1.03	0	0	0	3.9	4.6	4.2	5.3	8.0	5.7
9	1.78	6.5	4.0	0	0	0	6.6	4.0	4.4	5.1	f8.5	4.8
10	4.8	7.0	3.1	0	0	0	6.9	2.4	4.1	4.9	7.0	4.1
11	4.8	7.0	5.7	0	4.1	0	6.6	.01	4.1	4.8	7.0	4.1
12	5.2	4.9	7.5	0	3.7	0	6.1	2.9	4.2	4.8	3.45	4.3
13	5.0	.03	5.9	0	0	0	6.6	3.6	4.5	f4.8	0	3.9
14	6.6	.03	7.0	0	0	0	4.6	3.5	4.1	a4.7	0	3.6
15	6.6	.88	2.25	4.1	0	0	1.48	3.35	0	a4.6	4.8	3.45
16	6.1	2.5	6.8	7.5	0	2.35	1.45	3.2	0	a5.1	3.5	3.3
17	5.6	3.0	4.9	4.5	0	4.6	5.0	3.3	0	f7.0	2.5	3.2
18	5.8	1.13	6.7	5.6	0	4.5	3.3	3.2	0	7.7	3.45	3.15
19	6.8	2.8	8.0	4.4	0	4.6	0	4.1	0	2.35	3.8	3.15
20	3.85	3.2	7.8	0	3.85	4.4	0	3.9	0	0	3.6	3.0
21	.02	3.45	5.5	2.85	5.3	4.3	0	4.1	0	4.9	4.4	3.1
22	4.4	4.8	.82	2.1	2.35	1.93	0	7.0	0	5.6	5.5	3.0
23	5.5	7.2	5.2	1.83	0	2.25	0	2.2	0	5.5	6.1	2.95
24	5.1	7.0	7.0	1.75	0	0	0	0	1.86	5.4	5.4	3.35
25	4.9	5.5	6.6	0	0	0	0	0	1.93	5.5	5.1	4.0
26	5.1	5.8	7.0	0	0	0	0	0	2.5	5.0	4.9	3.8
27	4.0	7.0	6.0	6.8	0	0	0	0	2.55	4.8	5.8	3.35
28	.03	7.0	5.7	7.0	0	0	0	1.74	4.6	4.7	6.1	2.95
29	2.6	7.0	6.1	6.6	0	0	0	-	6.1	4.4	5.9	3.3
30	4.7	7.0	7.5	4.3	0	0	2.45	-	5.3	4.3	5.4	3.8
31	2.9	7.0	-	0	-	0	4.6	-	3.75	-	5.1	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	6.8	0	4.10	6.34	127	390
August	7.2	0	3.74	5.79	116	356
September	8.0	.82	5.90	9.13	177	543
October	7.5	0	1.98	3.06	61.3	188
November	5.3	0	.643	.996	19.3	59
December	4.6	0	1.15	1.78	35.6	109
Calendar year 1940	8.0	0	2.21	3.42	809	2,480
January	6.9	0	1.92	2.97	59.6	183
February	7.0	0	3.21	4.97	89.9	276
March	6.1	0	2.78	4.30	86.1	264
April	7.7	0	4.37	6.76	131	402
May	8.5	0	4.76	7.36	148	453
June	5.7	2.95	3.78	5.85	113	348
Fiscal year 1940-41	8.5	0	3.19	4.94	1,160	3,570

a No gage-height record; discharge computed on basis of records for station on nearby ditches.
f Computed on basis of partly estimated gage-height record.

Ka Loko ditch near Kilauea

Location.- Parshall flume, lat. 22°10'35", long. 159°28'00", 60 feet downstream from confluence of Ka Loko and Moloaa ditches, 400 feet upstream from Ka Loko Reservoir, and 3½ miles southeast of Kilauea. Altitude of gage, 750 feet (from topographic map).

Records available.- August 1932 to June 1941.

Extremes.- Maximum discharge during year, 95 million gallons a day (147 second-feet) Aug. 12 (gage height, 4.07 feet); minimum, 1.02 million gallons a day (1.58 second-feet) Dec. 28.
1932-41: Maximum discharge, 108 million gallons a day (167 second-feet) Jan. 2, 1933 (gage height, 4.41 feet); minimum, 0.19 million gallons a day (0.29 second-foot) May 24, 1933.

Remarks.- Records excellent. Ditch diverts water from Moloaa and Puu Ka Ele Streams, half a mile southeast and 1½ miles southwest of station, respectively. Flow regulated by wasteway gates. Water used for irrigation in vicinity of Kilauea.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.63	9.7	4.7	17.6	4.2	2.75	2.2	2.25	1.69	1.89	1.54	1.80
2	1.54	4.4	6.6	13.8	4.6	3.1	1.39	2.15	1.71	1.80	1.54	1.80
3	2.05	5.5	3.55	10.9	3.45	5.8	10.5	2.15	1.80	1.89	1.54	1.89
4	4.2	4.7	9.5	9.9	5.9	3.15	3.8	4.5	1.89	10.3	1.63	1.71
5	2.35	4.3	7.7	5.2	3.8	2.2	4.7	2.15	1.63	3.25	2.15	1.80
6	2.35	3.25	4.4	4.6	3.05	2.25	5.9	1.80	1.54	2.65	1.54	1.80
7	4.1	3.36	4.0	5.3	2.65	2.45	3.35	3.4	1.47	2.45	10.2	2.15
8	2.15	4.8	3.35	5.1	2.55	2.45	3.8	1.98	1.39	2.25	12.5	4.6
9	1.89	6.5	3.25	4.3	2.45	3.9	5.1	1.71	1.47	2.25	3.8	1.98
10	1.80	3.9	3.35	4.1	2.85	3.15	7.3	1.63	1.31	2.15	3.4	1.80
11	1.71	3.25	2.95	3.9	2.85	3.05	1.98	1.63	1.54	2.15	5.6	1.89
12	3.05	19.4	2.95	3.25	2.45	2.45	1.63	1.63	1.47	2.15	3.05	1.98
13	2.35	8.0	2.95	3.05	2.35	2.45	2.8	1.54	4.4	2.15	3.25	1.71
14	6.8	4.3	2.75	4.5	2.45	2.25	3.25	1.71	5.6	2.15	2.55	1.54
15	3.95	3.7	2.65	5.0	4.9	2.25	3.15	1.54	4.5	1.98	2.75	1.54
16	2.25	5.3	6.8	3.05	4.7	2.15	3.15	1.71	14.3	1.63	3.7	1.47
17	2.75	5.0	9.0	4.3	4.4	2.05	6.8	1.54	7.4	6.0	4.7	1.47
18	2.75	4.0	3.55	3.45	3.05	2.35	3.35	1.54	5.0	10.3	5.6	1.47
19	15.4	6.0	2.65	2.85	2.85	2.05	3.05	5.6	3.35	3.15	3.05	1.54
20	3.9	5.1	2.35	3.25	3.25	1.98	2.85	1.98	2.35	3.8	2.45	1.54
21	2.55	3.45	2.25	2.85	2.45	1.98	2.85	8.2	5.0	2.55	2.35	1.63
22	2.25	3.35	2.05	2.55	5.5	1.98	2.95	22	6.7	2.15	2.25	1.47
23	2.05	3.15	1.98	4.2	5.9	3.35	2.65	6.8	3.15	2.25	2.45	1.54
24	2.05	3.15	2.75	2.75	3.3	9.1	2.65	3.55	3.05	2.7	2.25	2.1
25	1.98	5.8	2.55	2.45	2.55	2.55	2.55	2.55	5.1	2.05	2.15	3.8
26	2.25	3.45	3.25	2.45	3.25	2.35	2.65	2.15	2.55	1.80	2.2	2.15
27	3.05	2.95	2.55	4.5	2.45	2.25	2.45	2.05	2.25	1.71	2.65	1.71
28	2.5	2.95	2.45	3.85	4.2	2.05	2.45	1.98	3.2	1.63	4.2	1.54
29	6.7	2.95	2.35	8.0	10.6	2.85	2.45	-	5.6	1.63	2.25	2.3
30	5.8	3.85	5.5	5.2	3.25	3.5	2.55	-	3.05	1.63	1.98	2.75
31	7.3	3.05	-	4.6	-	2.75	2.35	-	2.15	-	1.89	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	16.4	1.54	3.47	5.37	107	330
August	19.4	2.95	4.91	7.60	152	468
September	9.5	1.98	3.89	6.02	117	358
October	17.5	2.45	5.18	8.01	161	493
November	10.6	2.35	3.74	5.79	112	344
December	9.1	1.98	2.87	4.44	88.9	273
Calendar year 1940	44	.81	4.02	6.22	1,470	4,510
January	10.5	1.39	3.50	5.42	109	333
February	22	1.54	3.34	5.17	93.4	287
March	14.3	1.31	3.47	5.37	108	331
April	10.3	1.63	2.88	4.46	86.4	265
May	12.5	1.54	3.33	5.15	103	317
June	4.6	1.47	1.95	3.02	58.5	179
Fiscal year 1940-41	22	1.31	3.55	5.49	1,300	3,980

Puu Ka Ele ditch near Kilauea

Location.- Parshall flume, lat. 22°11'05", long. 159°24'20", 100 feet upstream from Puu Ka Ele Reservoir and 2 miles south of Kilauea. Altitude of gage, 430 feet (by barometer).

Records available.- August 1932 to June 1941.

Extremes.- Maximum discharge during year, 19.8 million gallons a day (30.6 second-feet) Feb. 21 (gage height, 1.51 feet); no flow during several periods in year.
1932-41: Maximum discharge, 32.5 million gallons a day (50.3 second-feet) Mar. 7, 1938 (gage height, 2.06 feet); no flow occasionally, when water was shut out of ditch.

Remarks.- Records good. Ditch diverts water from Puu Ka Ele Stream 1 mile southwest of station. Flow regulated by wasteway gate 100 feet above station. Water used for irrigation in vicinity of Kilauea.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.71	8.1	4.7	7.0		0	0	1.98	2.25	2.55	1.98	1.89
2	1.63	5.4	5.4	3.15		0	0	1.98	2.25	2.55	1.98	1.89
3	1.98	5.4	4.7	.11		0	2.7	1.98	2.25	6.0	1.98	1.98
4	2.95	6.4	6.8	0		0	.12	3.7	2.25	.24	2.05	1.89
5	2.15	5.8	6.0	1.49		0	0	2.15	2.15	2.65	2.65	2.05
6	2.15	5.4	5.2	3.55		0	.33	1.98	2.05	2.55	1.98	1.80
7	3.6	5.2	5.0	3.8		0	.06	2.95	1.98	2.35	9.1	2.05
8	2.15	5.3	4.4	3.7		0	0	2.05	1.98	2.25	13.9	4.2
9	1.89	7.3	4.3	3.45		0	2.5	1.89	1.98	2.15	4.9	1.80
10	1.80	4.7	4.0	3.45		0	8.7	1.89	1.98	2.25	3.6	1.71
11	1.71	3.9	3.7	3.45		0	3.8	1.89	2.25	2.2	5.5	1.89
12	2.45	6.2	3.55	2.95		0	3.35	1.89	1.89	2.35	3.7	1.89
13	2.0	1.02	3.45	2.85		0	3.15	1.89	5.5	2.35	3.55	1.71
14	5.4	1.39	3.25	2.15		0	1.75	2.45	4.2	2.25	2.95	1.63
15	3.25	3.15	3.15	0		0	0	1.89	4.1	1.98	3.05	1.63
16	2.15	4.0	4.9	0		0	0	1.98	13.2	1.98	3.9	1.54
17	2.45	1.00	6.0	0		0	0	1.80	7.5	4.8	6.0	1.54
18	2.95	0	4.1	0		0	0	1.71	5.2	10.3	5.3	1.47
19	9.6	0	3.55	0		0	0	6.0	3.8	3.45	3.8	1.63
20	4.9	0	3.45	0		0	0	1.98	3.25	3.15	3.15	1.54
21	3.15	0	3.25	0		0	0	6.0	6.7	2.65	2.95	1.54
22	2.75	0	3.15	.82		0	0	5.9	5.4	2.45	2.75	1.39
23	2.55	0	2.95	3.2		0	0	4.9	3.55	2.65	2.75	1.47
24	2.45	0	3.35	2.35		.65	0	4.1	5.8	3.45	2.65	1.98
25	2.15	3.85	2.85	2.15		0	0	3.15	4.0	2.85	2.35	4.8
26	2.35	4.0	2.75	2.25		0	0	2.85	.66	2.35	2.45	2.25
27	2.75	3.7	2.45	1.58		0	0	2.55	0	2.35	2.65	1.71
28	2.45	3.55	2.45	0		.10	0	2.55	3.7	2.25	3.5	1.54
29	5.4	3.55	2.25	0		.52	.92	-	4.8	2.15	2.25	2.45
30	5.6	4.5	3.4	0		1.35	2.35	-	3.25	2.15	2.05	2.55
31	7.1	3.7	-	0		.27	2.05	-	2.85	-	2.95	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	9.6	1.63	3.15	4.87	97.6	299
August	8.1	0	3.44	5.32	107	327
September	6.8	2.25	3.95	6.11	118	364
October	7.0	0	1.72	2.66	53.4	164
November	0	0	0	0	0	0
December	1.35	0	.093	.144	2.89	8.9
Calendar year 1940	11.5	0	2.30	3.56	840	2,580
January	8.7	0	1.03	1.59	31.8	98
February	6.0	1.71	2.79	4.32	78.0	239
March	13.2	0	3.64	5.63	113	346
April	10.3	.24	2.86	4.43	85.8	263
May	13.9	1.98	3.69	5.71	114	351
June	4.8	1.39	1.98	3.06	59.4	182
Fiscal year 1940-41	13.9	0	2.36	3.65	861	2,640

Kalihiwai ditch near Kilauea

Location.- Parshall flume, lat. 22°10'55", long. 159°25'55", 0.1 mile upstream from Kalihiwai Reservoir and 2.4 miles southwest of Kilauea. Altitude of gage, 410 feet (by barometer).

Records available.- June 1934 to June 1941.

Extremes.- Maximum discharge during year, 38 million gallons a day (59 second-feet) Aug. 12 (gage height, 2.27 feet); minimum, 0.09 million gallons a day (0.14 second-foot) Oct. 13.

1934-41: Maximum discharge recorded, 64 million gallons a day (99 second-feet) Mar. 7, 1938 (gage height, 3.17 feet); minimum, 0.01 million gallons a day (0.02 second-foot) Nov. 28, Dec. 4, 1934.

Remarks.- Records good. Ditch diverts low-water flow from most branches of Pohakuhonu Stream at intakes, about 1 mile south of station. Diversion of flow to Kahililolo 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, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.45	17.4	5.2	4.7	1.71	0.81	2.05	1.98	2.25	2.35	1.98	2.35
2	2.35	7.0	2.6	.90	1.92	.81	1.31	1.96	2.25	2.25	1.98	2.25
3	2.9	6.3	.75	.63	1.63	1.54	1.76	1.98	2.15	2.25	1.98	2.15
4	4.3	10.5	.81	.46	2.55	.95	.63	3.7	2.35	4.3	2.2	2.05
5	3.05	8.4	.68	.27	1.98	.81	.52	2.25	2.15	3.05	3.1	2.15
6	3.65	3.85	4.2	.23	1.47	.81	.52	1.98	2.05	2.75	2.05	1.98
7	6.1	1.89	7.3	.23	1.23	1.67	.57	2.6	1.98	2.55	17.0	2.85
8	4.3	3.7	5.8	.19	1.16	2.45	.52	2.05	1.89	2.35	17.6	4.8
9	3.25	2.05	2.1	.19	2.45	1.96	4.2	1.89	1.98	2.25	5.9	2.25
10	2.95	.68	1.80	.19	3.26	1.73	8.1	1.80	1.89	2.15	4.4	2.05
11	2.75	4.1	1.63	.16	3.05	2.35	4.5	1.80	2.05	2.15	6.3	2.15
12	3.55	7.9	1.54	.16	2.85	2.25	3.8	1.80	1.98	2.15	5.9	2.15
13	3.25	.70	1.39	2.2	2.75	2.15	3.55	2.15	3.95	2.35	5.2	1.98
14	10.0	.36	1.31	4.7	2.65	2.15	3.35	2.25	5.8	2.25	3.9	1.80
15	6.2	.32	1.23	3.7	2.35	2.25	3.26	1.89	5.3	2.15	3.95	1.80
16	3.9	.32	1.80	3.05	1.71	2.25	3.15	1.80	7.5	2.15	5.6	1.71
17	3.55	.27	1.09	2.2	1.09	2.25	5.5	1.80	1.69	5.6	7.0	1.63
18	3.6	.27	.46	.95	.95	2.25	3.25	1.77	.81	12.7	8.0	1.63
19	15.3	.27	.41	.81	1.02	2.25	2.95	7.4	4.0	4.1	5.0	1.89
20	8.4	.27	2.55	.81	.95	2.15	2.75	2.45	4.3	3.35	3.9	1.71
21	4.6	4.5	3.45	.75	.75	2.05	2.65	8.5	5.0	2.85	3.45	1.89
22	3.7	5.5	3.25	.68	1.38	2.15	2.55	9.9	4.4	2.55	3.26	1.71
23	3.25	5.0	3.15	.57	1.81	2.9	2.45	.68	.81	2.45	3.05	1.91
24	3.05	5.9	3.9	.32	.95	4.1	2.35	.46	.88	2.25	2.95	2.85
25	2.85	4.9	3.35	.27	.81	.81	2.35	2.4	.98	2.15	3.05	7.1
26	2.85	.76	3.8	.19	.81	.57	2.35	2.85	1.99	2.15	2.75	2.95
27	3.05	.57	3.05	.23	.68	.57	2.25	2.65	3.45	2.15	3.55	2.25
28	3.05	2.35	2.95	.27	1.35	1.80	2.16	2.45	4.5	2.05	5.0	1.98
29	7.1	4.4	2.85	.41	2.1	2.9	1.69	-	6.0	1.98	2.95	2.45
30	9.7	11.1	5.0	1.10	1.02	3.1	1.50	-	4.0	1.98	2.55	10.2
31	13.2	8.5	-	1.54	-	2.85	2.05	-	2.8	-	2.45	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	15.3	2.35	4.91	7.60	152	467
August	17.4	.27	4.19	6.48	130	399
September	7.3	.41	2.65	4.10	79.4	244
October	4.7	.16	1.07	1.66	33.1	101
November	3.25	.68	1.68	2.60	50.4	155
December	4.1	.57	1.92	2.97	59.6	183
Calendar year 1940	24	.16	2.68	4.15	981	3,010
January	8.1	.52	2.60	4.02	80.6	247
February	9.9	.46	2.76	4.27	77.2	237
March	7.5	.81	3.00	4.64	93.1	286
April	12.7	1.98	2.93	4.53	87.8	269
May	17.6	1.98	4.77	7.38	148	454
June	10.2	1.63	2.62	4.05	78.6	241
Fiscal year 1940-41	17.6	.16	2.93	4.63	1,070	3,280

Hanalei River at altitude 625 feet, near Hanalei

Location.- Lat. 22°07'10", long. 159°28'05", 0.4 mile downstream from confluence with Kaapoko Stream and 6½ miles southeast of Hanalei. Altitude of gage, 625 feet (from topographic map).
Drainage area.- 7.4 square miles.
Records available.- January 1914 to June 1941.
Average discharge.- 23 years (1918-41), 47.6 million gallons a day (73.6 second-feet).
Extremes.- Maximum discharge during year, 8,750 million gallons a day (13,500 second-feet) Oct. 2 (gage height, 9.74 feet), from rating curve extended above 200 million gallons a day; minimum, 8.6 million gallons a day (13.3 second-feet) Feb. 6-9, Mar. 10, 13.
1914-41: Maximum discharge, 13,500 million gallons a day (20,900 second-feet) Apr. 27, 1939 (gage height, 11.12 feet), from rating curve extended above 200 million gallons a day; minimum, 5.8 million gallons a day (9.0 second-feet) Apr. 28, May 1-3, 1926.
Remarks.- Records good except those for period when clock was not running, which are poor. Since 1925 Hanalei tunnel has been diverting an average of about 20 million gallons of water a day from Kaapoko Stream and Hanalei River, at points about 2 miles above station, for irrigation in vicinity of Lihue.

Rating tables, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)
(Shifting-control method used July 1 to Aug. 12)

July 1 to Oct. 2						Oct. 3 to June 30			
0.3	9.3	1.3	56	3.0	293	0.3	7.4	1.3	56
.5	15.1	1.6	80	3.5	451	.5	12.8	1.6	84
.7	22.7	2.0	120	4.0	660	.7	20.5	2.0	132
1.0	37	2.5	188			1.0	35.5	2.5	212

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	14.2	99	57	90	27	11.0	56	8.8	9.8	16.0	9.3	16.3
2	13.9	47	69	334	40	10.7	19.2	8.8	9.3	14.6	9.3	15.2
3	19.4	47	39.5	122	36.5	11.6	114	8.8	9.6	14.2	9.1	14.2
4	40	44	92	114	95	11.3	29	9.6	10.4	37	9.8	13.2
5	26	31.5	96	52	42	11.0	19.7	9.1	9.8	20.5	22.5	12.8
6	29	26.5	41	44	24	13.5	24	8.6	9.3	13.8	11.1	11.9
7	38.5	28.5	46	53	20.5	10.4	23	10.6	8.6	12.5	137	51
8	31.5	61	34	47	18.4	9.8	15.6	9.3	9.1	11.9	112	27
9	24	86	32	40	17.1	9.8	14.9	9.2	9.6	11.0	31.5	14.2
10	25	36	28	25	16.7	11.0	27.5	9.0	8.8	10.7	31	11.5
11	29	29	24.5	26.5	15.6	10.4	14.2	8.8	10.8	10.4	35.5	19.1
12	23.5	310	24.5	22	14.9	9.6	13.2	8.8	9.1	10.4	35	18.0
13	28	490	22.5	19.2	13.5	9.6	12.5	8.8	11.9	11.0	42	12.2
14	46	64	23	18.4	14.9	9.3	12.2	8.6	16.2	10.7	30	11.0
15	32.5	54	19.8	17.6	52	9.6	11.6	8.6	20.5	10.1	34.5	10.4
16	23.5	62	27.5	16.7	52	9.6	11.8	8.4	87	10.9	31.5	9.8
17	21	84	24	18.3	20.5	9.3	18.0	8.4	84	59	46	9.6
18	22	49	19.4	18.6	16.3	9.6	11.6	8.2	48	28	74	9.6
19	34	78	18.2	16.0	19.3	9.6	11.5	11	34.5	32.5	29	18.0
20	167	41	17.6	28	17.4	9.3	10.7	9.0	17.6	24	20.5	10.1
21	29.5	31.5	16.8	17.5	13.5	9.3	10.4	40	27.5	14.6	24	13.2
22	25	28.5	16.2	14.2	22.5	9.3	10.1	95	72	12.2	18.0	9.8
23	21.5	29	15.8	39.5	18.4	10.4	9.8	34	21.5	11.6	25.5	27.5
24	19.4	31	28	16.0	13.5	19.1	9.6	22	29	11.0	19.0	24.5
25	18.2	59	18.2	13.5	12.5	10.4	9.3	17	21.5	10.7	17.1	56
26	17.2	29	80	12.8	12.2	9.8	9.8	15	21	10.1	34.5	18.0
27	17.2	27.5	20.5	32	11.6	9.8	9.3	12	19.7	10.1	87	13.5
28	20.5	27.5	18.6	30.5	13.4	24.5	9.3	10	33	9.6	58	11.9
29	35	37	17.2	76	14.0	41	9.1	-	46	9.6	24.5	12.1
30	63	57	73	34	11.3	88	9.1	-	24.5	9.3	20	23.5
31	122	38.5	-	25.5	-	64	8.8	-	18.4	-	17.6	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	167	13.9	34.7	53.7	1,080	3,300
August	490	26.5	69.8	108	2,160	6,640
September	96	15.8	35.3	54.6	1,060	3,250
October	334	12.8	46.3	71.6	1,430	4,400
November	95	11.3	23.9	37.0	716	2,200
December	88	9.3	16.2	25.1	502	1,540
Calendar year 1940	490	7.2	33.4	51.7	12,220	37,490
January	114	8.8	18.5	28.6	574	1,760
February	95	8.2	15.2	23.5	425	1,310
March	87	8.8	24.8	38.4	768	2,360
April	59	9.3	15.9	24.6	478	1,470
May	137	9.1	35.7	55.2	1,110	3,390
June	56	9.6	17.5	27.1	525	1,610
Fiscal year 1940-41	490	8.2	29.7	46.0	10,830	33,230

Note.- Discharge for period of no gage-height record, Feb. 9 to Mar. 1, computed on basis of records for stations on nearby streams.

Hanakapiai Stream near Hanalei

Location.- Lat. 22°11'20", long. 159°35'50", 1⅛ miles upstream from mouth and 6 miles west of Hanalei. Altitude of gage, 450 feet (by barometer).

Drainage area.- 2.6 square miles.

Records available.- December 1931 to June 1941.

Extremes.- Maximum discharge during year, 544 million gallons a day (842 second-feet) Oct. 2 (gage height, 4.50 feet), from rating curve extended above 60 million gallons a day; minimum, 2.35 million gallons a day (3.64 second-feet) probably Sept. 22.
1931-41: Maximum discharge, 2,680 million gallons a day (4,150 second-feet) Dec. 23, 1937 (gage height, 8.41 feet); from rating curve extended above 60 million gallons a day; minimum, that of Sept. 22, 1940.

Remarks.- Records good except those for period when clock was not running, which are poor. No diversions.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.3	2.65	1.8	42
.4	3.55	2.1	62
.6	6.0	2.4	87
.8	9.2	2.7	118
1.0	13.4	3.0	158
1.2	18.5	3.5	248
1.5	28.5		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.35	28.5	26.5	20	12.9	3.45	36	3.45	3.9	5.7	3.3	4.6
2	2.65	8.0	21	200	28.5	4.4	9.8	3.35	3.65	5.2	3.3	4.2
3	6.1	8.0	9.4	100	15.6	9.5	7.5	3.85	3.65	6.7	3.2	4.0
4	16.7	17.6	15.3	20	16.4	4.5	6.0	26.5	3.8	5.5	3.3	3.65
5	5.1	7.4	10.0	15	9.6	4.2	6.4	5.8	4.1	4.7	3.9	3.65
6	7.1	4.5	5.0	9.0	6.4	6.1	8.9	4.2	4.5	4.4	5.3	3.55
7	7.6	3.9	7.0	7.0	5.2	4.4	12.4	57	3.65	4.1	157	3.65
8	8.0	13.8	5.1	5.0	4.7	3.55	5.7	7.5	3.55	4.0	94	3.55
9	6.2	9.6	4.1	4.5	4.4	5.8	22	5.1	6.6	3.9	18.4	3.45
10	3.55	4.9	3.45	4.0	7.2	5.4	61	4.4	4.2	3.8	13.3	3.45
11	3.1	3.65	3.2	5.0	5.2	4.0	9.2	4.4	4.1	3.8	15.3	3.8
12	6.3	32.5	3.1	9.0	5.0	3.55	6.4	4.1	3.8	4.0	14.1	5.1
13	9.0	26	3.0	6.0	4.4	14.7	5.7	4.0	37	3.8	13.4	3.8
14	20.5	5.6	3.1	4.5	4.2	5.4	5.2	3.8	25.5	3.65	11.5	3.45
15	8.7	15.8	3.1	3.9	8.1	4.2	5.0	3.75	16.1	3.55	25.5	3.45
16	4.1	20.5	5.6	3.7	6.6	3.9	5.7	6.9	54	4.2	18.9	3.55
17	4.1	11.0	5.6	15	4.7	3.45	16.8	3.9	26	52	13.9	3.35
18	17.6	5.9	4.5	7.0	4.1	16.2	5.7	3.65	33	24	9.0	3.35
19	8.3	9.0	4.0	5.0	9.8	7.2	4.7	3.45	12.0	8.5	6.6	7.8
20	6.2	6.0	3.5	4.4	8.9	4.5	4.2	3.35	7.0	7.1	5.9	4.5
21	3.9	3.9	3.2	4.1	5.1	3.9	4.6	22	5.7	5.4	5.7	6.5
22	3.3	3.55	3.0	3.9	14.7	4.6	4.5	29.5	5.0	4.7	5.7	5.1
23	3.0	3.3	3.0	3.9	12.0	16.2	3.9	15.4	5.1	5.6	6.4	5.6
24	2.9	6.9	3.3	3.8	5.4	33.5	3.65	7.2	8.4	4.4	6.3	6.6
25	2.75	30.5	4.5	3.65	4.4	8.1	3.65	5.6	9.9	4.1	6.5	5.2
26	2.9	6.0	6.0	3.55	4.1	6.9	4.7	4.5	14.3	3.55	10.3	4.5
27	3.3	4.4	4.5	10.2	4.0	6.8	4.2	4.0	13.9	3.35	23.5	3.9
28	2.85	3.9	3.8	15.7	7.8	8.0	3.65	4.2	25.5	3.35	20.5	4.6
29	11.8	4.7	3.5	17.8	6.1	36.5	3.8	-	44	3.3	7.7	5.0
30	23	18.6	35	7.1	3.8	29	5.4	-	13.0	3.3	6.0	25.5
31	42	12.4	-	13.5	-	54	3.8	-	7.4	-	5.1	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	42	2.65	8.26	12.8	256	785
August	32.5	3.3	11.0	17.0	340	1,040
September	35	3.0	7.21	11.2	216	564
October	200	3.55	17.3	26.8	535	1,640
November	26.5	3.8	7.91	12.2	237	728
December	54	3.45	10.5	16.2	326	1,000
Calendar year 1940	200	2.4	10.6	16.4	3,890	11,940
January	61	3.65	9.36	14.5	290	890
February	57	3.35	9.10	14.1	255	782
March	54	3.55	13.3	20.6	412	1,270
April	52	3.3	6.79	10.5	204	625
May	157	3.2	17.5	27.1	544	1,670
June	25.5	3.35	5.07	7.84	152	467
Fiscal year 1940-41	200	2.65	10.3	15.9	3,770	11,560

Note.- Discharge for period of no gage-height record, Sept. 17 to Oct. 19, computed on basis for stations on all nearby streams.

Hanakoa Stream near Hanalei

Location.- Lat. 22°11'00", long. 159°37'35", three-quarters of a mile upstream from mouth and 7½ miles west of Hanalei. Altitude of gage, 470 feet (by barometer).

Drainage area.- 1.1 square miles.

Records available.- December 1931 to June 1941.

Extremes.- Maximum discharge during year, 373 illion gallons a day (577 second-feet) Oct. 2 (gage height, 4.63 feet), from rating curve extended above 30 million gallons a day; minimum, 0.43 million gallons a day (0.66 second-foot) May 1-4.
1931-41: Maximum discharge, 569 million gallons a day (880 second-feet) June 10, 1938 (gage height, 5.51 feet), from rating curve extended above 30 million gallons a day; minimum, 0.17 million gallons a day (0.26 second-foot) Mar. 21, 22, 1934.

Remarks.- Records good. No diversions.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.9	0.10	1.3	3.9	2.3	43
1.0	.47	1.4	5.2	2.6	63
1.05	.79	1.5	8.2	3.0	101
1.1	1.20	1.7	14.2		
1.2	2.35	2.0	26.5		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.79	10.3	5.2	3.3	3.15	0.59	28	0.59	0.65	1.50	0.43	0.87
2	.53	2.5	3.9	51	7.6	.59	4.3	.53	.59	1.20	.43	.79
3	1.17	2.3	2.1	13.1	4.1	1.42	1.96	.69	.59	1.60	.43	.72
4	4.0	5.0	1.46	5.0	4.2	.72	1.40	11.6	.53	1.11	.43	.65
5	1.11	2.35	2.1	1.96	2.1	.65	1.11	1.40	.59	.94	.59	.65
6	1.71	1.50	1.40	1.60	1.50	.95	1.11	.94	.65	.87	.85	.59
7	1.60	1.30	1.83	1.40	1.11	.72	1.35	31	.47	.79	74	.59
8	1.90	2.75	1.40	1.11	.94	.59	.94	2.45	.47	.79	39.5	.59
9	1.82	2.35	1.11	.94	.87	1.48	.88	1.40	.94	.72	5.2	.59
10	.94	1.40	1.02	.87	1.68	1.02	39	1.11	.65	.65	3.1	.53
11	.87	1.11	.87	1.02	1.02	.65	2.7	1.02	.53	.65	3.3	.65
12	1.51	8.7	.79	1.40	.94	.59	1.50	.94	.47	.65	2.95	.87
13	1.61	7.1	.79	.94	.87	4.7	1.20	.79	17.2	.65	2.8	.59
14	4.8	1.71	.79	.87	.79	1.40	1.02	.72	6.9	.59	2.8	.47
15	1.98	4.5	.75	.79	1.11	.87	.94	.65	2.8	.59	7.2	.47
16	1.20	6.1	.87	.72	1.02	.94	.94	.79	16.3	1.04	5.2	.47
17	.94	2.65	1.50	3.25	.79	.65	2.45	.65	6.4	15.5	2.95	.47
18	2.65	1.71	.87	1.40	.65	.91	1.02	.59	9.4	7.0	1.96	.47
19	2.05	1.96	.65	.87	4.4	6.4	.94	.59	2.8	2.1	1.50	1.13
20	1.60	1.50	.59	.79	2.5	1.02	.87	.53	1.71	1.50	1.20	.65
21	1.11	1.11	.53	.79	1.11	.79	1.02	5.5	1.30	1.02	1.20	.87
22	.87	1.02	.47	.72	3.4	.65	1.11	7.8	1.11	.87	1.11	.65
23	.79	.94	.47	.65	2.9	3.95	.79	5.0	1.11	.79	1.30	.53
24	.72	1.40	.53	.65	1.20	4.0	.72	1.83	1.45	.72	1.02	.65
25	.65	5.6	.79	.59	.94	7.1	.65	1.30	1.50	.65	1.02	.59
26	.79	1.50	1.02	.59	.79	1.83	1.20	.87	2.8	.59	1.76	.53
27	.87	1.20	.59	1.67	.87	1.50	.94	.72	3.3	.53	5.9	.47
28	.72	1.11	.53	4.2	.87	1.71	.72	.79	7.4	.47	5.7	.53
29	2.3	1.20	.53	3.5	.94	1.50	.65	-	19.5	.47	1.71	.59
30	5.5	3.25	8.4	1.20	.65	15.0	1.13	-	3.65	.47	1.30	1.89
31	16.3	2.8	-	3.35	-	8.8	.72	-	1.96	-	1.02	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	16.3	0.53	2.11	3.26	65.4	201
August	10.3	.94	2.90	4.49	89.9	276
September	8.4	.47	1.46	2.26	43.8	135
October	51	.59	3.56	5.51	110	338
November	7.6	.65	1.83	2.83	55.0	169
December	15.0	.59	2.38	3.68	73.7	226
Calendar year 1940	92	.47	3.43	5.31	1,250	3,850
January	39	.65	3.33	5.15	103	317
February	31	.53	2.96	4.58	82.8	254
March	19.5	.47	3.73	5.77	116	355
April	16.5	.47	1.57	2.43	47.0	144
May	74	.43	5.80	8.97	180	552
June	1.89	.47	.670	1.04	20.1	62
Fiscal year 1940-41	74	.43	2.70	4.18	987	3,030

Kalalau Stream near Hanalei

Location.- Lat. 22°09'50", long. 159°38'15", 2 miles upstream from mouth and 9 miles southwest of Hanalei. Altitude of gage, 960 feet (by barometer).

Drainage area.- 1.6 square miles.

Records available.- November 1931 to June 1941.

Extremes.- Maximum discharge during year, 151 million gallons a day (234 second-feet) Oct. 2 (gage height, 2.99 feet), from rating curve extended above 18 million gallons a day; minimum, 2.6 million gallons a day (4.0 second-feet) Dec. 6.
1931-41: Maximum discharge, 338 million gallons a day (523 second-feet) Nov. 27, 1939 (gage height, 3.76 feet), from rating curve extended above 18 million gallons a day; minimum, 1.9 million gallons a day (2.9 second-feet) Dec. 10, 11, 1933.

Remarks.- Records good. No diversions.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.0	2.15	1.4	9.S
1.1	3.2	1.5	12.7
1.2	4.9	1.7	20.6
1.3	7.1	1.9	31

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.3	3.6	3.3	3.3	3.2	2.S	7.6	2.9	3.05	3.3	2.9	3.2
2	3.2	3.3	3.3	29.5	3.3	2.8	4.9	2.9	2.9	3.2	2.9	3.2
3	3.3	3.3	3.2	9.8	3.2	2.8	3.95	3.05	2.9	3.2	2.9	3.2
4	3.45	3.45	3.2	8.1	3.3	2.S	3.6	8.0	2.9	3.2	2.9	3.2
5	3.3	3.3	3.2	4.5	3.05	2.8	3.45	4.5	2.9	3.05	2.9	3.2
6	3.3	3.3	3.2	3.75	2.9	2.8	3.3	3.6	2.9	2.9	3.05	3.2
7	3.3	3.3	3.2	3.6	2.9	2.8	3.2	23	2.9	2.9	16.4	3.2
8	3.3	3.3	3.2	3.45	2.9	2.8	3.05	7.2	2.9	2.9	18.1	3.2
9	3.3	3.3	3.2	3.3	2.9	2.9	21	4.9	2.9	2.9	6.4	3.2
10	3.3	3.3	3.2	3.3	3.2	2.8	10.5	3.95	2.9	2.9	5.1	3.2
11	3.3	3.3	3.2	3.3	2.9	2.8	5.6	3.6	2.9	2.9	4.3	3.2
12	3.3	4.6	3.2	3.2	2.9	2.8	4.3	3.45	2.9	2.9	3.95	3.2
13	3.3	4.5	3.2	3.2	2.8	3.45	3.75	3.3	6.3	2.9	3.75	3.05
14	3.3	3.6	3.2	3.2	2.S	3.05	3.6	3.2	6.5	2.9	3.75	3.05
15	3.3	3.6	3.2	3.2	2.8	2.9	3.45	3.2	4.3	2.9	4.5	2.9
16	3.3	3.75	3.2	3.2	2.8	2.9	3.6	3.2	4.7	2.9	4.7	2.9
17	3.3	3.6	3.2	3.6	2.S	2.8	3.3	3.05	4.3	5.3	3.95	2.9
18	3.3	3.45	3.2	3.3	2.8	4.5	3.2	3.05	4.1	5.3	3.6	2.9
19	3.3	3.45	3.2	3.2	4.2	3.45	3.05	3.05	3.6	3.75	3.45	3.05
20	3.3	3.45	3.2	3.05	3.45	3.05	3.05	2.9	3.3	3.45	3.45	3.05
21	3.3	3.45	3.2	3.05	3.05	2.9	3.05	3.9	3.2	3.2	3.3	3.05
22	3.2	3.3	3.2	3.05	3.2	3.2	3.05	4.6	3.2	3.2	3.3	3.05
23	3.2	3.3	3.2	3.05	3.2	3.45	3.05	5.8	3.05	3.2	3.3	3.05
24	3.2	3.3	3.2	2.9	2.9	4.5	2.9	4.5	3.05	3.0	3.2	3.05
25	3.2	3.3	3.2	2.9	2.9	3.6	2.9	3.6	3.05	3.0	3.2	3.05
26	3.2	3.2	3.2	2.9	2.9	3.3	3.3	3.45	3.2	2.9	3.2	3.05
27	3.2	3.2	3.2	2.9	2.9	3.2	3.2	3.2	3.3	2.9	3.6	3.05
28	3.2	3.2	3.05	3.2	2.8	3.2	3.0	3.2	3.75	2.9	3.6	3.05
29	3.2	3.2	3.05	3.2	2.8	4.3	2.9	-	6.9	2.9	3.3	3.05
30	3.3	3.3	3.45	2.9	2.8	4.9	3.45	-	4.5	2.9	3.2	3.05
31	4.3	3.3	-	3.2	-	8.6	3.2	-	3.75	-	3.2	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	4.3	3.2	3.31	5.12	103	315
August	4.6	3.2	3.45	5.34	107	328
September	3.45	3.05	3.20	4.95	96.2	295
October	29.5	2.9	4.46	6.90	138	424
November	4.2	2.8	3.02	4.67	90.6	278
December	8.6	2.S	3.39	5.25	105	322
Calendar year 1940	71	2.8	4.26	6.59	1,560	4,780
January	21	2.9	4.57	6.76	136	416
February	23	2.9	4.58	7.09	128	394
March	6.9	2.9	3.65	5.65	113	347
April	5.3	2.9	3.20	4.95	95.S	294
May	18.1	2.9	4.50	6.96	139	428
June	3.2	2.9	3.09	4.78	92.7	284
Fiscal year 1940-41	29.5	2.8	3.68	5.69	1,340	4,120

MISCELLANEOUS DISCHARGE MEASUREMENTS

Measurements of streams and ditches on the island of Kauai at other than regular gaging stations are listed below:

Miscellaneous discharge measurements on Kauai during the period July 1940 to July 1941

Date	Stream	Tributary to-	Locality	Discharge	
				Second-feet	Million gallons a day
July 25	Right Branch of Kuia Stream.	Huleia River.....	25 feet above mouth of second right branch of first left branch of Huleia River above confluence with Kamooloa Stream, near Koloa.	0.696	0.385
Oct. 22	....do.....	....do.....	....do.....	.535	.346
Jan. 11	....do.....	....do.....	....do.....	a.774	a.500
Mar. 7	....do.....	....do.....	....do.....	a.360	a.233
Apr. 25	....do.....	....do.....	....do.....	.400	.259
June 13	....do.....	....do.....	....do.....	a.387	a.250
July 20	....do.....	....do.....	....do.....	.956	.619

a Estimated.

Right Branch of North Fork of Kaukonahua Stream near Wahiawa

Location.- Masonry dam control, lat. 21°31'15", long. 157°56'55", 200 feet upstream from intake of Wahiawa Water Co.'s tunnel, which is just downstream from confluence of Right and Left Branches of North Fork of Kaukonahua Stream, and 8 miles northeast of Wahiawa. Altitude of gage, 1,200 feet (from topographic map).

Drainage area.- 1.2 square miles.

Records available.- May 1913 to January 1933, February 1934 to June 1941.

Average discharge.- 22 years (1915-24, 1926-32, 1934-41), 7.76 million gallons a day (12.0 second-feet).

Extremes.- Maximum discharge during year, 1,500 million gallons a day (2,320 second-feet) Aug. 12 (gage height, 9.34 feet), from rating curve extended above 40 million gallons a day by test on model of station site; minimum, 0.16 million gallons a day (0.25 second-foot) Feb. 11, 12, 25-28, Mar. 1, 2.
1913-41: Maximum discharge, that of Aug. 12, 1940; minimum, 0.09 million gallons a day (0.15 second-foot) Mar. 22, 1926.

Remarks.- Records good. No diversions above station.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

2.5	0.10	3.0	3.9	4.5	88
2.6	.30	3.2	8.3	5.0	144
2.7	.75	3.4	15.1	5.5	232
2.8	1.35	3.7	29.5		
2.9	2.45	4.0	49		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.29	17.8	20.5	2.5	1.95	1.17	5.5	0.22	0.18	0.81	0.39	1.05
2	.99	6.1	9.7	1.57	7.2	4.0	.87	.20	.18	.70	.57	.99
3	.87	4.0	28.5	7.1	2.9	1.57	13.9	.20	.24	.75	.57	.87
4	.81	4.9	f88	24.5	6.7	1.17	1.38	.20	7.5	12.6	2.5	.81
5	1.65	3.6	33.5	2.35	10.4	2.95	2.4	.20	.63	15.1	.93	1.69
6	.87	2.25	f30	1.90	2.25	3.5	2.45	.20	.26	2.7	.48	.99
7	.75	2.8	f15.5	1.57	1.79	1.23	1.28	.20	.20	1.57	.34	12.5
8	.75	17.6	8.6	1.46	1.46	.93	.75	.18	.20	1.29	21	1.90
9	.66	16.5	6.6	1.29	1.29	.87	.62	.18	.20	1.05	2.7	1.17
10	1.28	4.6	5.8	1.23	1.23	.81	.57	.20	.20	.93	1.42	.99
11	.87	3.3	4.8	1.17	1.11	.75	.48	.18	.20	.93	1.74	1.83
12	.66	225	4.3	1.17	1.05	.81	.39	.18	.20	3.25	2.8	2.7
13	.62	32	3.6	1.17	.99	.70	.34	.20	.20	9.5	1.90	1.17
14	.57	11.0	3.45	2.2	2.8	.66	.34	5.9	.22	1.57	1.05	.87
15	.75	18.9	3.2	1.23	26	.62	.30	5.2	.37	1.29	1.35	.75
16	.60	8.4	3.6	.79	3.0	.57	.30	.48	37	.99	.1.11	.70
17	.52	18.9	2.9	.93	2.4	.52	2.2	1.01	12.3	.87	9.7	.66
18	.57	8.4	2.45	.81	2.1	.52	1.08	.34	4.6	.81	33	.62
19	15.4	6.6	3.05	1.55	4.0	.57	.48	.24	5.1	.75	4.9	2.0
20	7.8	4.8	2.85	13.2	85	.48	.30	.20	13.0	.81	2.45	1.05
21	1.17	3.9	2.35	2.4	4.6	.44	.28	.20	12.7	.70	2.0	2.05
22	.81	9.7	1.90	2.65	3.1	.44	.26	.18	7.7	.62	1.46	1.49
23	.66	4.8	1.79	10.8	2.45	.44	.26	.18	3.25	.57	1.23	18.8
24	.62	52	2.25	1.35	2.1	.44	.24	.18	4.2	.57	3.55	5.6
25	.52	46	17.7	1.11	1.79	.39	.24	.18	1.79	.52	1.71	51
26	.52	11.0	5.7	.99	1.68	.39	.68	.18	1.29	.48	1.23	4.7
27	.52	9.1	2.1	1.05	1.79	.44	.66	.18	3.3	.44	5.8	2.9
28	.48	5.8	2.8	.99	1.35	.89	.34	.18	1.79	.44	7.7	2.25
29	9.2	18.4	1.79	12.0	1.29	2.25	.28	-	1.17	.44	1.79	2.6
30	12.6	26.5	1.79	1.72	1.25	1.44	.24	-	1.11	.44	1.29	28.5
31	26.5	10.4	-	1.88	-	2.3	.22	-	.93	-	1.17	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	26.5	0.48	2.96	4.58	91.9	282
August	225	2.25	19.8	30.6	615	1,890
September	88	1.79	10.7	16.6	321	985
October	24.5	.79	3.44	5.32	107	327
November	85	.99	6.23	9.64	187	574
December	4.0	.39	1.11	1.72	34.3	105
Calendar year 1940	225	.16	5.43	8.40	1,990	6,100
January	13.9	.22	1.28	1.98	39.6	122
February	5.9	.18	.620	.959	17.4	53
March	37	.18	3.94	6.10	122	375
April	15.1	.44	2.12	3.28	63.5	195
May	33	.34	3.87	5.99	120	368
June	51	.62	5.17	8.00	155	476
Fiscal year 1940-41	225	.18	5.13	7.94	1,870	5,750

f Computed on basis of partly estimated gage-height record.

Left Branch of North Fork of Kaukonahua Stream near Wahiawa

Location.- Columbus control, lat. 21°31'10", long. 157°56'55", 100 feet upstream from intake of Wahiawa Water Co.'s tunnel, which is just downstream from confluence of Right and Left Branches of North Fork of Kaukonahua Stream, and 8 miles northeast of Wahiawa. Altitude of gage, 1,200 feet (from topographic map).
Drainage area.- 1.5 square miles.
Records available.- May 1913 to June 1941.
Average discharge.- 24 years (1915-24, 1926-41), 11.3 million gallons a day (17.5 second-feet).
Extremes.- Maximum discharge during year, 2,630 million gallons a day (4,070 second-feet) Aug. 12 (gage height, 10.41 feet), from rating curve extended above 43 million gallons a day by test on model of station site; minimum, 0.08 million gallons a day (0.12 second-foot) Mar. 2, 13.
1913-41: Maximum discharge, 5,400 million gallons a day (8,360 second-feet) Jan. 1, 1933 (gage height, 11.7 feet, from floodmark on well), from rating curve extended above 15 million gallons a day; minimum, less than 0.1 million gallons a day (0.2 second-foot) June 15, 1931.
Remarks.- Records good. No diversions above station.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.3	0.07	1.9	1.84	3.3	74
1.4	.14	2.0	2.7	3.6	115
1.5	.27	2.2	5.1	4.0	185
1.6	.48	2.4	9.1	4.5	300
1.7	.79	2.7	20.5	5.0	455
1.8	1.24	3.0	42		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.35	44	46	2.8	3.65	1.77	10.5	0.15	0.11	1.06	0.46	1.60
2	1.66	23.5	21	2.45	15.5	8.6	1.24	.14	.09	.88	1.49	1.48
3	1.42	11.8	68	6.5	4.5	2.5	15.7	.14	.20	.97	.81	1.24
4	1.33	7.8	61	19.8	17.1	1.66	2.05	.14	19.9	28	8.7	1.15
5	5.8	6.4	29	2.9	23	4.0	5.8	.13	1.00	29	1.65	2.6
6	1.54	4.4	19.5	2.6	3.75	5.1	4.4	.13	.24	4.6	.73	1.36
7	2.6	5.7	27	2.2	2.9	1.78	1.94	.13	.13	3.45	.48	3.95
8	1.60	41	11.8	2.0	2.45	1.42	1.10	.11	.13	2.5	28.5	2.3
9	1.20	31.5	9.1	1.78	2.2	1.30	.88	.11	.10	1.78	4.4	1.30
10	12.4	9.1	8.9	1.72	1.93	1.24	.79	.13	.09	1.54	1.72	1.06
11	2.2	6.2	7.1	1.66	1.72	1.15	.64	.11	.13	1.42	4.3	6.4
12	1.42	329	6.2	1.66	1.54	1.20	.48	.10	.10	4.5	6.4	5.3
13	1.20	27	5.3	1.95	1.42	1.02	.42	.14	.08	32	3.2	1.86
14	1.06	9.8	5.0	3.25	6.0	.97	.38	7.9	.36	3.45	1.93	1.24
15	1.63	35.4	4.4	1.60	40	.84	.33	6.0	.71	2.7	2.75	1.06
16	1.02	10.7	4.8	1.30	4.7	.76	.31	.53	63	1.84	1.60	.92
17	.88	46	4.0	1.20	3.3	.73	2.35	3.3	16.9	1.54	14.2	.79
18	4.5	17.9	3.55	1.20	4.3	.70	1.79	.40	10.6	1.42	27.5	.79
19	16.7	11.1	8.4	6.4	4.2	.73	.54	.19	8.4	1.24	5.4	5.7
20	6.8	7.6	7.2	18.1	152	.64	.33	.14	17.8	1.99	2.9	3.55
21	1.72	6.4	3.8	3.05	5.8	.54	.26	.13	41	1.11	2.45	3.3
22	1.24	12.6	2.9	8.4	3.9	.48	.22	.13	14.3	.97	1.84	2.8
23	1.10	6.2	2.7	22.5	3.2	.48	.19	.12	5.4	.84	1.54	39.5
24	1.02	88	3.8	2.55	2.7	.44	.18	.11	6.9	.88	12.1	7.3
25	.88	62	45	1.78	2.45	.44	.18	.10	2.9	.73	2.75	71
26	.79	13.8	8.2	1.54	2.25	.42	.96	.10	2.2	.64	1.66	6.3
27	1.06	14.6	3.45	2.25	2.25	.38	.87	.09	5.1	.84	13.3	3.9
28	.97	7.8	8.6	1.82	1.84	1.20	.35	.09	2.7	.67	15.2	2.9
29	15.3	27.5	3.2	21.5	1.78	3.1	.22	-	1.84	.67	3.0	5.1
30	18.6	80	2.8	2.8	1.68	2.35	.18	-	1.72	.67	2.2	82
31	29.5	19.3	-	3.45	-	2.45	.17	-	1.24	-	1.84	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	29.5	0.79	4.56	7.06	142	434
August	329	4.4	33.1	49.7	994	3,050
September	68	2.7	14.7	22.7	442	1,360
October	22.5	1.20	4.89	7.57	152	466
November	152	1.42	10.8	16.7	324	994
December	8.6	.38	1.63	2.52	50.4	155
Calendar year 1940	329	.13	8.57	13.3	3,150	9,630
January	15.7	.17	1.80	2.79	55.7	171
February	7.9	.09	.750	1.16	21.0	64
March	63	.08	7.27	11.2	225	692
April	32	.54	4.45	6.89	133	409
May	28.5	.48	5.71	8.83	177	543
June	82	.79	8.99	13.9	270	828
Fiscal year 1940-41	329	.08	8.18	12.7	2,990	9,170

Puhawai Stream at Lualualei, near Waianae

Location.- Parshall flumes, lat. 21°28'10", long. 158°08'00", in Lualualei Valley, 5 miles northeast of Waianae. Altitude of gage, 600 feet (from topographic map).

Drainage area.- 0.6 square miles.

Records available.- September 1930 to June 1941.

Average discharge.- 10 years (1931-41), 0.259 million gallons a day (0.401 second-foot).

Extremes.- Maximum discharge during year, 10.5 million gallons a day (16.2 second-feet) Nov. 20 (gage height, 2.63 feet for 6-inch flume and 2.38 feet for 4-foot flume), from rating curves extended above 3.2 and 1.0 million gallons a day, respectively, by test on model of station site; minimum, 0.04 million gallons a day (0.06 second-foot) May 25-30.

1930-41: Maximum discharge, 862 million gallons a day (1,330 second-feet) Oct. 22, 1939 (gage height, 2.63 feet for 6-inch flume and 6.54 feet for 4-foot flume), from rating curves extended above 3.2 and 1.0 million gallons a day, respectively, by test on model of station site; minimum, 0.01 million gallons a day (0.02 second-foot) several times during period of record.

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

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.09	0.08	0.09	0.09	0.06	0.11	0.16	0.10	0.10	0.09	0.06	0.09
2	.09	.13	.08	.09	.10	.10	.10	.10	.10	.09	.06	.08
3	.09	.12	.08	.08	.08	.11	.10	.10	.10	.09	.06	.08
4	.09	.11	.09	.08	.08	.10	.09	.10	.10	.09	.07	.08
5	.10	.10	.09	.08	.08	.10	.09	.10	.10	.09	.07	.07
6	.10	.10	.08	.10	.08	.10	.09	.10	.10	.09	.07	.06
7	.10	.10	.08	.15	.09	.12	.09	.10	.10	.09	.06	.06
8	.11	.10	.08	.12	.08	.10	.09	.10	.10	.09	.13	.07
9	.10	.10	.08	.10	.09	.10	.09	.10	.10	.09	.08	.08
10	.11	.10	.08	.10	.08	.12	.10	.10	.10	.08	.08	.07
11	.12	.10	.08	.09	.08	.10	.10	.10	.10	.08	.08	.07
12	.11	.19	.08	.09	.08	.11	.09	.10	.10	.08	.07	.08
13	.11	.15	.08	.08	.08	.13	.09	.10	.10	.08	.07	.06
14	.10	.10	.08	.08	.08	.12	.09	.10	.15	.08	.08	.06
15	.10	.11	.08	.08	.08	.10	.09	.10	.10	.08	.08	.07
16	.09	.10	.08	.08	.08	.10	.09	.10	.10	.08	.07	.07
17	.09	.10	.08	.08	.07	.10	.10	.10	.10	.08	.07	.06
18	.09	.11	.08	.08	.08	.10	.10	.10	.10	.08	.07	.06
19	.09	.10	.08	.08	.08	.12	.10	.10	.10	.07	.08	.07
20	.09	.10	.10	.08	3.45	.12	.09	.10	.10	.09	.07	.07
21	.09	.10	.09	.08	.71	.11	.09	.10	.09	.09	.08	.08
22	.09	.09	.09	.08	.28	.11	.09	.14	.10	.08	.07	.08
23	.09	.08	.08	.08	.19	.12	.09	.11	.10	.08	.07	.07
24	.09	.09	.08	.07	.14	.11	.09	.11	.10	.08	.06	.07
25	.08	.09	.10	.07	.12	.11	.09	.11	.10	.08	.06	.43
26	.08	.09	.09	.07	.11	.11	.23	.10	.10	.08	.06	.10
27	.08	.10	.08	.07	.16	.10	.20	.10	.10	.07	.07	.09
28	.08	.09	.08	.07	.15	.10	.16	.10	.10	.07	.06	.09
29	.08	.09	.08	.07	.13	.10	.13	-	.09	.07	.06	.08
30	.08	.08	.10	.07	.11	.10	.10	-	.09	.06	.06	.10
31	.08	.08	-	.07	-	.10	.10	-	.09	-	.07	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	0.12	0.08	0.093	0.144	2.89	8.9
August	.19	.08	.103	.159	3.18	9.8
September	.10	.08	.084	.130	2.52	7.7
October	.15	.07	.084	.130	2.61	8.0
November	3.45	.06	.236	.365	7.08	22
December	.13	.10	.107	.166	3.33	10
Calendar year 1940	3.45	.06	.161	.249	58.8	181
January	.23	.09	.107	.166	3.31	10
February	.14	.10	.102	.158	2.87	8.8
March	.15	.09	.100	.155	3.11	9.5
April	.09	.06	.082	.127	2.45	7.5
May	.13	.06	.071	.110	2.20	6.8
June	.43	.06	.086	.133	2.59	7.9
Fiscal year 1940-41	3.45	.06	.104	.161	38.1	117

Note.- Discharge for periods of no gage-height record, July 22 to Aug. 5, Oct. 1-13, Jan. 27-29, computed on basis of records for stations on streams in Kaukonahua Valley.

Pearl Harbor Springs at Waiawa, near Pearl City

Location.- Sharp-crested weir, lat. 21°23'35", long. 157°59'15", at rear of Oahu Sugar Co.'s pumping plant 9, on right bank of Waiawa Stream, 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 1941.

Extremes.- Maximum daily discharge during year, 13.6 million gallons a day (21.0 second-feet) July 4, Nov. 30, Dec. 1-8, Dec. 13 to Jan. 2; minimum daily, 6.0 million gallons a day (9.3 second-feet) June 18-20.
1931-34, 1937-41: Maximum daily discharge, 17 million gallons a day (26 second-feet) Mar. 15-17, 1932, Mar. 3, 4, 8, 1933; minimum daily, that of June 18-20, 1941.

Remarks.- Records good. Oahu Sugar Co.'s pump 9 diverts about 3 million gallons a day at times when water is needed for irrigation of sugarcane. Surface run-off from floods not included in figures of discharge given below.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	11.5	8.5	12.9	12.2	11.9	13.6	a13.6	a13	11.9	12.2	10.6	7.9
2	11.5	8.5	12.5	12.2	11.9	13.6	13.6	a12.5	11.9	12.2	10.9	7.9
3	11.9	7.9	12.5	12.2	11.9	13.6	13.2	a12	12.2	12.2	11.2	7.9
4	13.6	7.9	12.5	12.2	11.9	13.6	12.9	a12	12.2	12.2	11.5	7.9
5	11.9	7.9	12.5	12.2	11.9	13.6	12.9	a11.5	12.2	12.2	11.5	7.6
6	11.5	7.9	12.5	12.2	11.9	13.6	13.2	11.2	12.2	12.5	11.5	7.6
7	11.5	7.3	12.2	12.2	11.9	13.6	12.9	11.5	12.2	12.5	11.5	7.6
8	10.9	7.3	12.5	12.2	11.9	13.6	12.9	11.9	12.2	12.5	11.5	7.9
9	11.2	7.3	12.5	12.2	11.9	13.2	12.9	11.9	12.2	12.5	8.1	7.6
10	11.2	7.3	12.2	12.2	11.9	12.9	12.9	11.9	12.2	12.5	7.3	7.6
11	10.6	7.3	12.2	12.2	11.9	12.9	12.9	12.5	12.2	12.6	7.3	7.6
12	10.6	7.3	12.2	12.2	11.9	12.9	12.9	12.5	12.2	12.5	7.6	7.3
13	9.3	7.3	12.2	12.2	11.9	13.6	12.9	12.5	12.2	12.5	7.0	6.7
14	8.5	7.6	12.2	12.2	11.9	13.6	12.9	12.5	12.2	12.2	7.0	a6.8
15	8.1	7.6	12.2	11.9	11.9	13.6	12.9	12.5	12.2	12.2	7.0	a7.2
16	8.1	7.6	12.2	11.9	11.9	13.6	12.9	12.5	12.5	12.5	7.3	a7.2
17	8.1	7.6	12.2	11.9	11.9	13.6	12.9	12.5	a12.5	a12.5	7.6	a7.2
18	7.9	7.6	12.2	11.5	11.9	13.6	12.9	12.5	a12.5	a12.5	7.9	a6.0
19	8.1	7.6	11.9	11.9	11.9	13.6	12.9	12.5	12.5	a12.5	7.6	a6.0
20	8.1	7.6	11.9	11.9	11.9	a13.6	12.9	12.2	12.2	a12.5	7.3	a6.0
21	8.5	7.6	11.5	11.9	11.9	a13.6	12.9	12.2	12.2	a12.5	7.3	7.0
22	8.1	7.9	11.9	11.9	12.2	a13.6	12.9	11.9	12.5	a12.5	7.3	7.3
23	8.1	7.9	11.9	11.9	12.5	a13.6	12.5	a11.9	11.9	a12.5	7.3	7.3
24	8.5	7.9	11.9	11.9	12.5	a13.6	12.5	12.2	12.2	a12.5	7.6	7.0
25	8.1	7.9	11.9	11.9	12.9	a13.6	12.5	11.9	12.2	a12.5	8.1	7.3
26	8.1	7.9	11.9	11.5	12.9	a13.6	12.5	11.9	12.2	a12.5	7.9	7.3
27	8.1	7.9	11.9	11.9	13.2	a13.6	12.9	11.9	12.5	a12	7.9	7.3
28	8.1	7.9	12.2	11.9	13.2	a13.6	a13	11.5	12.9	a12	7.6	7.3
29	8.1	7.9	11.9	11.9	12.9	a13.6	a13	-	12.9	11.2	7.0	7.6
30	8.1	9.3	12.2	11.9	13.6	a13.6	a13	-	12.5	11.2	7.0	7.3
31	8.5	12.9	-	11.9	-	a13.6	a13	-	12.2	-	7.3	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	13.6	7.9	9.50	14.7	294	903
August	12.9	7.3	7.93	12.3	246	755
September	12.9	11.5	12.2	18.9	365	1,120
October	12.2	11.5	12.0	18.6	372	1,140
November	13.6	11.9	12.2	18.9	366	1,120
December	13.6	12.9	13.5	20.9	419	1,290
Calendar year 1940	15.3	7.3	12.5	19.3	4,580	14,060
January	13.6	12.5	12.9	20.0	401	1,230
February	12.5	11.2	12.1	18.7	340	1,040
March	12.9	11.9	12.3	19.0	381	1,170
April	12.5	11.2	12.3	19.0	369	1,130
May	11.5	7.0	8.44	13.1	262	805
June	7.9	6.0	7.27	11.2	218	670
Fiscal year 1940-41	13.6	6.0	11.0	17.0	4,030	12,370

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

Pearl Harbor Springs at Puukapu, near Pearl City

Location.- Sharp-crested weir, lat. 21°23'20", long. 157°58'10", on left bank of stream, near levee, 0.4 mile east of Pearl City and 8.9 miles northwest of Honolulu. Datum of gage is 0.5 foot below mean sea level.

Records available.- July 1931 to June 1941.

Extremes.- Maximum daily discharge during year, 3.65 million gallons a day (5.65 second-feet) Dec. 6-9, 15, 16, Jan. 13-20; minimum daily, 2.6 million gallons a day (4.0 second-feet) June 9-11.
1931-41: Maximum daily discharge, 6.0 million gallons a day (9.3 second-feet) June 4, 1932, Mar. 4, 1933; minimum daily, 1.55 million gallons a day (2.40 second-feet) July 22, 1931.

Remarks.- Records good. About a million gallons a day is occasionally diverted from stream. Surface run-off from floods not included in figures of discharge given below.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.35	3.3	3.1	3.2	3.0	3.55	3.55	a3.45	3.45	3.0	3.0	2.7
2	3.35	3.35	3.1	3.1	3.1	3.55	3.55	a3.45	3.35	3.0	3.0	2.7
3	3.35	3.35	3.1	3.1	3.1	3.55	3.55	a3.45	3.35	3.0	3.0	2.7
4	3.35	3.35	3.1	3.1	3.1	3.55	3.45	a3.45	3.35	3.0	2.95	2.7
5	3.35	3.3	3.1	3.1	3.1	3.55	3.45	a3.45	3.3	3.0	2.95	2.7
6	3.35	3.2	3.1	3.2	3.1	3.65	3.45	a3.4	3.3	3.1	2.95	2.7
7	3.35	3.1	3.1	3.1	3.1	3.65	3.35	a3.4	3.3	3.1	2.95	2.7
8	3.35	3.1	3.1	3.1	3.1	3.65	3.35	a3.4	3.2	3.1	2.95	2.7
9	3.3	3.1	3.1	3.1	3.1	3.65	a3.4	a3.4	3.3	3.1	2.95	2.6
10	3.3	3.1	3.1	3.1	3.2	3.55	a3.6	a3.35	3.2	3.1	2.95	2.6
11	3.3	3.1	3.1	3.1	3.2	3.55	a3.6	a3.35	3.2	3.1	3.0	2.6
12	3.2	3.1	3.1	3.1	3.1	3.55	a3.6	3.35	3.2	3.1	3.0	2.75
13	3.2	3.1	3.1	3.1	3.1	3.55	a3.65	3.35	3.2	3.1	2.95	2.8
14	3.2	3.1	3.1	3.1	3.1	3.55	a3.65	3.35	3.2	3.1	2.95	2.85
15	3.2	3.1	3.1	3.1	3.1	3.65	a3.65	3.35	3.1	3.1	2.85	2.85
16	3.2	3.2	3.2	3.1	3.1	3.65	a3.65	3.45	3.1	3.1	2.85	2.95
17	3.2	3.2	3.2	3.1	3.2	3.55	a3.65	3.35	3.1	3.1	2.85	2.95
18	3.2	3.2	3.2	3.1	3.2	3.55	a3.65	3.35	3.1	3.1	2.85	2.95
19	3.2	3.1	3.2	3.1	3.2	3.55	a3.65	3.35	3.1	3.1	2.85	2.95
20	3.2	3.1	3.2	3.1	3.45	3.55	a3.65	3.35	3.1	3.1	2.85	2.95
21	3.2	3.1	3.3	3.1	3.35	3.55	a3.5	3.35	3.1	3.1	2.85	2.95
22	3.2	3.1	3.2	3.1	3.3	3.55	a3.5	3.45	3.1	3.1	2.75	2.95
23	3.2	3.1	3.2	3.1	3.35	3.55	a3.5	3.55	3.1	3.1	2.75	2.95
24	3.2	3.1	3.1	3.1	3.45	3.55	a3.5	3.55	3.1	3.1	2.85	2.95
25	3.2	3.1	3.2	3.1	3.46	3.55	a3.5	3.55	3.1	3.1	2.85	2.95
26	3.1	3.1	3.1	3.1	3.45	a3.55	a3.45	3.35	3.2	3.1	2.85	2.95
27	3.1	3.0	3.1	3.1	3.55	a3.55	a3.45	3.35	3.2	3.1	2.85	2.95
28	3.2	3.1	3.1	3.1	3.55	a3.55	a3.45	3.35	3.1	3.1	2.85	2.95
29	3.2	3.1	3.1	3.2	3.55	a3.55	a3.45	-	3.1	3.1	2.75	2.95
30	3.2	3.1	3.1	3.1	3.55	a3.55	a3.45	-	3.1	3.0	2.75	2.95
31	3.3	3.1	-	3.1	-	a3.55	a3.45	-	3.1	-	2.7	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	3.35	3.1	3.25	5.03	101	309
August	3.35	3.0	3.15	4.87	97.6	299
September	3.3	3.1	3.13	4.84	94.0	288
October	3.2	3.1	3.11	4.81	96.4	296
November	3.55	3.0	3.24	5.01	97.3	299
December	3.65	3.55	3.57	5.52	111	340
Calendar year 1940	4.1	3.0	3.60	5.42	1,280	3,930
January	3.65	3.35	3.52	5.46	109	335
February	3.55	3.35	3.40	5.26	95.3	292
March	3.45	3.1	3.19	4.94	98.8	303
April	3.1	3.0	3.08	4.77	92.4	284
May	3.0	2.7	2.89	4.47	89.4	275
June	2.95	2.6	2.83	4.38	84.9	261
Fiscal year 1940-41	3.65	2.6	3.20	4.95	1,170	3,580

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

Pearl Harbor Springs at Loko Kukona, near Pearl City

Location.- Sharp-crested weir, lat. 21°23'30", long. 157°58'00", on left bank of stream, near levee, half a mile east of Pearl City and 8.8 miles northwest of Honolulu. Datum of gage is 0.80 foot below mean sea level.

Records available.- June 1931 to June 1941.

Extremes.- Maximum daily discharge during year, 2.4 million gallons a day (3.7 second-feet) July 7-10, Mar. 11-18; minimum daily, 1.68 million gallons a day (2.60 second-feet) Oct. 26, 27, 31, Nov. 1, 8-10.
1931-41: Maximum daily discharge recorded, 4.0 million gallons a day (6.2 second-feet) Mar. 21, 22, Mar. 31 to Apr. 3, 1932; minimum daily, that of Oct. 26, 27, 31, Nov. 1, 8-10, 1940.

Remarks.- Records good. No diversions. Surface run-off from floods not included in figures of discharge given below.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.2	2.05	2.2	2.15	1.68	2.05	2.2	2.1	2.15	1.98	2.05	1.9
2	2.2	2.05	2.3	2.15	1.75	2.05	2.2	2.1	2.2	1.98	2.05	1.9
3	2.3	2.05	2.3	2.15	1.75	2.05	2.2	2.1	2.2	1.98	2.05	1.9
4	2.3	2.05	2.3	2.15	1.75	2.05	2.15	2.1	2.3	1.98	2.15	1.9
5	2.3	2.05	2.2	1.90	1.75	2.15	2.15	2.1	2.3	1.98	2.15	1.9
6	2.3	1.98	2.2	1.98	1.75	2.15	2.15	2.1	2.30	1.90	2.05	1.9
7	2.4	1.98	2.2	1.98	1.75	2.15	2.15	2.1	2.3	1.90	2.05	1.9
8	2.4	1.98	2.3	1.82	1.68	2.15	2.15	2.1	2.3	1.90	2.05	1.9
9	2.4	2.05	2.3	1.82	1.68	2.15	2.15	2.1	2.3	1.90	2.05	1.86
10	2.4	2.05	2.3	1.75	1.68	2.15	2.2	2.1	2.3	1.90	2.05	1.86
11	2.3	2.05	2.3	1.75	1.75	2.15	2.2	2.1	2.4	1.90	1.98	1.86
12	2.3	2.15	2.3	1.75	1.75	2.15	2.2	2.15	2.4	1.98	1.98	1.86
13	2.3	2.15	2.15	1.75	1.75	2.15	2.2	2.15	2.4	1.98	1.90	1.86
14	2.15	2.15	1.98	1.82	1.75	2.15	2.2	2.15	2.4	1.98	1.90	1.82
15	2.15	2.15	1.98	1.82	1.75	2.15	2.2	2.05	2.4	1.98	1.90	1.75
16	2.15	2.15	1.98	1.82	1.75	2.15	2.2	2.05	2.4	1.98	1.90	1.75
17	2.15	2.15	1.98	1.82	1.82	2.15	2.2	2.15	2.4	1.98	1.90	1.75
18	2.2	2.15	1.98	1.75	1.82	2.15	2.2	2.15	2.4	1.98	1.90	1.75
19	2.15	2.15	1.98	1.75	1.82	2.15	2.2	2.15	2.3	1.98	1.90	1.75
20	2.15	2.15	2.05	1.75	1.90	2.15	2.2	2.15	2.3	1.98	1.90	1.75
21	2.15	2.2	1.90	1.75	1.90	2.15	2.15	2.15	2.3	1.98	1.90	1.75
22	2.15	2.2	1.82	1.75	1.90	2.15	2.15	2.15	2.3	1.98	1.90	1.75
23	2.15	2.15	1.75	1.75	1.90	2.15	2.15	2.2	2.3	1.98	1.90	1.75
24	2.15	2.15	1.82	1.75	1.90	2.15	2.15	2.15	2.3	1.98	1.90	1.75
25	2.15	2.2	1.82	1.75	1.90	2.15	2.15	2.15	2.15	1.98	1.90	1.75
26	2.15	2.15	1.82	1.68	1.98	2.15	2.15	2.15	2.05	1.98	1.90	1.75
27	2.15	2.15	1.90	1.68	1.98	2.15	2.1	2.15	2.05	1.98	1.90	1.75
28	2.15	2.15	1.90	1.75	1.98	2.15	2.1	2.15	1.98	1.98	1.9	1.75
29	2.15	2.2	1.98	1.75	1.98	2.2	2.1	-	1.98	2.05	1.9	1.75
30	2.15	2.2	2.05	1.75	1.98	2.2	2.1	-	1.98	2.05	1.9	1.82
31	2.15	2.2	-	1.68	-	2.2	2.1	-	1.98	-	1.9	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	2.4	2.15	2.22	3.43	68.8	211
August	2.2	1.98	2.12	3.28	65.6	201
September	2.3	1.75	2.07	3.20	62.0	190
October	2.15	1.68	1.83	2.83	56.7	174
November	1.98	1.68	1.82	2.82	54.5	167
December	2.2	2.05	2.14	3.31	66.4	204
Calendar year 1940	2.6	1.68	2.19	3.39	802	2,460
January	2.2	2.1	2.16	3.34	67.1	206
February	2.2	2.05	2.12	3.28	59.5	183
March	2.4	1.98	2.25	3.48	69.8	214
April	2.05	1.90	1.97	3.05	59.1	181
May	2.15	1.90	1.96	3.03	60.8	186
June	1.9	1.75	1.81	2.80	54.3	167
Fiscal year 1940-41	2.4	1.68	2.04	3.16	745	2,280

Note.- Discharge for periods of no gage-height record, Jan. 5 to Feb. 11, May 26 to June 13, computed on basis of records for stations on all nearby springs.

Hawaiian Electric Co. tunnel at Waiau, near Pearl City

Location.- 160° V-notched brass weir, lat. 21°23'35", long. 157°58'00", on left bank of ditch at Hawaiian Electric Co.'s power plant, 0.6 mile east of Pearl City and 8.9 miles northwest of Honolulu. Datum of gage is 0.64 foot above mean sea level.

Records available.- October 1939 to June 1941.

Extremes.- Maximum discharge during period ending June 30, 1940, 17.7 million gallons a day (27.4 second-feet) Mar. 25, 26 (gage height, 2.15 feet); minimum, 2.05 million gallons a day (3.17 second-feet) June 27.
Maximum discharge during year ending June 30, 1941, 26.5 million gallons a day (41.0 second-feet) Nov. 20 (gage height, 2.37 feet); minimum, 4.8 million gallons a day (7.4 second-feet) Apr. 22, 30, May 5.

Remarks.- Records good. Flow regulated by valves. Water is used for cooling condensers of power plant and afterwards for irrigation of sugarcane.

Discharge, in million gallons, 1939-41
1939-40

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1				-	13.4	13.4	13.1	12.4	12.4	16.6	16.5	14.4
2				-	13.4	13.4	13.1	12.4	12.4	16.6	15.5	14.8
3				-	13.4	13.8	13.1	13.1	12.7	16.6	15.5	14.4
4				-	13.4	13.8	13.1	13.1	12.4	16.2	15.5	14.4
5				-	13.4	14.1	12.7	12.7	12.4	16.2	15.5	14.4
6				-	13.4	13.8	12.7	12.7	12.4	16.2	14.8	14.4
7				-	13.4	13.8	13.1	12.1	12.4	16.6	14.4	14.4
8				-	13.8	14.1	13.1	12.1	12.4	16.6	14.4	15.1
9				-	13.4	14.1	13.4	12.1	12.4	16.2	14.4	15.8
10				-	13.4	14.1	13.8	12.4	12.4	15.8	14.4	15.1
11				-	13.4	14.1	13.8	12.4	12.4	15.8	15.1	15.8
12				-	13.1	14.1	13.1	12.4	12.4	15.8	14.8	15.1
13				13.4	13.1	14.1	13.1	12.1	12.1	15.8	14.4	15.1
14				13.4	13.4	13.8	13.4	12.1	12.1	15.8	14.8	15.1
15				13.4	13.1	13.4	13.1	12.1	12.4	15.8	15.1	15.1
16				13.1	13.1	13.4	12.7	12.1	12.4	15.8	15.1	15.8
17				13.4	13.1	13.8	13.1	12.4	12.4	15.8	15.1	15.1
18				13.4	13.4	13.4	12.7	12.4	12.4	15.8	15.1	15.5
19				13.4	13.4	13.8	13.4	12.1	12.7	15.8	15.1	15.5
20				13.4	13.1	13.8	13.4	12.4	13.1	15.8	15.1	11.8
21				13.4	13.1	13.8	14.8	12.1	13.1	15.8	15.1	11.0
22				13.1	12.7	13.1	12.7	12.4	13.1	15.8	14.8	11.5
23				13.4	12.7	12.7	12.4	12.4	13.4	15.8	14.8	11.5
24				13.1	13.1	12.7	12.4	12.4	13.8	15.8	14.8	10.7
25				13.1	13.4	13.1	12.7	12.7	15.1	15.8	15.1	10.7
26				12.7	13.4	13.4	13.1	12.4	17.3	15.8	15.1	11.2
27				12.7	13.1	13.4	12.4	12.4	17.3	15.8	15.1	8.8
28				13.1	13.1	13.4	12.4	12.4	16.9	15.8	14.8	7.2
29				13.4	13.1	13.1	12.7	12.4	16.9	15.8	14.8	7.4
30				13.1	13.4	13.1	12.7	-	16.9	15.8	14.8	7.7
31				13.4	-	13.1	12.4	-	16.9	-	14.4	-

Discharge, in million gallons, of Hawaiian Electric Co. tunnel at Waiau, near Pearl City, 1939-41--Continued

1940-41

Day	July	Aug	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	7.4	11	11.8	12.4	13.8	14.1	14.4	9.8	9.8	10.4	9.3	11.5
2	8.3	11	12.4	12.4	13.4	14.1	14.1	10.4	10.4	10.1	9.0	10.7
3	10.7	all	12.4	12.4	13.1	14.1	14.1	10.1	10.7	10.4	8.8	10.4
4	13.1	a10.7	12.1	12.1	12.4	14.1	14.1	9.8	11.2	10.1	8.8	10.4
5	13.1	10.7	11.8	12.4	12.1	14.1	14.4	9.8	11.2	9.0	9.3	10.1
6	13.1	10.4	11.8	a12.4	11.8	14.1	13.8	9.8	12.4	9.8	9.3	10.1
7	12.7	10.4	11.8	11.8	12.1	14.1	13.8	9.8	11.2	9.3	10.4	10.4
8	12.7	10.4	11.8	11.8	12.1	14.4	13.8	10.1	9.8	9.0	9.8	10.2
9	12.0	10.4	11.8	12.1	12.1	14.4	13.8	10.1	11.2	10.1	10.1	9.5
10	10.1	10.4	11.8	13.1	12.4	14.1	13.4	9.8	12.2	9.0	10.1	11.2
11	12.4	10.4	11.8	13.8	12.7	14.1	13.4	9.8	10.7	9.0	9.5	10.7
12	12.4	10.4	12.1	13.8	12.4	14.1	13.4	9.8	11.2	9.3	10.4	10.7
13	12.1	10.4	12.1	14.1	12.4	14.1	13.1	10.1	10,7	9.3	9.3	10.4
14	12.1	10.7	12.1	14.1	12.7	14.1	13.1	10.1	10.7	8.8	10.1	11.8
16	11.8	10.7	12.1	13.8	12.7	14.1	13.1	9.8	10.4	8.8	10.1	11.0
16	11.8	11.0	12.1	12.3	12.7	13.1	12.7	10.1	10.7	9.0	9.8	11.8
17	11.5	11.0	12.1	13.4	13.1	11.5	11.0	10.1	11.0	9.5	10.1	10.3
18	9.7	11.0	12.1	13.4	12.7	13.1	9.5	9.8	11.2	9.3	9.3	9.4
19	11.0	11.0	11.8	13.1	12.7	14.1	9.5	9.8	11.2	9.0	9.3	10.4
20	11.0	11.0	11.8	13.1	13.4	14.4	9.5	9.8	10.7	9.5	8.6	10.4
21	10.7	11.8	12.1	13.1	13.4	14.4	9.5	9.8	11.0	9.0	9.0	11.0
22	10.7	13.1	12.1	13.1	13.1	14.8	9.5	9.8	11.2	9.5	9.8	11.8
23	10.7	12.7	12.1	13.1	13.8	14.8	9.8	10.1	11.2	9.8	10.1	11.0
24	10.7	12.7	12.1	13.1	14.1	14.4	9.8	10.1	11.2	10.1	10.4	11.2
25	10.7	13.1	11.8	12.7	13.8	14.8	10.1	10.1	11.2	9.3	11.2	11.5
26	10.7	12.7	12.1	12.7	13.8	14.4	10.4	10.1	9.8	10.4	10.7	11.5
27	10.7	12.7	12.4	13.1	13.8	14.1	10.1	10.1	12.1	9.3	10.1	11.8
28	10.7	12.4	12.1	13.1	14.1	14.1	9.8	10.1	10.4	9.2	10.1	11.5
29	10.7	12.1	12.4	12.7	14.1	14.1	9.8	-	10.7	10.4	10.4	11.8
30	10.7	11.8	12.1	12.7	14.1	14.4	9.8	-	10.1	10.1	10.1	11.0
31	11.0	11.8	-	12.7	-	14.4	9.8	-	11.0	-	10.4	-

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

Monthly discharge, in million gallons, 1939-41

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	-	-	-	-	-	-
August	-	-	-	-	-	-
September	-	-	-	-	-	-
October 13-31, 1939	13.4	12.7	13.2	20.4	251	772
November	13.8	12.7	13.3	20.6	398	1,220
December	14.1	12.7	13.6	21.0	421	1,290
Calendar year	-	-	-	-	-	-
January 1940	14.8	12.4	13.0	20.1	404	1,240
February	13.8	12.1	12.4	19.2	359	1,100
March	17.3	12.1	13.5	20.9	419	1,290
April	16.6	15.8	16.0	24.8	480	1,470
May	15.5	14.4	14.9	23.1	463	1,420
June	15.8	7.2	13.2	20.4	396	1,210
The period	-	-	-	-	-	11,010
July 1940	13.1	7.4	11.2	17.3	347	1,060
August	13.1	10.4	11.3	17.5	351	1,080
September	12.4	11.8	12.0	18.6	361	1,110
October	14.1	11.8	12.9	20.0	400	1,230
November	14.1	11.8	13.0	20.1	391	1,200
December	14.8	11.5	14.1	21.8	437	1,340
Calendar year 1940	17.3	7.2	13.1	20.3	4,810	14,750
January 1941	14.4	9.5	11.8	18.3	366	1,120
February	10.4	9.8	9.96	15.4	279	856
March	12.4	9.8	10.9	16.9	338	1,040
April	10.4	8.8	9.53	14.7	286	877
May	11.2	8.6	9.80	15.2	304	932
June	11.8	9.4	10.8	16.7	326	999
Fiscal year 1940-41	14.8	7.4	11.5	17.8	4,190	12,840

Pearl Harbor Springs at Kalauao, near Aiea

Location.- Sharp-crested weir, lat. 21°23'00", long. 157°56'50", on left bank of Kalauao Stream, a quarter of a mile downstream from Honolulu Plantation pump 6, 1.1 miles west of Aiea, and 7.6 miles northwest of Honolulu. Datum of gage is 1.10 feet below mean sea level.

Records available.- March 1931 to June 1941.

Average discharge.- 10 years (1931-41), 16.9 million gallons a day (26.1 second-feet) (unadjusted).

Extremes.- Maximum daily discharge during year, 19.5 million gallons a day (30.2 second-feet) Jan. 1; minimum daily, 11.3 million gallons a day (17.5 second-feet) May 16.
1931-41: Maximum daily discharge, 25 million gallons a day (39 second-feet) Feb. 17-26, 1938; minimum daily, 8.7 million gallons a day (13.5 second-feet) Aug. 23, 1934.

Remarks.- Records excellent except those for period of no gage-height record, which are good. When water is needed for irrigation of sugarcane, Honolulu Plantation pump 6 diverts about 7 million gallons a day as a high-lift pump or 9 million gallons a day as a low-lift pump. Surface run-off from floods not included in figure of discharge given below.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	16.0	16.8	16.8	14.5	a14.5	18.7	19.5	18.0	14.9	15.6	14.5	16.0
2	16.8	14.9	16.8	14.5	a14.9	18.7	16.8	18.4	16.8	15.6	14.5	12.0
3	16.8	16.4	16.8	14.9	a16.8	18.7	17.2	16.4	15.6	15.6	14.5	12.3
4	18.7	17.6	14.5	15.3	a16.4	18.7	18.7	16.8	14.9	16.8	16.8	12.3
5	18.8	16.4	14.9	17.2	a16.8	18.7	18.7	15.6	15.3	16.8	13.1	12.0
6	16.0	14.9	14.5	17.2	a16.8	18.7	17.2	15.6	15.3	17.6	13.8	12.3
7	18.7	16.0	16.8	14.9	a16.8	18.7	16.4	16.0	15.3	17.6	13.1	13.1
8	16.0	14.5	16.8	14.9	a16.8	18.7	16.4	16.8	16.0	17.2	13.4	16.8
9	16.4	16.8	16.4	16.4	a16.8	18.7	16.8	18.0	18.0	13.1	13.4	13.4
10	16.0	17.2	16.8	16.4	a16.8	16.0	16.0	16.0	18.0	14.2	14.2	13.1
11	16.8	17.6	17.2	16.8	a16.0	18.7	17.2	16.0	18.0	17.6	16.8	13.1
12	15.6	14.5	17.6	16.8	a14.9	16.8	18.7	15.3	18.0	14.5	14.2	13.4
13	16.8	17.6	14.9	17.2	a15.6	18.7	16.0	15.3	16.0	17.6	12.3	13.1
14	18.0	16.4	15.6	15.6	16.0	16.8	16.8	17.2	16.6	14.5	12.3	13.1
15	16.8	16.8	17.2	15.6	17.2	18.7	16.8	16.8	17.6	14.2	11.7	16.8
16	16.4	16.4	15.6	15.6	17.2	16.4	14.5	17.2	18.0	13.8	11.3	12.7
17	17.6	17.2	15.3	15.3	17.6	16.8	15.6	16.8	16.8	14.2	11.7	12.3
18	15.3	17.2	15.3	14.5	15.6	16.8	16.4	16.8	18.0	13.4	16.0	12.0
19	14.9	17.2	14.9	14.5	14.9	17.6	18.4	14.9	15.6	14.2	12.0	12.0
20	14.9	14.9	15.3	16.8	17.6	17.6	16.4	14.5	14.9	17.2	11.7	12.0
21	17.6	15.3	14.5	14.5	18.0	17.6	16.0	15.6	14.9	14.2	12.0	12.0
22	15.3	15.3	16.8	16.4	18.0	19.1	18.0	16.8	15.3	14.6	12.3	16.4
23	15.6	14.5	14.5	17.6	18.0	19.1	16.0	16.8	17.6	14.2	12.3	12.0
24	16.0	16.8	14.2	a14.9	18.0	19.1	16.0	15.6	14.5	13.8	12.0	12.0
25	16.4	16.8	14.2	a14.5	18.4	19.1	16.4	16.4	14.2	13.8	16.4	13.1
26	16.0	16.8	14.5	a16.8	18.4	16.4	18.4	17.6	14.2	13.8	12.7	16.4
27	16.0	16.8	14.5	a16.8	18.4	16.4	16.8	14.9	14.9	16.8	12.7	12.0
28	17.6	14.2	14.2	a14.9	18.4	17.6	18.4	14.2	16.3	13.8	12.0	11.7
29	16.4	13.8	16.8	a14.9	18.7	19.1	15.6	-	16.4	13.4	12.0	16.0
30	16.0	15.3	14.5	a14.9	18.7	19.1	16.8	-	18.0	13.4	12.0	11.7
31	15.6	16.8	-	a14.2	-	19.1	18.0	-	15.6	-	12.0	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	18.7	14.9	16.4	25.4	510	1,560
August	17.6	13.8	16.1	24.9	500	1,530
September	17.6	14.2	15.6	24.1	469	1,440
October	17.6	14.2	15.7	24.3	485	1,490
November	18.7	14.5	17.0	26.3	509	1,560
December	19.1	16.0	18.1	28.0	561	1,720
Calendar year 1940	22	13.8	17.5	27.1	6,410	19,660
January	19.5	14.5	17.0	26.3	527	1,620
February	18.4	14.2	16.3	25.2	456	1,400
March	18.0	14.2	16.1	24.9	500	1,530
April	17.6	13.1	15.1	23.4	453	1,390
May	16.8	11.3	13.2	20.4	410	1,260
June	16.8	11.7	13.2	20.4	397	1,220
Fiscal year 1940-41	19.5	11.3	15.8	24.4	5,780	17,720

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

Moanalua Stream near Honolulu

Location.- Concrete weir control, lat. 21°22'50", long. 157°52'20", 5 miles upstream from mouth and 5 miles north of Honolulu post office. Datum of gage is 339.12 feet above mean sea level.
Drainage area.- 2.8 square miles.
Records available.- June 1926 to June 1941.
Average discharge.- 15 years (1926-41), 2.56 million gallons a day (3.96 second-feet).
Extremes.- Maximum discharge during year, 397 million gallons a day (614 second-feet) Nov. 20 (gage height, 4.86 feet), from rating curve extended above 71 million gallons a day by test on model of station site; no flow for several periods during year.
1926-41: Maximum discharge (revised), 2,960 million gallons a day (4,580 second-feet) Nov. 18, 1930 (gage height, 11.58 feet), from rating curve extended above 71 million gallons a day by test on model of station site; no flow during dry weather.
Remarks.- Records good. Continuous records of rainfall are obtained at station.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0	0	0.8	3.75	2.0	46
.2	.07	1.0	6.6	2.5	88
.4	.51	1.2	11.1		
.6	1.66	1.6	24.5		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1		0	2.45		0		1.55		0	0		0
2		0	1.46		0		.01		0	0		0
3		0	.99		0		0		0	0		0
4		0	11.6		0		0		0	0		0
5		0	6.4		0		0		0	S.0		0
6		0	2.3		0		0		0	2.55		0
7		0	1.75		0		0		0	.18		0
8		4.8	1.06		0		0		0	.01		0
9		1.09	.56		0		0		0	0		0
10		.26	.23		0		0		0	0		0
11		.02	.06		0		0		0	0		0
12		3.4	.04		0		0		0	0		0
13		1.13	.03		0		0		0	0		0
14		.07	.02		0		0		0	0		0
15		1.49	.01		2.45		0		0	0		0
16		1.14	.01		.06		0		2.9	0		0
17		12.4	0		.01		0		7.3	0		0
18		2.75	0		0		0		.20	0		0
19		.91	0		0		0		.01	0		0
20		.29	0		51		0		0	0		0
21		.06	0		3.95		0		0	0		0
22		.03	0		1.22		0		0	0		0
23		.01	0		.36		0		0	0		0
24		.01	0		.10		0		0	0		0
25		6.7	1.32		.03		0		0	0		19.0
26		2.3	1.06		.01		0		0	0		.22
27		.75	.01		.01		0		0	0		.01
28		.23	.01		.01		0		0	0		0
29		.14	0		0		0		0	0		0
30		6.8	0		0		0		0	0		S.7
31		2.0	-		-		0		0	-		-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	0	0	0	0	0	0
August	12.4	0	1.57	2.43	48.8	150
September	11.6	0	1.05	1.62	31.4	96
October	0	0	0	0	0	0
November	51	0	1.97	3.05	59.2	182
December	0	0	0	0	0	0
Calendar year 1940	51	0	.983	1.52	360	1,100
January	1.55	0	.050	.077	1.56	4.8
February	0	0	0	0	0	0
March	7.3	0	.336	.520	10.4	32
April	8.0	0	.348	.538	10.4	32
May	0	0	0	0	0	0
June	19.0	0	.931	1.44	27.9	86
Fiscal year 1940-41	51	0	.520	.805	190	583

Kalihi Stream near Honolulu

Location.- Lat. 21°22'10", long. 157°50'25", at Kioi Pool, three-eighths of a mile upstream from Catholic Orphanage and 4.4 miles north of Honolulu post office. Datum of gage is 464.40 feet above mean sea level.
Drainage area.- 2.7 square miles.
Records available.- September 1913 to June 1941.
Average discharge.- 24 years (1916-20, 1921-41), 5.10 million gallons a day (7.89 second-feet).
Extremes.- Maximum discharge during year, 389 million gallons a day (602 second-feet) Nov. 20 (gage height, 6.97 feet), from rating curve extended above 220 million gallons a day by test on model of station site; minimum, 0.53 million gallons a day (0.82 second-foot) June 3, 4.
1913-41: Maximum discharge, 10,900 million gallons a day (16,900 second-feet) Nov. 18, 1930 (gage height, 13.81 feet), from rating curve extended above 220 million gallons a day by test on model of station site; minimum, 0.06 million gallons a day (0.09 second-foot) 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.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.8	0.60	1.4	8.7	2.3	30.5
1.0	2.2	1.7	14.8	2.6	40
1.2	5.1	2.0	22	3.0	54

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.37	3.65	8.4	2.1	1.28	1.55	4.8	0.90	f0.66	1.21	0.78	0.84
2	1.28	2.85	6.8	1.91	2.7	2.75	1.73	.90	f.60	1.13	.84	.72
3	1.21	2.85	8.1	2.2	2.1	1.82	2.65	.90	1.05	1.33	.78	.66
4	1.13	2.35	25	1.82	1.64	1.55	1.73	.90	f2.2	4.5	1.13	.60
5	1.28	2.45	11.2	1.73	2.3	2.2	4.5	.84	f1.05	21	.90	1.12
6	1.13	2.2	7.4	1.64	1.64	2.15	2.7	.84	.72	6.3	.78	.66
7	1.13	2.0	7.8	1.64	1.46	1.73	1.82	.84	.72	3.65	.78	.97
8	.97	9.0	6.1	1.55	1.37	1.55	1.55	.78	f.66	2.7	3.7	.72
9	1.05	6.1	5.1	1.46	1.28	1.46	1.46	.78	f.66	2.2	1.73	.66
10	1.13	3.8	4.5	1.37	1.28	1.46	1.37	.72	.60	2.0	1.21	.66
11	1.05	2.85	3.65	1.37	1.21	1.46	1.21	.72	f.66	1.91	1.13	.78
12	.97	14.2	3.5	1.28	1.13	1.37	1.21	.72	f.66	1.85	1.05	.96
13	1.05	6.1	3.25	1.37	1.05	1.28	1.21	.72	f.60	2.0	.97	.78
14	1.05	3.5	3.1	1.46	1.24	1.28	1.21	.97	a1.1	1.73	.90	.72
15	1.28	9.5	2.85	1.28	10.5	1.21	1.21	.78	a1.0	1.64	.90	.78
16	.97	10.6	2.85	1.21	2.6	1.21	1.13	.78	a9.0	1.46	.90	.66
17	.90	21	2.6	1.28	1.91	1.13	2.4	.84	a5.6	1.37	1.37	.66
18	1.13	8.5	2.7	1.37	1.64	1.13	1.55	.78	a3.1	1.37	3.3	.66
19	1.05	6.0	3.45	3.5	2.15	1.21	1.28	.78	a3.0	1.37	1.73	1.13
20	1.05	4.6	2.6	2.35	49	1.13	1.21	f.78	3.3	1.37	1.21	1.37
21	.90	3.8	2.35	1.73	6.1	a1.05	1.13	a.78	4.3	1.21	1.05	.97
22	.90	3.35	2.1	1.55	3.5	1.05	1.13	.72	2.6	1.21	.90	.84
23	.90	3.0	2.0	1.97	2.85	1.13	1.05	.78	2.35	1.37	.78	1.55
24	.84	7.5	2.2	1.55	2.45	1.05	1.05	f.78	2.0	1.28	.84	1.05
25	.78	12.2	7.0	1.37	2.1	.97	.97	a.78	1.82	1.13	.72	26
26	.78	6.8	3.6	1.28	2.0	.90	1.21	f.72	1.64	1.05	.60	3.35
27	.84	4.8	2.35	1.46	2.0	.97	1.13	.66	1.73	.97	.91	1.91
28	.84	3.8	2.6	1.28	1.82	1.13	.97	f.66	1.55	1.05	1.55	1.55
29	1.37	5.6	2.1	2.75	1.73	f1.82	.97	-	1.46	.97	.84	1.55
30	4.8	13.0	2.1	1.55	1.64	1.46	.97	-	1.37	.90	.78	24.5
31	8.9	6.3	-	1.37	-	4.6	.90	-	1.28	-	.78	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	8.9	0.78	1.42	2.20	44.0	135
August	21	2.0	6.27	9.70	194	596
September	25	2.0	4.98	7.71	149	458
October	3.5	1.21	1.67	2.58	51.8	159
November	49	1.05	3.86	5.97	116	355
December	4.6	.90	1.51	2.34	46.8	144
Calendar year 1940	65	.78	3.51	5.43	1,280	3,940
January	4.8	.90	1.59	2.46	49.4	152
February	.97	.55	.791	1.22	22.2	68
March	9.0	.60	1.90	2.94	59.0	181
April	21	.90	2.44	3.78	73.2	225
May	3.7	.60	1.16	1.79	35.8	110
June	26	.60	2.65	4.10	79.4	244
Fiscal year 1940-41	49	.60	2.52	3.90	921	2,830

a No gage-height record; discharge computed on basis of records for stations on all nearby streams.
f Computed on basis of partly estimated gage-height record.

Nuuanu Stream below reservoir 2 wasteway, near Honolulu

Location.- Sharp-crested weirs, lat. 21°20'55", long. 157°49'40", on Pali road in upper Nuuanu Valley, a quarter of a mile downstream from reservoir 2 wasteway and 3.5 miles northeast of Honolulu post office. Datum of gage is 631.71 feet above mean sea level.
Drainage area.- 3.4 square miles.
Records available.- October 1913 to June 1941.
Average discharge.- 22 years (1917-20, 1922-41), 5.65 million gallons a day (8.74 second-feet).
Extremes.- Maximum discharge during year, 153 million gallons a day (237 second-feet) June 25 (gage height, 3.57 feet), from rating curve extended above 300 million gallons a day on basis of weir formulas and test on model of station site; minimum, 0.39 million gallons a day (0.60 second-foot) Feb. 28.
1913-41: Maximum discharge, 1,600 million gallons a day (2,480 seoond-feet) Jan. 16, 1921 (gage height, 8.74 feet, from floodmarks), from rating curve extended above 300 million gallons a day on basis of weir formulas and test on model of station site; minimum, 0.06 million gallons a day (0.09 second-foot) Sept. 10, 11, 1925.
Remarks.- Records excellent. Reservoirs 2,3, and 4 (capacities, 21, 34, and 1,630 acre-feet, respectively) regulate flow. Board of Water Supply diverts ground water from tunnels in drainage area.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.2	0.30	0.7	2.1	1.2	6.5
.3	.60	.8	2.6	1.5	14.9
.4	.90	.9	3.1	2.0	37.5
.5	1.25	1.0	3.65		
.6	1.65	1.1	4.6		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	6.3	3.45	3.9	1.65	1.65	1.65	2.5	0.90	0.54	0.90	0.78	1.04
2	5.0	1.88	3.15	1.61	2.7	2.7	1.56	.90	.54	.87	.78	1.00
3	4.3	1.74	10.5	1.57	2.05	1.83	1.33	.84	.75	1.00	.75	.97
4	3.65	1.33	11.3	1.49	2.0	1.65	1.25	.81	1.34	2.7	1.09	1.04
5	3.2	1.22	4.8	1.14	2.25	1.78	1.59	.84	.78	4.9	3.2	1.08
6	3.0	1.11	3.2	1.37	1.92	1.70	1.45	.81	.60	2.05	.75	1.56
7	2.9	1.18	3.1	1.37	1.96	1.65	1.37	.81	.60	1.63	.86	2.35
8	2.6	2.6	2.8	1.29	1.96	1.61	1.33	.78	.60	1.37	1.85	1.96
9	2.35	1.99	2.6	1.25	2.0	1.57	1.14	.78	.57	1.29	1.13	1.32
10	2.45	1.37	2.45	1.22	1.96	1.57	.90	.78	.57	1.25	.78	.97
11	2.2	1.22	2.3	1.25	1.96	1.57	.87	.78	.63	1.29	.90	1.08
12	1.92	3.45	2.3	1.25	1.96	1.53	.97	.78	.60	1.33	1.00	1.03
13	2.0	1.94	2.25	1.33	1.70	1.53	1.00	.78	.60	1.45	1.37	.90
14	1.88	1.33	2.2	1.41	1.33	1.49	1.00	1.20	.81	1.25	.96	.75
15	1.88	2.35	2.15	1.37	1.88	1.45	1.00	1.08	.84	1.22	.90	.84
16	1.45	3.5	1.78	1.37	1.37	1.45	.94	.90	6.1	1.25	1.08	.87
17	1.53	9.4	1.53	1.45	1.18	1.45	1.37	.87	5.3	1.11	1.18	.57
18	1.61	3.2	1.61	1.45	1.18	1.49	1.14	.78	1.92	1.08	1.89	.45
19	1.50	2.0	1.92	1.96	1.47	1.55	1.04	.75	2.3	1.22	1.22	.57
20	1.38	1.74	1.78	2.3	16.7	1.45	1.00	.72	3.1	1.14	1.11	.72
21	1.08	1.61	1.74	2.0	2.5	1.41	1.00	.75	2.8	1.90	1.08	.75
22	1.00	1.61	1.65	1.96	1.83	1.37	1.00	.72	1.65	.78	1.04	.78
23	.94	1.49	1.65	1.78	1.70	1.41	.90	.72	1.53	2.45	1.00	.94
24	.87	4.4	1.57	1.74	1.65	1.41	.97	.75	1.41	.81	1.16	1.28
25	.84	6.4	2.75	1.70	1.74	1.33	.97	.72	1.25	.72	1.04	16.9
26	.90	2.8	1.93	1.65	1.88	1.29	1.14	.60	1.18	.75	1.04	1.68
27	.90	2.15	1.57	1.78	1.65	1.33	1.04	.54	1.25	.87	1.24	1.22
28	1.25	1.88	1.70	1.83	1.61	1.53	.97	.42	1.14	1.91	1.66	1.11
29	1.14	2.55	1.53	1.78	1.70	1.41	.97	-	1.11	2.15	1.13	1.29
30	1.66	7.1	1.57	1.25	1.65	1.37	.94	-	1.11	.78	1.04	6.2
31	5.3	3.25	-	1.37	-	1.89	.90	-	1.00	-	1.04	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	6.3	0.84	2.23	3.45	69.0	212
August	9.4	1.11	2.69	4.16	83.2	255
September	11.3	1.53	2.84	4.39	85.3	262
October	2.3	1.14	1.55	2.40	47.9	147
November	16.7	1.18	2.30	3.56	69.1	212
December	2.7	1.29	1.56	2.41	48.4	149
Calendar year 1940	43	.84	3.15	4.87	1,150	3,540
January	2.5	.87	1.15	1.78	35.6	109
February	1.20	.42	.790	1.22	22.1	68
March	6.1	.54	1.44	2.23	44.5	137
April	4.9	.72	1.44	2.23	43.3	133
May	3.2	.75	1.16	1.79	36.0	111
June	16.9	.45	1.77	2.74	53.2	163
Fiscal year 1940-41	16.9	.42	1.75	2.71	638	1,960

West Branch of Manoa Stream near Honolulu

Location.- Combined Parshall flume and concrete weir control, lat. 21°19'50", long. 157°48'15", 100 feet (revised) upstream from lower highway and 4 miles northeast of Honolulu post office. Datum of gage is 290.84 feet above mean sea level.

Drainage area.- 1.1 square miles.

Records available.- August 1925 to June 1941. May 1913 to January 1921 at site 200 feet upstream.

Average discharge.- 22 years (1913-20, 1926-41), 2.87 million gallons a day (4.44 second-feet).

Extremes.- Maximum discharge during year, 166 million gallons a day (257 second-feet) June 25 (gage height, 2.87 feet), from rating curve extended above 33 million gallons a day by test on model of station site; minimum, 0.15 million gallons a day (0.23 second-foot) Feb. 2-6, Mar. 1.

1913-21, 1925-41: Maximum gage height, 10.4 feet, Jan. 16, 1921, from floodmarks, site and datum then in use, (discharge, 2,100 million gallons a day or 3,250 second-feet, estimated from rating curve extended above 40 million gallons a day); minimum discharge, about 0.05 million gallons a day (0.08 second-foot) Mar. 16, 22, 1926.

Remarks.- Records good. No diversions above station.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0	0	0.4	1.78	1.2	18.6
.1	.25	.6	3.8	1.4	27
.2	.62	.8	6.8		
.3	1.11	1.0	11.8		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.01	9.8	6.7	1.14	0.58	0.62	2.75	0.18	0.18	0.82	0.47	0.70
2	.86	9.1	5.6	.67	4.0	1.93	.58	.15	.18	.77	.55	.51
3	.77	6.8	7.6	.92	2.05	.91	2.25	.15	.60	.81	.47	.47
4	.97	3.25	15.0	.62	1.24	.72	.58	.15	3.45	7.2	1.55	.40
5	.98	2.55	7.2	.55	2.4	.99	1.57	.15	.68	21	.62	.80
6	.72	1.96	4.2	.55	1.18	.86	1.34	.16	.40	6.1	.51	.44
7	1.07	2.25	4.8	.47	.91	.67	.72	.18	.32	2.7	.47	.76
8	.67	5.8	3.15	.47	.77	.62	.55	.18	.29	1.96	6.9	.47
9	.62	5.8	2.6	.44	.67	.58	.51	.18	.29	1.58	2.35	.44
10	.90	3.25	2.15	.44	.58	.55	.47	.18	.32	1.31	1.31	.44
11	.62	2.5	1.87	.44	.55	.58	.40	.18	.32	1.24	1.18	.96
12	.58	6.0	1.87	.44	.51	.51	.36	.18	.32	1.31	1.44	.87
13	.55	2.9	1.51	.47	.44	.51	.32	.18	.32	2.2	1.06	.58
14	.55	1.96	1.38	.51	1.04	.47	.32	.57	.67	1.44	.96	.55
15	.56	5.0	1.24	.40	6.3	.44	.32	.47	.59	1.24	.91	.58
16	.51	9.1	1.18	.36	1.06	.40	.32	.52	10.7	1.06	.91	.51
17	.61	21.5	1.06	.59	.82	.36	1.01	.76	5.6	.91	1.60	.44
18	.71	8.0	1.01	.60	.77	.40	.55	.29	2.4	.86	2.45	.59
19	1.03	4.7	.96	2.7	1.78	.51	.36	.25	2.3	.86	1.51	1.64
20	.79	3.15	.91	1.61	14.0	.44	.32	.22	5.5	1.38	1.11	1.01
21	.55	2.5	.86	5.2	2.7	.40	.29	.22	4.4	.67	.91	.96
22	.47	2.25	.77	1.71	1.44	.40	.29	.22	3.0	.58	.77	1.08
23	.44	1.96	.67	.96	1.11	.47	.22	.22	1.78	.66	.62	4.1
24	.44	11.2	.85	.67	.96	.65	.22	.20	1.38	.62	.73	2.05
25	.44	18.6	5.7	.58	.86	.44	.22	.20	1.01	.55	.67	26
26	.44	6.4	1.60	.61	.86	.36	.30	.20	.91	.51	.58	4.3
27	.40	4.3	.91	.64	.82	.40	.32	.18	1.65	.47	.67	2.05
28	.44	3.06	1.54	.62	.82	1.47	.26	.18	1.67	.47	1.39	1.51
29	14.0	4.7	.86	2.3	.77	1.06	.22	-	1.11	.47	.67	1.78
30	3.65	14.4	1.05	.72	.67	.84	.20	-	1.06	.47	.58	10.2
31	9.6	6.1	-	.87	-	1.40	.20	-	.91	-	.55	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	14.0	0.40	1.48	2.29	46.8	141
August	21.6	1.96	6.16	9.53	191	586
September	15.0	.67	2.89	4.47	86.7	266
October	6.2	.36	.935	1.46	29.0	89
November	14.0	.44	1.76	2.72	52.7	162
December	1.93	.36	.676	1.05	21.0	64
Calendar year 1940	25.5	.22	2.03	3.14	746	2,280
January	2.76	.20	.591	.914	18.3	56
February	.76	.15	.246	.381	6.90	21
March	10.7	.18	1.75	2.71	54.2	166
April	21	.47	2.07	3.20	62.2	191
May	6.9	.47	1.18	1.83	36.5	112
June	26	.40	2.24	3.47	67.2	206
Fiscal year 1940-41	26	.15	1.84	2.85	672	2,060

East Branch of Manoa Stream near Honolulu

Location.- Combined Parshall flume and concrete weir control, lat. 21°19'50", long. 157°48'10", just downstream from highway bridge, 400 feet upstream from confluence with West Branch, and 4 miles northeast of Honolulu post office. Datum of gage is 294.50 feet above mean sea level.
Drainage area.- 1.0 square mile.
Records available.- May 1913 to January 1921, August 1925 to June 1941.
Average discharge.- 22 years (1913-20, 1926-41), 3.18 million gallons a day (4.92 second-feet).
Extremes.- Maximum discharge during year, 118 million gallons a day (183 second-feet) June 25 (gage height, 3.06 feet), from rating curve extended above 21.5 million gallons a day by test on model of station site; minimum, 1.50 million gallons a day (2.32 second-feet) Feb. 7-12, 22-28, Mar. 1, 2, 9-11, 13, 14.
1913-21, 1925-41: Maximum gage height, 10.4 feet, Jan. 16, 1921, from floodmarks, site and datum then in use, (discharge, 2,000 million gallons a day or 3,090 second-feet, estimated from rating curve extended above 37 million gallons a day); minimum discharge, 0.4 million gallons a day (0.6 second-foot) June 7, 8, 1926.
Remarks.- Records good except those for periods of no gage-height record, which are fair. East Manoa ditch diverts water from stream about 1,500 feet above station. Board of Water Supply, at times, diverts a small amount of ground water from tunnels in drainage area.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.3	1.15	0.8	5.6	1.4	14.8
.4	1.85	1.0	8.1	1.6	19.5
.6	3.55	1.2	10.9	1.8	26

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.55	7.0	5.8	2.9	2.5	2.25	5.8	1.57	1.50	2.0	1.71	2.1
2	2.5	5.0	4.5	2.65	4.3	5.5	2.25	1.57	1.50	1.93	1.85	1.85
3	2.5	2.5	6.0	2.9	f3.1	2.75	3.8	1.57	2.2	2.15	1.78	1.85
4	2.6	2.1	10.2	2.55	f2.65	2.35	2.25	1.57	5.3	9.3	2.8	1.93
5	2.6	2.0	5.4	2.55	f3.15	3.0	4.3	1.57	1.93	25	1.85	2.7
6	2.3	1.9	4.3	2.5	f2.65	2.55	3.2	1.57	1.64	5.4	1.85	1.85
7	2.6	2.1	4.8	2.5	f2.5	2.25	2.4	1.50	1.57	3.55	1.78	2.25
8	2.3	2.5	3.85	2.4	2.4	2.25	2.15	1.50	1.57	3.0	10.6	1.85
9	2.3	3.0	3.55	2.35	2.3	2.25	2.0	1.50	1.57	2.65	3.2	1.85
10	2.5	3.45	3.3	2.35	2.3	2.1	2.0	1.50	1.50	2.5	2.4	1.78
11	2.25	3.3	3.3	2.35	2.2	2.25	1.93	1.50	1.57	2.55	2.5	2.4
12	2.15	5.3	3.3	2.35	2.2	2.1	1.85	1.50	1.57	2.65	2.55	2.1
13	2.1	3.35	3.0	2.55	2.1	2.0	1.85	1.50	1.57	4.1	2.35	1.93
14	2.1	2.9	2.9	2.4	3.0	1.93	1.85	2.2	2.45	2.65	2.35	1.93
15	2.1	4.4	2.85	2.15	7.0	1.93	1.85	1.78	2.6	2.4	2.35	2.1
16	2.1	7.1	2.9	2.15	3.5	1.85	1.71	2.85	13.3	2.25	2.5	1.93
17	2.25	13.5	2.85	2.65	2.8	1.85	3.5	2.1	6.0	2.25	3.1	1.85
18	2.15	6.4	3.0	2.45	2.4	1.93	2.15	1.78	3.45	2.15	3.65	2.0
19	2.35	4.2	2.85	5.2	3.5	2.0	1.85	1.71	3.35	2.45	2.5	2.8
20	2.15	3.45	2.75	3.45	13.1	1.85	1.78	1.64	4.6	2.75	2.15	2.25
21	2.0	3.3	2.65	5.8	3.55	1.85	1.71	1.64	4.1	2.1	2.1	2.35
22	2.0	3.1	2.55	3.8	2.9	1.85	1.71	1.50	3.0	2.0	2.0	2.4
23	2.0	2.9	2.55	2.75	2.65	2.1	1.64	1.50	2.55	2.25	1.93	4.4
24	2.0	8.8	3.25	2.5	2.55	2.3	1.64	1.57	2.5	2.0	2.15	2.65
25	2.0	14.0	7.0	2.5	2.5	1.85	1.64	1.57	2.35	1.85	2.0	18.5
26	1.93	5.7	3.35	2.4	2.5	1.85	1.78	1.57	2.25	1.85	1.93	3.95
27	2.0	4.3	2.85	2.6	2.35	1.85	1.85	1.50	3.3	1.85	2.55	3.1
28	2.0	3.75	3.35	2.55	2.4	2.95	1.78	1.57	3.2	1.78	3.45	2.65
29	9.0	4.4	2.85	f3.9	2.25	2.9	1.71	-	2.35	1.78	2.15	3.2
30	4.0	11.6	3.2	2.55	2.25	2.4	1.64	-	2.25	1.71	2.10	8.0
31	6.0	4.8	-	2.5	-	3.6	1.64	-	2.1	-	2.0	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	9.0	1.93	2.63	4.07	81.4	250
August	14.0	1.9	4.91	7.60	152	467
September	10.2	2.55	3.83	5.93	115	353
October	5.8	2.15	2.81	4.35	87.2	268
November	13.1	2.1	3.13	4.92	95.6	293
December	5.5	1.85	2.34	3.62	72.4	222
Calendar year 1940	22	1.8	3.31	5.12	1,210	3,720
January	5.8	1.64	2.23	3.45	69.2	212
February	2.85	1.50	1.66	2.57	46.4	142
March	13.3	1.50	2.93	4.53	90.7	278
April	25	1.71	3.43	5.31	103	316
May	10.6	1.71	2.58	3.99	80.0	245
June	18.5	1.78	3.08	4.77	92.5	284
Fiscal year 1940-41	25	1.50	2.97	4.60	1,090	3,330

f Computed on basis of partly estimated gage-height record.
Note.- No gage-height record July 4-10, July 28 to Aug. 9, Sept. 2, 3, Nov. 8-19; discharge computed on basis of records for stations on all nearby streams.

Pukele Stream near Honolulu

Location.- Concrete weir control, lat. 21°19'15", long. 157°47'10", 200 feet upstream from bridge on Palolo Belt Road, five-eighths of a mile upstream from confluence with Waiomao Stream, and 4¾ miles east of Honolulu post office. Datum of gage is 344.78 feet above mean sea level.
Drainage area.- 1.2 square miles.
Records available.- June 1926 to June 1941. April 1912 to September 1913, above present site and just below Mahoe Springs.
Average discharge.- 15 years (1926-41), 1.44 million gallons a day (2.23 second-feet).
Extremes.- Maximum discharge during year, 105 million gallons a day (162 second-feet) Nov. 30 (gage height, 3.55 feet), from rating curve extended above 15 million gallons a day by test on model of station site; minimum, 0.14 million gallons a day (0.22 second-foot) Feb. 21 to Mar. 4.
1912-13, 1926-41: Maximum discharge, 1,680 million gallons a day (2,600 second-feet) Apr. 11, 1930 (gage height, 7.75 feet, from floodmarks), from rating curve extended above 14 million gallons a day by test on model of station site; minimum, 0.09 million gallons a day (0.14 second-foot) Dec. 7-13, 20, 21, 1933.
Remarks.- Records good. A 2-inch pipe diverts water from stream above station.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.0	0.08	1.5	2.7
1.1	.28	1.6	3.9
1.2	.60	1.7	5.5
1.3	1.10	1.8	7.4
1.4	1.76	2.0	12.5

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.31	0.64	1.69	0.38	0.28	0.38	2.35	0.22	0.14	0.34	0.28	0.31
2	.31	.90	1.42	.38	.80	1.74	.34	.22	.14	.34	.28	.31
3	.31	.73	1.76	.38	.34	.44	.45	.20	.14	.34	.28	.31
4	.28	.44	4.6	.38	.28	.38	.34	.20	.36	3.75	.24	.28
5	.28	.44	1.76	.38	.28	.38	.74	.20	.22	12.3	.24	.28
6	.28	.47	1.05	.34	.28	.41	.41	.20	.18	1.60	.22	.28
7	.28	.47	.95	.34	.28	.38	.38	.18	.18	.65	.22	.26
8	.28	.73	.95	.34	.28	.38	.38	.18	.18	.60	1.80	.26
9	.28	.66	.90	.31	.28	.38	.38	.18	.18	.60	.38	.24
10	.28	.50	.86	.31	.28	.38	.38	.18	.18	.60	.28	.24
11	.26	.50	.85	.31	.28	.38	.38	.18	.18	.60	.28	.24
12	.26	.50	.80	.28	.28	.34	.34	.18	.18	.57	.28	.24
13	.26	.47	.75	.28	.28	.34	.34	.18	.18	.54	.28	.24
14	.26	.47	.70	.28	.28	.34	.34	.18	.18	.50	.31	.24
15	.24	.44	.60	.28	2.45	.31	.31	.18	.24	.47	.31	.24
16	.24	1.40	.67	.28	.34	.28	.31	.18	4.7	.47	.31	.24
17	.24	4.4	.54	.28	.28	.28	.85	.18	2.25	.44	.34	.22
18	.24	2.45	.54	.26	.28	.28	.38	.16	.47	.41	.31	.22
19	.24	.75	.54	.55	.64	.28	.26	.16	.34	.41	.31	.22
20	.24	.60	.50	.38	9.3	.26	.26	.16	.37	.38	.31	.22
21	.24	.60	.47	.28	.92	.26	.26	.16	.70	.34	.31	.22
22	.24	.60	.44	.34	.47	.24	.26	.14	.44	.34	.31	.22
23	.24	.57	.44	.28	.47	.24	.26	.14	.44	.31	.31	.22
24	.24	2.75	.44	.28	.47	.24	.26	.14	.44	.31	.31	.24
25	.24	6.8	1.06	.28	.47	.24	.26	.14	.44	.31	.31	4.9
26	.22	1.76	.54	.31	.47	.24	.24	.14	.44	.28	.31	.38
27	.22	.90	.41	.31	.44	.24	.24	.14	.44	.28	.31	.31
28	.22	.75	.38	.31	.44	.24	.24	.14	.47	.28	.34	.31
29	.22	.75	.38	.31	.41	.37	.24	-	.38	.28	.34	.34
30	.91	4.7	.38	.31	.38	.38	.22	-	.38	.28	.31	2.6
31	1.59	1.13	-	.31	-	.98	.22	-	.38	-	.31	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	1.59	0.22	0.321	0.497	9.95	31
August	5.8	.44	1.23	1.90	38.2	117
September	4.6	.38	.909	1.41	27.3	84
October	.55	.26	.324	.501	10.0	31
November	9.3	.28	.754	1.17	22.6	69
December	1.74	.24	.387	.599	12.0	37
Calendar year 1940	30	.18	.805	1.25	296	905
January	2.35	.22	.406	.628	12.6	39
February	.22	.14	.173	.268	4.84	15
March	4.7	.14	.514	.796	15.9	49
April	12.3	.28	.964	1.49	28.9	89
May	1.80	.22	.346	.535	10.7	33
June	4.9	.22	.494	.764	14.8	46
Fiscal year 1940-41	12.8	.14	.570	.882	208	640

Waiomao Stream above Pukele Stream, near Honolulu

Location.- Concrete weir control, lat. 21°19'10", long. 157°46'45", 300 feet west of road, 1 mile upstream from confluence with Pukele Stream, and 5 miles east of Honolulu post office. Datum of gage is 373.49 feet above mean sea level.

Drainage area.- 1.0 square mile.

Records available.- June 1926 to June 1941. April 1911 to December 1912 at highway bridge below present site.

Average discharge.- 15 years (1926-41), 1.29 million gallons a day (2.00 second-feet).

Extremes.- Maximum discharge during year, 71 million gallons a day (110 second-feet) Nov. 20 (gage height, 3.25 feet), from rating curve extended above 45 million gallons a day by test on model of station site; no flow July 22-29, Feb. 9-14.
1911-12, 1926-41: Maximum discharge, 602 million gallons a day (931 second-feet) Oct. 15, 1938 (gage height, 5.43 feet), from rating curve extended above 45 million gallons a day by test on model of station site; no flow in extremely dry weather.

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

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.95	0	1.3	0.63	1.7	3.85
1.0	.01	1.4	1.15	1.8	5.3
1.1	.10	1.5	1.83	2.0	9.4
1.2	.30	1.6	2.7	2.2	15.5

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.12	1.26	1.99	0.42	0.14	0.16	4.4	0.06	0.01	0.16	0.01	0.40
2	.08	1.95	1.88	.30	1.35	2.4	.88	.06	.01	.12	.01	.22
3	.08	1.42	2.1	.38	.50	1.10	1.16	.05	.11	.10	.01	a.22
4	.06	.68	4.8	.18	.26	.60	.56	.04	1.35	5.2	.15	a.23
5	.07	.53	1.80	.14	.39	.68	1.82	.03	.41	14.6	.12	a.45
6	.05	.46	.94	.10	.20	.83	.99	.02	.18	2.75	.07	a.21
7	.07	.37	.99	.09	.16	.40	.46	.01	.10	1.15	.05	a.35
8	.05	1.29	.60	.08	.12	.28	.28	.01	.08	.68	2.65	a.25
9	.03	1.15	.43	.06	.10	.30	.22	0	.06	.46	1.19	a.21
10	.06	.60	.33	.06	.08	.28	.24	0	.05	.33	.46	a.20
11	.03	.40	.28	.04	.06	.26	.18	0	.06	.30	.36	a.45
12	.01	.46	.24	.02	.06	.26	.12	0	.06	.37	.55	.52
13	.01	.30	.20	.06	.05	.20	.10	0	.05	.58	.28	.26
14	.01	.22	.16	.24	.06	.18	.10	.01	1.39	.30	.22	.20
15	.04	.30	.14	.09	3.85	.14	.09	.01	2.15	.24	.28	.24
16	.01	1.27	.16	.06	.68	.14	.08	.59	8.6	.20	.22	.18
17	.01	6.0	.16	.23	.37	.10	2.55	.48	3.6	.16	.58	.12
18	.05	3.25	.32	.42	.30	.08	1.22	.16	1.42	.12	.69	.21
19	.06	1.22	.28	.65	1.01	.18	.40	.10	1.18	.10	.43	.49
20	.05	.79	.18	.94	11.2	.09	.24	.08	1.41	.18	.26	.37
21	.01	.46	.16	.58	1.57	.07	.18	.06	1.53	.10	.20	.33
22	.01	.45	.12	.83	.79	.06	.14	.06	.60	.08	.16	.67
23	0	.33	.09	.64	.46	.38	.10	.05	.46	.07	.14	1.25
24	0	2.0	.25	.28	.33	.50	.09	.04	.53	.06	.14	.56
25	0	6.1	.98	.20	.26	.36	.07	.16	.33	.06	.16	6.1
26	0	1.98	.77	.14	.28	.16	.10	.07	.26	.05	.10	1.15
27	0	.99	.28	.15	.24	.16	.24	.04	.65	.04	.19	.60
28	0	.56	.30	.20	.22	.46	.16	.03	1.05	.02	.65	.40
29	.12	.59	.22	.57	.20	.60	.12	-	.37	.01	.31	.46
30	1.54	4.8	.19	.28	.16	.96	.10	-	.28	.01	.22	2.45
31	2.6	1.34	-	.18	-	1.32	.07	-	.20	-	.31	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	2.6	0	0.169	0.261	5.23	16
August	6.1	.22	1.40	2.17	43.5	133
September	4.8	.09	.711	1.10	21.3	65
October	.94	.02	.281	.435	8.72	27
November	11.2	.05	.848	1.31	25.4	78
December	2.4	.06	.438	.678	13.6	42
Calendar year 1940	15.9	0	.790	1.22	289	887
January	4.4	.07	.557	.862	17.3	53
February	.69	0	.079	.122	2.22	6.8
March	6.6	.01	.917	1.42	28.4	87
April	14.5	.01	.954	1.48	28.6	88
May	2.65	.01	.359	.555	11.1	34
June	6.1	.12	.668	1.02	19.8	61
Fiscal year 1940-41	14.6	0	.617	.955	225	691

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

Haiku Stream near Heeia

Location.- Lat. 21°24'40", long. 157°49'40", on left bank of stream, 1.7 miles west of Kaneohe post office, and 1.8 miles southwest of Heeia. Datum of gage is 271.9 feet above mean sea level (levels by City and County of Honolulu).
Drainage area.- 1.0 square mile.
Records available.- January 1914 to October 1919, July 1939 to June 1941.
Extremes.- Maximum discharge for year ending June 30, 1940, 400 million gallons a day (619 second-feet) May 9 (gage height, 3.82 feet), from rating curve extended above 13 million gallons a day by test on model of station site; minimum, 1.63 million gallons a day (2.52 second-feet) Aug. 24.
Maximum discharge for year ending June 30, 1941, 185 million gallons a day (286 second-feet) Nov. 20 (gage height, 3.16 feet), from rating curve extended above 13 million gallons a day by test on model of station site; minimum, 1.20 million gallons a day (1.86 second-feet) Feb. 8.
1914-19, 1939-41: Maximum discharge, that of May 9, 1940; minimum, that of Feb. 8, 1941.
Remarks.- Records good except those for period when clock was not running, which are poor. No diversions.
Revisions.- Revised figures of discharge for year ending June 30, 1940, superseding those published in Water-Supply Paper 905, are given herein.

Rating table, fiscal years 1939-41 (gage height, in feet, and discharge, in million gallons a day)

1.1	1.20	1.5	3.95	1.9	23
1.2	1.54	1.6	5.9	2.0	30.5
1.3	2.0	1.7	9.2	2.1	38
1.4	2.8	1.8	15.3		

Discharge, in million gallons a day, 1939-41

1939-40

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	f1.91	2.0	1.86	1.91	2.15	2.15	1.86	1.86	2.0	2.05	1.91	2.15
2	2.4	2.1	1.86	1.91	2.1	2.2	2.6	1.86	2.0	2.3	11.4	2.3
3	2.0	2.0	5.0	1.91	2.15	2.15	1.95	1.86	2.0	1.95	4.7	4.2
4	2.0	2.0	17.5	1.91	2.15	2.2	1.86	2.15	2.0	1.91	2.4	2.4
5	1.95	4.1	4.6	1.91	2.5	2.1	1.95	35.5	2.0	2.1	2.6	2.25
6	1.95	2.15	2.15	1.95	2.25	2.0	1.86	15.6	1.95	2.1	2.25	3.05
7	1.95	2.0	1.95	1.95	2.15	1.95	6.0	2.55	1.95	2.15	2.1	2.25
8	1.95	1.91	1.91	2.45	23.5	2.0	5.1	2.4	1.95	2.1	2.0	2.15
9	2.0	1.91	1.91	1.95	3.0	1.91	2.1	2.3	2.0	1.95	21.5	2.8
10	2.0	1.91	1.91	1.91	2.3	1.91	1.91	2.25	1.95	1.91	8.3	2.25
11	2.0	1.91	1.91	1.91	2.25	1.91	1.91	2.15	1.95	1.91	4.1	2.1
12	2.1	1.91	1.91	1.86	2.1	2.2	1.91	2.3	1.95	1.91	16.3	2.0
13	1.95	1.91	1.95	1.91	2.0	2.3	1.86	2.15	1.95	1.95	a24	2.0
14	1.95	1.95	2.0	1.91	2.0	2.45	1.91	2.15	2.15	1.91	a5.0	2.2
15	2.0	1.91	2.15	2.15	2.0	1.95	1.86	2.15	3.5	1.91	a3.1	2.0
16	2.1	1.91	2.6	2.2	2.0	1.91	1.82	2.15	2.8	1.91	f2.8	2.0
17	2.0	1.91	2.25	1.91	2.0	1.91	1.86	2.15	2.25	2.35	2.55	2.0
18	2.0	1.91	2.25	1.91	2.1	2.0	1.82	2.25	2.1	2.45	2.5	2.0
19	2.0	2.2	2.25	1.91	2.0	1.91	3.4	2.6	2.0	2.3	2.4	2.0
20	2.4	1.91	2.25	2.45	2.0	1.91	1.95	2.4	2.0	2.4	2.4	2.0
21	2.1	1.91	2.25	2.9	2.0	1.91	1.86	2.55	2.0	2.1	2.4	2.0
22	2.5	1.91	2.4	26	2.0	1.86	1.86	2.4	2.1	1.95	2.4	2.0
23	2.1	1.91	2.5	33.5	2.3	1.86	3.1	2.25	2.0	1.95	3.3	2.0
24	2.0	1.86	2.15	7.2	2.0	1.86	2.15	2.15	1.95	1.95	3.5	2.1
25	1.95	2.0	2.1	5.5	2.0	1.85	1.91	2.15	1.91	1.95	2.7	2.0
26	2.0	1.91	2.0	2.7	2.85	1.86	1.21	2.15	1.91	2.15	2.3	2.0
27	1.95	2.15	2.0	2.5	2.1	1.91	1.91	2.1	1.91	2.0	2.1	2.0
28	2.0	1.95	2.25	2.55	2.1	2.2	1.91	2.1	1.95	1.95	2.0	2.0
29	1.95	1.91	2.15	2.3	2.45	1.95	1.86	2.1	2.8	1.91	6.1	2.0
30	2.0	1.91	1.95	2.25	3.35	1.91	1.86	-	1.95	1.91	2.4	2.15
31	2.25	1.86	-	2.25	-	1.91	1.91	-	2.2	-	2.4	-

a No gage-height record; discharge computed on basis of records for stations on nearby streams.
f Computed on basis of partly estimated gage-height record.

Discharge, in million gallons a day, of Haiku Stream near Keeia, 1939-41--Continued

Day	1940-41											
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.0	1.95	3.35	2.15	4.7	12.2	6.9	9.8	2.1	11.6	6.6	5.8
2	2.0	1.91	2.7	1.91	4.7	12.2	5.9	9.8	2.1	9.1	6.2	5.5
3	1.95	1.82	2.5	f2.15	4.7	12.2	6.6	9.8	2.25	3.6	5.9	5.5
4	1.95	1.82	2.85	2.0	4.9	12.2	5.9	9.8	2.25	3.7	6.2	5.5
5	1.95	1.82	2.4	2.0	4.9	12.2	6.9	5.3	2.25	6.8	6.2	5.5
6	2.0	1.82	2.25	1.95	4.9	12.2	6.6	1.27	2.15	3.5	6.2	a5.7
7	1.95	1.82	2.15	1.95	4.9	12.2	6.2	1.30	2.1	3.15	6.2	a5.7
8	1.91	4.4	2.1	2.0	5.5	12.2	11.1	1.27	2.0	3.4	6.6	a5.7
9	1.91	2.3	2.0	1.95	6.6	12.2	7.8	1.37	2.0	3.4	8.6	a5.7
10	1.91	1.91	2.0	1.95	6.9	12.2	4.9	1.54	2.0	3.15	6.2	a5.7
11	1.91	1.86	2.0	1.95	6.6	12.2	9.8	1.63	2.1	3.15	6.2	a5.7
12	1.91	2.15	2.1	1.91	7.2	12.2	12.9	1.72	2.0	3.15	6.2	a5.7
13	1.91	1.95	2.1	1.91	7.9	11.6	6.7	1.82	2.0	3.15	5.9	a5.7
14	1.91	1.82	2.1	1.91	8.5	11.6	4.3	1.86	3.35	3.05	5.9	a5.7
15	1.91	1.95	2.1	1.91	10.4	11.6	4.9	1.88	2.9	2.5	5.9	a5.7
16	1.95	2.2	2.1	1.95	11.0	5.9	8.2	12.5	4.3	1.45	5.9	a5.7
17	1.95	2.75	2.15	2.0	11.0	4.1	7.8	7.2	3.65	6.0	5.2	a5.7
18	1.95	2.15	2.15	2.1	11.0	4.7	10.8	1.44	2.55	6.9	5.9	a5.7
19	1.95	1.95	2.25	3.1	11.6	5.1	12.9	1.68	2.5	6.6	5.7	a5.7
20	1.95	1.91	2.1	2.55	26.5	8.6	6.2	1.82	2.65	6.6	5.7	a5.7
21	1.91	1.91	2.0	2.5	12.2	12.1	6.9	1.91	2.9	6.2	5.7	a5.7
22	1.91	2.1	1.95	2.65	11.6	11.6	7.4	1.91	2.55	5.9	5.7	a5.7
23	1.91	2.25	1.91	3.4	11.0	5.7	4.6	1.95	2.5	6.6	5.7	a5.7
24	1.91	2.95	1.91	3.6	11.0	4.3	5.1	2.1	2.5	6.2	5.7	a5.7
25	1.91	3.55	3.15	3.7	11.0	4.9	11.2	2.1	2.4	5.9	5.7	all
26	1.91	2.8	2.15	3.85	11.6	5.1	12.9	2.0	2.4	6.6	5.7	a6.0
27	1.86	3.05	1.95	4.3	12.2	5.3	10.0	2.0	2.65	7.2	5.7	a5.4
28	1.82	3.15	1.91	3.95	12.2	5.5	11.5	2.1	13.2	7.2	5.7	a5.0
29	1.82	3.15	1.91	4.5	11.5	7.7	11.0	-	16.8	7.2	5.5	a5.3
30	1.98	4.0	2.25	4.5	12.2	5.9	11.0	-	13.5	7.2	5.5	a10
31	2.2	3.25	-	4.7	-	7.0	10.4	-	12.2	-	5.5	-

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

f Computed on basis of partly estimated gage-height record.

Monthly discharge, in million gallons, 1939-41

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July 1939	2.5	1.91	2.05	3.17	63.4	195
August	4.1	1.85	2.03	3.14	62.8	193
September	17.5	1.86	2.80	4.33	83.9	258
October	33.5	1.86	4.11	6.36	128	391
November	23.5	2.0	2.93	4.53	87.8	270
December	2.45	1.86	2.00	3.09	62.1	191
Calendar year	-	-	-	-	-	-
January 1940	6.0	1.82	2.25	3.48	69.7	214
February	35.5	1.86	3.95	6.11	111	340
March	3.3	1.91	2.08	3.22	64.4	198
April	2.45	1.91	2.04	3.16	61.3	188
May	24	1.91	5.03	7.78	156	478
June	4.2	2.0	2.21	3.42	66.4	204
Fiscal year 1939-40	35.5	1.82	2.78	4.30	1,020	3,120
July 1940	2.2	1.82	1.93	2.99	60.0	184
August	4.4	1.82	2.40	3.71	74.4	228
September	3.35	1.91	2.21	3.42	66.3	204
October	4.7	1.91	2.68	4.15	83.0	255
November	26.5	4.7	9.37	14.5	281	862
December	12.2	4.1	9.18	14.2	285	874
Calendar year 1940	35.5	1.82	3.76	5.82	1,380	4,230
January 1941	12.9	4.3	8.24	12.7	255	783
February	12.5	1.27	3.60	5.57	101	309
March	16.8	2.0	3.96	6.13	123	377
April	11.6	1.43	5.34	8.26	160	491
May	6.5	5.5	5.95	9.21	184	566
June	11	5.0	5.95	9.21	178	548
Fiscal year 1940-41	26.5	1.27	5.07	7.84	1,850	5,680

Iolekaa Stream mauka near Heeia

Location.- Columbus type concrete control, lat. 21°26'30", long. 157°49'50", 0.7 mile upstream from confluence with Haiku Stream, 1.5 miles southwest of Heeia, and 1.8 miles west of Kaneohe post office. Datum of gage is 320 feet ±1.0 foot above mean sea level.
Drainage area.- 0.3 square mile.
Records available.- March 1940 to June 1941.
Extremes.- Maximum discharge for period ending June 30, 1940, 15.8 million gallons a day (24.4 second-feet) May 9 (gage height, 1.63 feet), from rating curve extended above 1.0 million gallons a day by rating for Columbus type control and test on model of station site; minimum, 0.75 million gallons a day (1.16 second-feet) May 7, 8.
Maximum discharge during year ending June 30, 1941, 31 million gallons a day (48 second-feet) June 25 (gage height, 1.90 feet), from rating curve extended above 1.0 million gallons a day by rating for Columbus type control and test on model of station site; minimum, 0.41 million gallons a day (0.63 second-foot) May 23-30, June 27-29.
Remarks.- Records good except those for periods of no gage-height record, which are poor. No diversions.
Revisions.- Revised figures of discharge for period Mar. 1 to June 30, 1940, superseding those published in Water-Supply Paper 905, are given herein.

Rating table, Mar. 1, 1940 to June 30, 1941 (gage height, in feet, and discharge, in million gallons a day)

0.7	0.49	1.0	2.05
.8	.82	1.1	3.0
.9	1.32	1.2	4.3

Discharge, in million gallons a day, 1940-41

1940

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1									f0.82	0.92	0.87	0.87
2									.82	.92	2.55	.87
3									.82	.87	1.20	f1.45
4									.82	.87	.82	a1.12
5									.82	.99	.97	a1.02
6									.82	1.07	.79	f1.06
7									.82	1.06	.75	.92
8									.82	.97	.75	.87
9									.87	.97	f1.44	.96
10									.87	.92	a1.1	.87
11									.87	.92	a1.0	.82
12									.92	.87	a2.4	.82
13									.92	.87	a3.4	.82
14									1.02	.82	a1.6	.82
15									1.59	.82	a1.2	.87
16									1.32	.82	a1.0	.87
17									1.07	.97	f.97	.87
18									.97	.97	a.92	.87
19									.97	1.02	a.87	.87
20									.97	.97	f.87	.87
21									.97	.92	.82	.87
22									.97	.92	.82	.82
23									.97	.92	1.01	.82
24									.97	.92	1.11	.87
25									.97	.92	1.02	.87
26									.97	.92	.87	.87
27									.97	.92	.87	.87
28									.97	.92	.82	.87
29									1.15	.87	1.42	.87
30									a1.0	.87	.97	.87
31									a1.2	-	.97	-

a No gage-height record; discharge computed on basis of records for stations on all nearby streams.
f Computed on basis of partly estimated gage-height record.

Discharge, in million gallons a day, of Iolekaa Stream mauka near Heeia, 1940-41--Continued

1940-41

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.87	1.02	1.08	1.01	0.82	a0.84	0.92	a0.70	0.59	0.52	0.49	0.43
2	.87	1.07	1.02	.82	.82	a.84	.79	a.70	.62	.52	.49	.43
3	.87	1.02	1.02	.97	.82	a.84	.82	a.66	.66	.52	.49	.43
4	.87	1.02	1.02	.87	.87	a.86	.79	a.64	.62	.59	.52	.43
5	.87	1.02	.87	.79	.87	a.86	1.06	f.62	.62	1.95	.49	.43
6	.87	1.02	.87	.79	.87	a.86	.92	.62	.59	.75	.49	.43
7	.87	.97	.87	.79	.87	a.84	.82	.62	.59	.62	.49	.43
8	.87	1.52	.87	.79	.87	a.84	.79	.59	.56	.59	.58	.45
9	.87	.97	.87	.79	.87	a.84	.75	.59	.59	.56	.47	.45
10	.87	.87	.87	.79	.87	a.84	.75	.59	.59	.52	.47	.45
11	.87	.82	.87	.79	.87	a.82	.75	.59	.59	.52	.47	.45
12	.87	.87	.87	.79	.87	a.78	.75	.62	.59	.52	.45	.45
13	.87	.82	.87	.79	.87	a.78	.75	.62	.59	.52	.45	.45
14	.87	.82	.92	.79	.87	a.78	.75	.62	1.08	.49	.45	.45
15	.82	.82	.82	.79	1.02	a.76	.75	.62	.92	.49	.45	.45
16	.87	.87	.87	.79	.92	a.76	.72	.62	1.14	.49	.45	.45
17	.87	1.06	.87	.82	.92	a.74	.82	.62	.87	.49	.45	.45
18	.87	.87	.87	.72	.92	.72	.75	.66	.66	.49	.47	.43
19	.87	.87	.97	1.09	1.02	.75	.75	.66	.59	.58	.45	.43
20	.87	.87	.87	.92	f1.86	.72	.72	.66	.69	.62	.45	.43
21	.87	.87	.87	.79	a1.1	.72	.72	.62	.62	.52	.45	.43
22	.87	.87	.87	.79	a1.0	.72	.72	.62	.59	.49	.41	.43
23	.92	.87	.87	.92	a.92	.72	.72	.62	.56	.79	.41	.45
24	.92	.87	.87	.82	a.90	.79	.72	.66	.56	.69	.41	.43
25	.92	1.02	.94	.82	a.90	.72	.69	.66	.56	.59	.41	1.51
26	.92	.87	.92	.82	a.90	.72	.82	.62	.56	.56	.41	.45
27	.92	.87	.82	.82	a.90	.72	.75	.59	.52	.56	.41	.43
28	.97	.87	.82	.79	a.90	.75	.72	.59	.52	.52	.41	.41
29	1.02	.87	.82	.82	a.90	1.00	.69	-	.52	.52	.41	.43
30	1.07	1.11	.82	.82	a.90	.79	f.69	-	.52	.49	.41	2.15
31	1.17	.92	-	.82	-	.89	a.70	-	.52	-	.43	-

a No gage-height record; discharge computed on basis of records for stations on all nearby streams.
f Computed on basis of partly estimated gage-height record.

Monthly discharge, in million gallons, 1940-41

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
March 1940	1.59	0.82	0.969	1.50	30.0	92
April	1.07	.82	.924	1.43	27.7	86
May	3.4	.75	1.17	1.81	36.2	111
June	1.45	.82	.904	1.40	27.1	83
The period	-	-	-	-	121	371
July 1940	1.17	.82	.901	1.39	27.9	86
August	1.52	.82	.942	1.46	29.2	90
September	1.08	.82	.893	1.38	26.8	82
October	1.09	.72	.830	1.28	25.7	79
November	1.86	.82	.934	1.45	28.0	86
December	1.00	.72	.794	1.23	24.6	76
Calendar year	-	-	-	-	-	-
January 1941	1.06	.69	.770	1.19	23.9	73
February	.70	.59	.629	.973	17.6	54
March	1.14	.52	.639	.989	19.8	61
April	1.95	.49	.603	.933	18.1	55
May	.58	.41	.455	.704	14.1	43
June	2.15	.41	.531	.822	15.9	49
Fiscal year 1940-41	2.15	.41	.744	1.15	272	834

Kahaluu Stream near Heeia

Location.- Parshall flume, lat. 21°26'20", long. 157°51'05", 40 feet upstream from intake of Libby ditch, half a mile upstream from forest-reserve boundary, and 3.5 miles northwest of Kaneohe. Datum of gage is 357.22 feet above mean sea level (levels by Wright, Harvey & Wright).

Drainage area.- 0.4 square mile.

Records available.- October 1935 to June 1941.

Extremes.- Maximum discharge during year, 106 million gallons a day (164 second-feet) Nov. 20 (gage height, 3.85 feet), from rating curve extended above 4 million gallons a day by test on model of station site; minimum, 2.6 million gallons a day (4.0 second-feet) probably June 27-30.

1935-41: Maximum discharge, 290 million gallons a day (449 second-feet) Sept. 27, 1937 (gage height, 5.47 feet, control then in use), from rating curve computed from 11 to 240 million gallons a day by Parshall flume formula and extended above; minimum, 2.35 million gallons a day (3.64 second-feet) Sept. 3-5, 1936.

Remarks.- Records good. No diversions above station. Continuous records of rainfall are obtained at the station.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.6	2.7	0.9	6.0
.7	3.75	1.0	7.5
.8	4.8	1.2	10.7

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.2	3.35	3.35	3.2	3.2	3.0	3.1	3.2	3.0	3.0	2.9	2.9
2	3.2	3.2	3.2	3.2	3.2	3.0	3.0	3.2	3.0	3.0	2.9	2.9
3	3.2	3.2	3.2	3.55	3.2	3.0	3.55	3.2	3.0	3.0	2.9	2.9
4	3.2	3.2	3.45	3.2	3.2	3.0	3.35	3.2	3.0	3.1	2.9	2.9
5	3.2	3.1	3.35	3.2	3.2	3.0	3.55	3.2	3.0	5.4	2.9	2.9
6	3.1	3.1	3.2	3.2	3.2	3.0	3.2	3.2	3.0	3.35	2.9	2.8
7	3.0	3.1	3.2	3.2	3.1	3.0	3.2	3.2	3.0	3.0	2.9	2.8
8	3.0	5.1	3.2	3.2	3.1	3.0	3.1	3.2	3.0	3.0	3.0	2.8
9	3.0	3.65	3.2	3.2	3.1	3.0	3.1	3.1	3.0	3.0	2.9	2.8
10	3.0	5.35	3.2	3.2	3.2	3.0	3.1	3.1	3.0	3.9	3.9	2.8
11	3.0	3.2	3.35	3.2	3.2	3.0	3.1	3.1	3.0	2.9	2.9	2.8
12	3.1	3.45	3.35	3.2	3.1	3.0	3.1	3.1	3.0	2.9	2.9	2.8
13	3.2	3.35	3.2	3.2	3.1	3.1	3.1	3.1	3.0	3.0	2.9	2.8
14	3.2	3.8	3.2	3.2	3.2	3.1	3.1	3.1	3.35	2.9	2.9	2.8
15	3.2	3.45	3.2	3.2	3.55	3.1	3.1	3.1	3.35	2.9	2.9	2.8
16	3.2	3.35	3.2	3.2	3.2	3.1	3.1	3.0	5.3	2.9	2.9	2.8
17	3.2	3.35	3.2	3.2	3.2	3.1	3.1	3.0	4.1	2.9	2.9	2.8
18	3.2	3.35	3.2	3.2	3.2	3.1	3.2	3.0	3.1	2.9	3.0	2.8
19	3.2	3.35	3.2	3.2	3.35	3.0	3.3	3.0	3.1	3.0	2.9	2.8
20	3.2	3.2	3.2	3.2	8.5	3.0	3.3	3.0	3.1	3.35	2.9	2.8
21	3.2	3.2	3.2	3.2	3.1	3.0	3.2	3.0	3.1	3.0	2.9	2.8
22	3.2	3.2	3.2	3.2	3.0	3.0	3.1	3.0	3.0	3.0	2.9	2.8
23	3.2	3.2	3.2	4.7	3.0	3.0	3.1	3.0	3.0	3.2	2.9	2.8
24	3.2	3.35	3.2	3.2	3.0	3.0	3.1	3.0	3.0	3.1	2.9	2.8
25	3.2	3.75	3.35	3.2	3.0	3.0	3.1	3.0	3.0	3.0	2.9	4.5
26	3.2	3.35	3.2	3.2	3.0	3.0	3.2	3.0	3.0	2.9	2.9	3.1
27	3.2	3.2	3.2	3.2	3.0	3.0	3.2	3.0	3.0	2.9	2.9	3.0
28	3.2	3.2	3.2	3.2	3.0	3.0	3.2	3.0	3.0	2.9	2.9	3.0
29	3.2	3.35	3.2	3.35	3.0	3.1	3.2	-	3.0	2.9	2.9	3.0
30	3.45	3.85	3.2	3.2	3.0	3.1	3.2	-	3.0	2.9	2.9	4.5
31	3.65	3.35	-	3.2	-	3.1	3.2	-	3.0	-	2.9	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	3.65	3.0	3.18	4.92	98.7	303
August	5.1	3.1	3.37	5.21	105	321
September	3.45	3.2	3.23	5.00	97.0	298
October	4.7	3.2	3.26	5.04	101	311
November	8.5	3.0	3.31	5.12	99.4	305
December	3.1	3.0	3.03	4.69	93.9	288
Calendar year 1940	16.4	3.0	3.42	5.29	1,250	3,840
January	3.55	3.0	3.18	4.92	98.6	302
February	3.2	3.0	3.08	4.77	86.3	266
March	5.3	3.0	3.15	4.87	97.5	299
April	5.4	2.9	3.07	4.75	92.2	283
May	3.0	2.9	2.91	4.50	90.1	277
June	4.5	2.8	2.96	4.58	88.8	273
Fiscal year 1940-41	8.5	2.8	3.15	4.87	1,180	3,620

Note.- Discharge for periods of no gage-height record, Jan. 9 to Feb. 4, Feb. 6-17, June 9-30, computed on basis of records for stations on nearby streams.

Waihee Stream near Heeia

Location.- Parshall flume, lat. 21°27'05", long. 157°51'35", 70 feet upetream from intake of Kihe ditch, 120 feet downstream from forest-reserve boundary, and 4.1 miles northwest of Kaneohe. Altitude of gage, 193 feet.

Drainage area.- 1.1 square miles.

Records available.- December 1935 to June 1941.

Extremes.- Maximum discharge during year, 220 million gallons a day (340 second-feet) Nov. 20 (gage height, 4.82 feet), from rating curve extended above 50 million gallons a day by test on model of station site; minimum, 4.6 million gallons a day (7.1 second-feet) May 26-30, June 27-30.

1935-41: Maximum discharge, 465 million gallons a day (719 second-feet) Feb. 28, 1939 (gage height, 5.47 feet), from rating curve computed from 20 to 230 million gallons a day by Parshall flume formula and extended above; minimum, that of May 26-30, June 27-30, 1941.

Remarks.- Records good. No diversions above station.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.8	4.6	1.2	11.0
.9	6.0	1.4	15.1
1.0	7.5	1.7	22.5

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	6.3	6.3	6.9	6.6	5.9	5.7	5.9	5.4	5.2	5.3	5.2	4.7
2	6.3	6.0	6.6	6.3	5.9	5.7	5.6	5.4	5.2	5.3	5.2	4.7
3	6.2	5.9	6.4	7.8	5.9	5.9	9.7	5.4	5.3	5.3	5.2	4.7
4	6.2	5.7	7.2	6.6	5.9	5.9	6.3	5.4	5.3	5.9	5.4	4.9
5	6.0	5.7	7.0	6.4	5.9	6.0	6.3	5.4	5.3	11.3	5.2	5.0
6	6.0	5.7	6.6	6.3	5.9	5.0	6.0	5.4	5.3	7.4	5.2	4.9
7	6.0	5.7	6.4	6.3	5.7	5.9	f5.9	5.3	5.3	6.0	5.0	4.9
8	5.9	12.1	6.3	6.3	5.7	5.7	5.7	5.3	5.3	5.6	5.3	5.0
9	5.9	7.8	6.3	6.2	5.7	5.7	5.7	5.3	5.3	5.4	5.2	4.9
10	5.9	6.4	6.3	6.2	5.7	5.7	5.7	5.3	5.3	5.3	5.0	4.9
11	5.9	6.2	6.2	6.2	5.7	6.0	f5.6	5.3	5.3	5.3	5.0	4.9
12	5.9	6.9	6.2	6.0	5.7	5.7	a5.6	5.3	5.3	5.3	5.0	4.9
13	5.9	6.3	6.2	5.9	5.6	5.7	f5.6	5.3	5.3	5.3	5.0	4.7
14	5.9	6.0	6.2	5.9	5.6	5.7	5.6	5.3	6.0	5.3	5.0	4.7
15	5.9	7.0	6.2	5.9	6.3	5.7	5.6	5.3	5.6	5.2	5.0	4.7
16	5.9	6.3	6.2	5.9	5.9	5.6	5.6	5.7	10.6	5.2	5.2	4.7
17	5.9	6.3	6.2	5.9	5.7	5.6	6.0	5.4	8.4	5.0	5.2	4.7
18	6.0	6.0	6.3	5.9	5.6	5.6	5.6	5.3	6.2	5.0	5.3	4.7
19	6.0	6.0	6.9	5.9	5.7	5.6	5.6	5.3	5.7	5.3	5.2	4.9
20	6.0	6.0	6.4	5.9	22	5.8	5.4	5.3	5.7	5.3	5.0	4.9
21	5.9	6.2	6.3	5.9	7.4	5.4	5.4	5.3	5.7	5.2	5.0	4.9
22	5.9	6.2	6.3	6.0	6.4	5.4	5.4	5.3	5.6	5.2	4.9	4.9
23	5.9	6.2	6.3	6.0	6.0	5.4	5.4	5.3	5.6	5.7	4.9	4.9
24	5.9	6.6	6.3	6.0	6.0	5.6	5.4	5.4	5.4	5.4	4.9	4.9
25	5.9	7.6	6.4	6.0	5.9	5.4	5.4	5.3	5.4	5.3	4.9	9.0
26	5.9	6.0	6.3	5.9	5.9	5.4	5.5	5.3	5.3	5.2	4.7	4.9
27	5.9	6.2	6.2	5.9	5.9	5.4	5.6	5.3	5.3	5.2	4.9	4.6
28	5.9	6.2	6.2	5.9	5.9	5.6	5.4	5.3	5.3	5.2	4.7	4.6
29	5.9	6.3	6.2	5.9	5.7	5.5	5.4	-	5.3	5.2	4.6	4.6
30	5.4	7.9	6.4	5.9	5.7	5.7	5.4	-	5.3	5.2	4.6	8.8
31	6.9	6.6	-	5.9	-	5.7	5.4	-	5.3	-	4.7	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	6.9	5.9	6.01	9.30	186	572
August	12.1	5.7	6.53	10.1	202	621
September	7.2	6.2	6.40	9.90	192	589
October	7.8	5.9	6.12	9.47	190	582
November	22	5.6	6.44	9.96	193	593
December	6.0	5.4	5.66	8.76	176	539
Calendar year 1940	49	5.4	6.69	10.4	2,450	7,520
January	9.7	5.4	5.77	8.93	179	549
February	5.7	5.3	5.34	8.26	150	459
March	10.6	5.2	5.69	8.80	176	541
April	11.3	5.0	5.59	8.63	168	515
May	5.4	4.6	5.02	7.77	156	478
June	9.0	4.6	5.08	7.86	152	466
Fiscal year 1940-41	22	4.6	5.81	8.99	2,120	6,510

a No gage-height record; discharge computed on basis of records for stations on nearby streams.
f Computed on basis of partly estimated gage-height record.

MISCELLANEOUS DISCHARGE MEASUREMENTS

Measurements of streams on the island of Oahu at other than regular gaging stations are listed below:

Miscellaneous discharge measurements on Oahu during fiscal year July 1940 to June 1941

Date	Stream	Tributary to-	Locality	Discharge	
				Second-feet	Million gallons a day
July 15	Pearl Harbor Springs.	Pacific Ocean.....	At ditch levee, 1,000 feet west of Puukapu gaging station.	2.57	1.66
Sept.17	....do.....	....do.....	....do.....	2.61	1.69
Oct. 19	....do.....	....do.....	....do.....	2.45	1.58
Nov. 19	....do.....	....do.....	....do.....	2.52	1.63
Dec. 20	....do.....	....do.....	....do.....	1.66	1.07
Feb. 18	....do.....	....do.....	....do.....	1.93	1.25
Mar. 27	....do.....	....do.....	....do.....	1.62	1.05
Apr. 29	....do.....	....do.....	....do.....	1.95	1.26
June 14	....do.....	....do.....	....do.....	1.43	.924
July 3	....do.....	....do.....	At Kaluaoopu, near Pearl City, 400 feet above wooden dam.	12.2	7.89
Feb. 27	....do.....	....do.....	....do.....	13.3	8.60
Mar. 27	....do.....	....do.....	....do.....	12.7	8.21
27	....do.....	....do.....	At Kaluaoopu, near Pearl City (discharge from Hawaiian Electric Co.'s power plant).	19.1	12.3
Feb. 26	....do.....	....do.....	At Kaluaoopu, near Pearl City, 50 feet above Kaluaoopu gaging station.	12.5	8.08
27	....do.....	....do.....	....do.....	9.96	6.44
26	....do.....	....do.....	At Kaluaoopu, near Pearl City, 200 feet below Kaluaoopu gaging station.	14.5	9.37
27	....do.....	....do.....	....do.....	10.9	7.04
July 24	....do.....	....do.....	At 27-inch culvert 300 feet west of Waiau railway station.	9.52	6.15
Sept.14	....do.....	....do.....	....do.....	4.12	2.66
Oct. 21	....do.....	....do.....	....do.....	a0	a0
July 24	....do.....	....do.....	At wooden culvert 10 feet west of Waiau railway station.	.600	.388
Aug. 1	....do.....	....do.....	....do.....	a0	a0
Nov. 23	Haiku tunnel..	Haiku Stream.....	At head of Haiku canyon at altitude 550 feet, near Heeia.	18.4	11.9
26	....do.....	....do.....	....do.....	15.9	10.3
29	....do.....	....do.....	....do.....	16.5	10.7
Mar. 12	....do.....	....do.....	....do.....	.754	.487
Apr. 23	....do.....	....do.....	....do.....	b8.66	b5.60
Mar. 12	Haiku Stream..	Heeia Stream.....	At altitude 550 feet, near Heeia.	1.49	.963
Apr. 23	....do.....	....do.....	....do.....	0	0
Mar. 12	Right Branch of Haiku Stream.	Haiku Stream.....	....do.....	1.20	.776
Apr. 23	....do.....	....do.....	....do.....	.805	.520

a Culvert closed and water diverted.
b Leakage from tunnel.

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Halawa Stream near Halawa

Location.- Concrete and masonry dam, lat. 21°09'30", long. 156°46'00", about 500 feet downstream from confluence of two main branches, 1¾ miles west of Halawa, and 6 miles northeast of Pukoo.
Drainage area.- 4.5 square miles.
Records available.- August 1917 to July 1932, November 1937 to June 1941.
Average discharge.- 17 years (1918-32, 1938-41) 18.8 million gallons a day (21.1 second-feet).
Extremes.- Maximum discharge during year, 1,760 million gallons a day (2,720 second-feet) Nov. 20 (gage height, 8.51 feet), from rating curve extended above 100 million gallons a day by logarithmic plotting; minimum, 1.7 million gallons a day (2.6 second-feet) July 26, 27.
1917-32, 1937-41: Maximum discharge, 2,430 million gallons a day (3,760 second-feet) Oct. 23, 1939 (gage height, 9.86 feet), from rating curve extended above 100 million gallons a day by logarithmic plotting; minimum, 0.8 million gallons a day (1.2 second-feet) Oct. 13-15, 19, 1917.
A greater discharge may have occurred Jan. 20, 1929.
Remarks.- Records good. A 1-inch pipe line diverts water about a quarter of a mile above station for domestic use of Halawa village.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.7	1.3	2.2	9.9	3.5	126
1.8	2.3	2.4	17.2	4.0	223
1.9	3.7	2.7	35	4.5	345
2.0	5.4	3.0	61		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	4.4	33	64	18.8	10.8	10.5	119	4.6	3.7	6.2	11.2	7.8
2	3.1	20.5	94	12.6	26	67	20	3.7	3.4	9.6	10.5	5.1
3	2.7	19.7	40	7.1	11.4	9.9	76	3.4	7.7	70	7.1	4.2
4	3.2	18.9	162	8.2	11.1	7.5	55	33.5	27	136	12.6	4.5
5	6.8	30	29.5	5.8	46	13.4	27	10.6	7.7	114	7.8	10.6
6	7.5	22.5	16.8	6.4	11.2	9.4	14.6	4.7	4.6	25	15.2	4.6
7	21	23	14.6	6.0	9.2	36.5	10.5	131	3.6	12.9	15.4	28
8	9.4	24.5	10.8	5.1	7.1	42	8.9	13.7	3.4	9.9	108	53
9	5.1	50	9.2	4.0	8.7	22.5	7.7	6.9	3.3	8.2	24	22
10	7.9	11.9	8.7	3.6	84	23.5	32.5	5.4	3.4	7.3	13.6	9.7
11	4.9	9.7	7.5	4.0	49	87	16.5	4.7	4.2	7.1	10.2	21.5
12	3.4	23.5	11.9	48	13.6	69	10.5	4.0	7.3	11.5	8.0	15.0
13	3.3	11.2	8.0	59	9.2	16.3	7.3	4.7	7.4	21	13.3	8.7
14	2.9	8.2	8.2	17.2	47	12.6	6.2	8.6	136	9.6	9.2	8.2
15	4.2	23.5	8.6	7.5	62	9.4	5.6	9.6	125	30	10.3	6.9
16	3.3	28.5	12.1	6.0	13.3	9.7	5.2	4.6	209	9.3	8.5	5.6
17	3.0	119	7.5	12.1	10.2	7.5	25	4.2	56	6.7	8.9	4.9
18	6.5	36	8.4	68	9.4	7.1	14.8	3.6	26.5	5.4	13.2	4.6
19	6.1	17.7	5.8	100	9.9	6.2	6.7	3.3	16.8	5.1	7.3	12.4
20	3.4	12.0	5.4	26.5	259	5.4	5.4	3.0	27	4.7	6.5	13.4
21	2.9	8.9	6.0	95	20.5	4.9	5.1	2.9	23.5	4.0	8.4	22.5
22	2.7	8.2	4.6	216	12.6	4.6	4.7	2.6	16.2	3.7	5.2	50
23	2.4	8.5	3.9	46	9.7	14.3	4.2	2.9	11.4	28	5.2	35
24	2.1	117	3.6	19.8	8.7	96	4.0	15.4	19.3	10.3	6.3	20
25	2.0	100	24	12.9	7.3	19.4	3.7	99	9.4	5.1	19.4	166
26	1.8	39.5	10.0	9.9	8.7	7.7	4.6	11.2	7.7	4.2	8.7	15.0
27	1.8	17.2	5.2	8.7	9.2	6.2	5.4	5.4	7.3	3.7	15.9	12.6
28	2.0	11.7	15.4	8.7	9.4	17.9	5.1	4.4	26.5	3.6	11.7	9.4
29	6.3	160	6.7	35	6.9	20.5	4.0	-	26.5	3.4	7.7	66
30	66	45	11.1	9.4	6.4	67	29.5	-	8.2	8.6	5.4	164
31	37	31.5	-	16.2	-	61	8.4	-	6.7	-	15.4	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	66	1.8	7.71	11.9	239	734
August	160	8.2	35.2	54.6	1,090	3,350
September	162	3.6	20.8	32.2	624	1,910
October	216	3.6	29.1	45.0	904	2,770
November	259	6.4	26.9	41.6	808	2,480
December	96	4.5	25.5	39.5	792	2,430
Calendar year 1940	259	1.8	20.0	30.9	7,340	22,520
January	119	3.7	17.8	27.5	553	1,700
February	131	2.6	14.7	22.7	412	1,260
March	209	3.3	27.3	42.2	846	2,600
April	136	3.4	19.5	30.2	584	1,790
May	108	4.2	13.8	21.4	429	1,320
June	166	4.2	27.0	41.8	810	2,490
Fiscal year 1940-41	259	1.8	22.2	34.3	8,090	24,850

Waiakeakua Stream near Wailau

Location.- Concrete and boulder dam, lat. 21°07'30", long. 156°49'40", three-quarters of a mile upstream from confluence with Pulena Stream, 3.2 miles south of Wailau, and 3.8 miles northwest of Pukoo. Datum of gage is 698 feet above mean sea level (hand levels from Reclamation Service bench mark).
Drainage area.- 1.4 square miles.
Records available.- October 1919 to September 1929, September 1937 to June 1941.
Average discharge.- 12 years (1920-29, 1938-41) 7.97 million gallons a day (12.3 second-feet).
Extremes.- Maximum discharge during year, 334 million gallons a day (517 second-feet) Nov. 20 (gage height, 5.11 feet), from rating curve extended above 140 million gallons a day by logarithmic plotting; minimum, 2.15 million gallons a day (3.33 second-feet) July 25-28.
1919-29, 1937-41: Maximum discharge, 951 million gallons a day (1,470 second-feet) Aug. 24, 1938 (gage height, 8.26 feet), from rating curve extended above 140 million gallons a day by logarithmic plotting; minimum, 1.3 million gallons a day (2.0 second-feet) Mar. 7, 1920.
Remarks.- Records good. No diversions.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.6	1.30	1.9	5.9	2.4	24
1.7	2.5	2.0	8.3	2.7	45
1.8	4.0	2.2	14.8	3.0	74

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.4	11.4	23	4.7	6.4	7.9	49	3.55	2.95	4.6	3.5	4.0
2	3.25	8.1	42	4.0	10.3	25	9.9	3.4	2.8	5.6	3.85	3.85
3	3.1	6.6	17.5	4.2	6.6	6.4	12.8	3.25	5.3	14.5	3.4	3.7
4	3.4	7.3	48	4.4	9.0	5.3	6.9	3.55	8.4	28	4.0	3.85
5	3.25	8.5	13.9	4.0	10.3	7.0	6.9	3.25	3.55	27.5	3.25	4.0
6	3.25	7.1	10.3	4.2	7.8	5.5	5.9	3.1	3.1	12.6	4.2	3.6
7	5.8	8.5	8.9	3.85	5.9	20	5.3	6.2	2.95	7.8	3.7	11.4
8	3.55	9.6	7.3	3.55	5.5	12.3	5.0	3.55	2.95	6.4	26	16.0
9	3.25	17.5	6.6	3.4	5.3	8.3	4.8	3.25	2.8	5.7	7.8	6.5
10	3.7	7.1	6.1	3.4	5.4	8.0	5.7	3.1	2.8	5.1	5.5	4.8
11	3.1	7.3	5.9	3.9	5.8	14.1	5.1	2.95	2.8	5.0	4.6	5.0
12	2.95	8.0	6.6	28.5	4.8	10.1	4.6	2.95	3.55	6.1	4.4	5.0
13	2.8	6.4	5.5	16.6	4.6	6.9	4.4	3.25	2.8	6.9	7.1	4.0
14	2.8	5.5	5.3	6.6	15.4	6.1	4.0	4.0	8.9	6.5	5.1	3.85
15	3.0	10.9	5.1	5.3	18.5	5.7	4.0	3.7	13.4	5.8	5.6	3.7
16	2.5	18.5	4.9	4.8	6.1	5.5	3.7	2.95	53	4.4	5.5	3.55
17	2.65	42	6.2	4.6	5.5	5.0	6.3	2.95	15.3	4.2	5.1	3.25
18	2.95	13.4	4.8	6.3	5.7	6.0	4.7	2.8	9.6	4.0	5.5	3.7
19	2.8	9.5	4.2	7.5	5.3	4.8	3.7	2.8	6.4	3.7	4.6	4.7
20	2.5	7.1	4.6	5.6	65	4.6	3.7	2.65	6.5	3.7	4.0	4.4
21	2.5	5.9	4.0	21	9.9	4.4	3.7	2.5	9.2	3.55	4.4	10.2
22	2.4	5.5	3.85	50	7.3	4.2	3.55	2.5	6.4	3.55	3.7	17.5
23	2.25	5.6	3.7	18.1	6.4	4.4	3.55	2.5	5.5	5.0	3.55	14.2
24	2.25	51	3.7	9.5	5.7	7.3	3.4	6.6	5.8	3.7	4.8	18.0
25	2.25	49	8.1	7.1	5.5	4.7	3.25	9.4	4.8	3.25	14.2	32.5
26	2.25	17.8	4.4	6.1	5.7	4.2	3.7	3.55	4.4	3.1	6.0	7.8
27	2.25	10.3	3.7	6.9	5.0	4.2	3.85	3.1	4.4	3.1	8.7	6.4
28	2.25	9.3	6.3	5.5	5.1	8.4	3.4	2.95	14.5	2.95	5.5	5.1
29	3.85	44	4.2	14.8	4.6	6.2	3.25	-	7.9	2.95	5.0	15.5
30	17.4	16.9	4.4	5.9	4.6	16.2	11.5	-	5.1	3.8	4.6	45
31	11.0	12.7	-	8.3	-	8.5	4.0	-	4.8	-	5.3	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	17.4	2.25	3.70	5.72	115	352
August	51	3.5	14.5	22.4	448	1,380
September	48	3.7	9.44	14.6	283	869
October	50	3.4	9.08	14.0	282	864
November	65	4.6	8.97	13.9	269	826
December	25	4.2	7.97	12.3	247	759
Calendar year 1940	65	2.25	7.36	11.4	2,690	8,270
January	49	3.25	6.57	10.2	204	625
February	9.4	2.5	3.58	5.54	100	308
March	55	2.6	7.50	11.6	233	714
April	28	2.95	6.74	10.4	202	620
May	26	3.85	5.89	9.11	182	560
June	45	3.25	9.17	14.2	275	844
Fiscal year 1940-41	65	2.25	7.78	12.0	2,840	8 720

Pulena Stream near Wailau

Location.- Lat. 21°07'40", long. 156°49'50", half a mile upstream from confluence with Wailakeakua Stream, 3 miles south of Wailau, and 4 miles northwest of Pukoo. Datum of gage is 546 feet above mean sea level (hand levels from Reclamation Service bench mark).
Drainage area.- 4.4 square miles.
Records available.- October 1919 to December 1928, September 1937 to June 1941.
Average discharge.- 11 years (1920-28, 1938-41) 21.2 million gallons a day (32.8 second-feet).
Extremes.- Maximum discharge during year, 5,950 million gallons a day (9,210 second-feet) Nov. 20 (gage height, 8.97 feet), from rating curve extended above 220 million gallons a day by logarithmic plotting; minimum, 3.4 million gallons a day (5.3 second-feet) June 17, 18.
1919-28, 1937-41: Maximum discharge, that of Nov. 20, 1940; minimum, 3.0 million gallons a day (4.6 second-feet) June 28, July 14, 1920.
Flood of Jan. 20, 1929, reached a stage of at least 22 feet.
Remarks.- Records fair.

Rating tables, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Nov. 20				Nov. 21 to June 30			
0.9	3.5	2.0	59	0.8	3.0	1.7	36.5
1.0	5.0	2.3	90	.9	4.5	1.9	52
1.1	7.0	2.6	133	1.0	6.6	2.1	69
1.3	13.2	3.0	218	1.1	9.0	2.3	90
1.5	22.5	3.5	385	1.3	15.7		
1.9	35	4.0	620	1.5	24.5		

Note.- Same as preceding table above 2.3 feet.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	6.6	32.5	77	8.6	17.5	14.9	340	7.3	6.4	10.2	8.8	6.2
2	5.6	15.8	117	7.0	44	53	58	6.6	5.8	12.0	7.6	5.8
3	5.0	13.4	72	8.6	27.5	14.3	30	6.4	12.0	22	6.6	5.1
4	6.2	12.8	106	13.2	33	10.9	21.5	11.4	16.4	37.5	6.0	5.1
5	7.4	16.1	50	7.5	37.5	17.2	19.1	7.7	7.1	27	5.6	7.3
6	7.8	19.2	34.5	8.9	21	11.5	16.5	6.2	6.2	29.5	7.1	4.7
7	16.5	25	30.5	7.0	16.6	63	13.5	24.5	5.8	17.8	6.6	7.6
8	9.8	32.5	22	6.2	14.5	29	11.8	9.6	5.6	14.3	30	9.6
9	6.6	32.5	18.5	5.8	12.8	19.6	11.2	6.8	5.3	11.8	20	5.1
10	9.3	17.5	15.2	5.6	14.4	17.2	20.5	5.2	6.2	10.6	12.8	4.5
11	6.2	24	14.9	10.3	18.5	27	14.9	5.8	6.0	9.9	10.9	5.5
12	5.4	22.5	15.4	54	12.2	26	11.2	5.3	8.1	12.8	12.1	7.3
13	4.8	15.8	12.5	54	10.4	17.4	9.6	6.4	5.3	20	23	4.4
14	5.0	12.5	11.8	19.4	19.8	15.5	9.0	10.0	37.5	13.0	17.5	4.2
15	6.7	36	11.1	13.2	33	11.5	8.5	8.2	92	11.7	19.2	4.0
16	4.6	43	10.0	10.8	16.6	11.2	8.0	5.3	125	8.8	18.0	3.8
17	4.7	105	22	12.4	13.2	9.6	9.6	4.9	47	8.0	15.5	3.6
18	5.2	42	14.1	21.5	12.2	25	8.3	4.7	36	7.6	19.2	4.8
19	6.8	26.5	11.4	20	10.6	10.6	7.3	4.7	24	7.1	10.6	9.7
20	5.4	18.5	16.7	18.3	575	9.0	6.8	4.7	19.1	6.8	8.5	5.8
21	4.4	15.4	10.8	59	57	8.5	8.3	4.5	15.3	6.4	9.6	26.5
22	4.4	13.6	8.9	135	27	7.8	6.8	4.4	12.1	6.2	8.4	27
23	3.8	13.7	7.8	55	19.1	11.2	6.4	4.5	11.2	7.1	5.6	28
24	3.6	151	7.6	32	15.3	33.5	6.2	32.5	11.5	6.2	16.2	25
25	3.5	224	24.5	21.5	13.2	14.8	6.2	56	10.6	5.6	33.5	114
26	3.5	86	11.2	17.1	13.5	11.2	10.2	12.6	9.0	5.3	14.8	26.5
27	3.5	41	8.4	16.2	11.2	10.2	16.7	8.5	10.9	5.3	20	18.2
28	3.8	38	14.6	14.5	10.2	23	8.0	7.1	40	5.3	12.8	13.2
29	6.8	104	8.4	36	9.0	12.8	7.1	-	27	5.1	9.6	38.5
30	34	69	10.7	15.4	9.0	78	29.6	-	14.6	6.5	7.8	118
31	35	47	-	18.5	-	32.5	10.3	-	11.5	-	6.8	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	35	3.5	7.80	12.1	242	742
August	224	12.5	44.1	68.2	1,370	4,190
September	117	7.5	26.5	41.0	796	2,440
October	135	8.6	23.6	36.5	732	2,259
November	575	9.0	38.2	59.1	1,140	3,510
December	78	7.8	21.1	32.6	655	2,010
Calendar year 1940	575	3.5	24.1	37.3	8,820	27,050
January	340	6.2	24.2	37.4	751	2,300
February	56	4.4	10.1	15.6	283	868
March	125	5.3	21.0	32.5	650	2,000
April	37.5	5.1	11.9	18.4	357	1,100
May	33.5	5.6	13.2	20.4	409	1,260
June	118	3.6	18.1	28.0	543	1,670
Fiscal year 1940-41	575	3.5	21.7	33.6	7,930	24,330

Pelekunu Stream near Pelekunu

Location.- Lat. 21°08'20", long. 156°52'50", three-quarters of a mile upstream from confluence with Lanipuni Stream, 1.8 miles south of Pelekunu, and 6.8 miles northwest of Pukoo. Datum of gage is 546 feet above mean sea level (hand levels from Reclamation Service bench mark).
Drainage area.- 2.4 square miles.
Records available.- December 1919 to January 1929, September 1937 to June 1941.
Average discharge.- 11 years (1920-28, 1938-41) 11.1 million gallons a day (17.2 second-feet).
Extremes.- Maximum discharge during year, 3,080 million gallons a day (4,770 second-feet) Nov. 20 (gage height, 6.81 feet), from rating curve extended above 80 million gallons a day by logarithmic plotting; minimum, 2.9 million gallons a day (4.5 second-feet) July 25-28.
1919-29, 1937-41: Maximum discharge, that of Nov. 20, 1940; minimum, 1.8 million gallons a day (2.8 second-feet) Mar. 7, July 13, 1920.
Remarks.- Records fair. No diversions.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)
(Shifting-control method used Nov. 20 to June 30)

0.8	2.4	1.8	34
1.0	3.9	2.0	55
1.2	6.7	2.3	97
1.4	11.5	2.6	154
1.6	19.5	2.9	226

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.6	12.0	31.5	4.9	6.2	15.3	174	6.4	4.8	4.2	3.4	3.9
2	3.35	5.7	52	4.1	25.5	81	44	5.7	4.7	4.4	3.6	3.75
3	3.25	5.0	32.5	4.1	13.2	16.8	19.0	5.3	5.9	6.8	3.35	3.65
4	3.4	4.7	40	5.6	19.4	11.2	13.2	9.2	7.3	10.7	3.4	3.65
5	3.9	5.4	19.2	3.9	17.1	13.4	11.0	5.8	4.8	6.7	3.1	4.0
6	4.8	5.8	12.6	4.3	9.2	9.9	9.7	4.9	4.6	6.2	3.25	3.5
7	7.5	8.6	10.2	3.9	7.4	44	8.2	24.5	4.3	5.3	3.45	3.9
8	5.3	9.3	8.0	3.65	6.4	18.6	7.6	9.5	4.3	4.9	12.7	3.65
9	3.78	10.1	6.9	3.6	5.7	13.0	6.9	6.7	4.3	4.4	8.2	3.4
10	4.1	6.7	6.2	3.5	5.8	13.3	10.0	6.0	4.6	4.1	4.8	3.35
11	3.5	9.5	5.5	7.1	6.6	20	8.2	5.5	4.4	4.0	4.2	4.6
12	3.35	9.1	5.3	71	5.0	17.0	6.7	5.2	5.1	4.4	4.8	5.7
13	3.2	5.8	5.0	50	4.6	14.0	6.2	5.3	4.2	6.0	5.9	3.35
14	3.25	5.2	4.8	15.4	5.8	10.6	5.8	5.7	13.1	4.1	5.8	3.65
15	3.65	15.6	4.7	9.4	10.6	9.2	5.7	5.2	50	3.9	7.4	3.9
16	3.2	11.9	4.4	7.4	6.0	8.9	5.5	4.7	45	3.65	6.2	3.8
17	3.25	33.5	9.3	8.1	4.9	7.8	6.8	4.6	16.6	3.65	6.3	3.75
18	3.25	14.3	6.4	13.4	4.4	17.3	5.8	4.4	12.7	3.6	9.9	3.95
19	3.4	9.4	5.3	11.4	4.3	8.5	5.3	4.5	10.4	3.5	5.7	6.4
20	3.35	6.9	6.9	9.8	206	7.6	5.2	4.3	7.8	3.5	4.8	4.3
21	3.2	5.7	4.7	16.4	37	7.1	6.0	4.2	6.0	3.5	5.2	7.9
22	3.2	5.2	4.2	17.5	16.8	6.7	5.3	4.2	5.2	3.4	4.2	8.2
23	3.05	4.9	3.9	14.3	12.9	9.9	5.2	4.2	4.7	3.5	3.9	9.7
24	3.06	41	3.9	10.5	10.5	23	5.2	11.8	4.6	3.4	6.4	9.7
25	2.96	76	7.9	7.8	9.2	11.6	5.2	29	4.7	3.25	9.3	23
26	2.95	33	5.1	6.5	8.5	9.2	6.6	7.1	4.1	3.25	5.8	8.7
27	2.95	13.8	4.1	6.0	7.8	8.4	8.9	5.7	4.4	3.25	6.4	6.9
28	2.96	10.9	5.9	5.7	7.4	11.7	5.7	5.2	8.7	3.25	5.8	5.7
29	3.45	35	4.1	11.8	6.9	9.0	5.2	-	7.6	3.25	4.8	9.7
30	14.6	36.6	4.5	5.5	6.5	58	23.5	-	5.2	3.4	4.4	21
31	14.9	20	-	6.5	-	39	18.8	-	4.3	-	4.1	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	14.9	2.95	4.31	6.67	134	410
August	76	4.7	15.4	23.7	476	1,460
September	52	3.9	10.8	16.	325	997
October	71	3.5	11.4	17.6	353	1,080
November	206	4.3	16.5	25.5	496	1,520
December	81	6.7	18.1	28.0	561	1,720
Calendar year 1940	206	2.95	11.6	17.9	4,250	13,030
January	174	5.2	14.5	22.4	450	1,380
February	29	4.2	7.31	11.3	205	628
March	50	4.1	8.98	13.9	278	854
April	10.7	3.25	4.38	6.76	131	403
May	12.7	3.1	5.50	8.51	171	523
June	23	3.35	6.56	9.84	191	585
Fiscal year 1940-41	206	2.95	10.3	15.9	3,770	11,560

Lanipuni Stream near Pelekunu

Location.- Concrete and boulder control, lat. 21°08'40", long. 156°52'30", 0.4 mile upstream from confluence with Pelekunu Stream, 1¼ miles southeast of Pelekunu, and 6.8 miles northwest of Pukoo. Datum of gage is 418 feet above mean sea levle (hand levels from Geological Survey bench mark).
Drainage area.- 0.8 square mile.
Records available.- December 1910 to September 1929, September 1937 to June 1941.
Average discharge.- 12 years (1920-29, 1938-41) 10.1 million gallons a day (15.6 second-feet).
Extremes.- Maximum discharge during year, 1,490 million gallons a day (2,310 second-feet) Nov. 20 (gage height, 5.27 feet), from rating curve extended above 35 million gallons a day by logarithmic plotting; minimum, 2.2 million gallons a day (3.4 second-feet) July 27.
1919-29, 1937-41: Maximum discharge, that of Nov. 20, 1940; minimum, 1.66 million gallons a day (2.57 second-feet) Oct. 4, 1938.
Remarks.- Records good except those for period of no gage-height record, which are fair. No diversions.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.4	2.3	0.8	10.2	1.7	52	3.0	261
.5	3.5	1.0	16.1	2.0	81	3.4	377
.6	5.2	1.2	23.5	2.3	120		
.7	7.5	1.4	32.5	2.6	174		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.4	11.1	34	5.9	5.7	6.8	317	4.2	4.2	4.4	3.25	4.0
2	3.15	7.3	38	4.5	21	54	27	3.8	4.0	7.7	3.5	3.85
3	2.9	5.4	22.5	4.4	10.7	7.8	12	3.6	7.3	15.8	3.25	3.65
4	3.65	4.9	27.5	4.7	13.3	5.7	8.8	5.7	8.8	17.6	3.4	3.75
5	4.1	7.4	12.0	4.2	15.4	7.5	7.3	4.0	5.2	8.8	3.15	4.4
6	5.0	8.4	8.0	4.4	7.0	5.4	6.4	3.5	4.9	8.5	3.4	3.4
7	8.3	9.8	7.3	3.85	5.7	60	5.7	31.5	4.5	6.6	4.4	3.85
8	5.4	15.2	6.4	3.65	4.9	13.8	4.9	6.5	4.5	5.2	30.5	3.65
9	4.2	10.3	5.7	3.4	4.5	8.6	4.7	4.7	4.4	4.5	9.8	3.4
10	4.5	6.1	5.4	3.4	7.4	11.0	11	4.4	4.7	4.4	5.2	3.4
11	3.5	10.4	5.0	4.8	6.8	27	7.8	4.4	4.5	4.0	4.7	4.3
12	3.15	7.9	4.9	24	4.5	18	6.0	4.0	5.2	7.1	5.2	4.2
13	2.9	5.4	4.5	29.5	4.2	11	5.0	4.4	4.2	8.2	10.9	3.25
14	3.0	4.9	4.5	8.7	8.3	7.5	4.5	4.9	35.5	4.7	11.4	3.4
15	3.6	13.3	4.7	5.9	11.3	6.6	4.3	4.2	105	4.5	9.8	3.25
16	2.9	14.1	4.4	5.0	5.2	5.9	4.1	3.65	93	3.85	7.6	3.15
17	3.0	31.5	4.9	8.4	4.5	5.2	7.4	3.5	22	3.65	7.5	3.0
18	3.0	12.4	4.5	14.5	4.2	25	5.4	3.5	21	3.65	10.0	3.5
19	3.4	8.5	4.2	13.0	4.0	6.1	4.5	3.4	12.0	3.5	5.2	6.5
20	2.9	6.1	4.5	8.3	144	5.2	4.0	3.25	7.0	3.4	4.5	4.4
21	2.8	5.2	4.0	28.5	13.6	4.7	5.8	3.25	5.4	3.4	5.5	11.7
22	2.65	4.9	3.85	17.8	7.5	4.0	5.2	3.15	4.7	3.4	4.0	14.0
23	2.55	4.9	3.65	9.6	5.9	7.8	4.5	3.15	4.4	3.4	3.85	14.6
24	2.4	70	3.65	7.5	5.2	64	4.2	8.1	4.4	3.25	12.1	12.9
25	2.3	67	14.8	5.9	4.9	20	4.0	39.5	4.2	3.25	17.8	36.5
26	2.3	21	5.4	5.0	4.7	6.8	6.0	6.1	3.85	3.25	8.0	8.6
27	2.4	9.4	4.4	5.0	4.4	4.9	10	5.0	4.9	3.25	12.4	6.4
28	2.4	12.0	5.9	4.7	4.2	7.5	5.4	4.5	20.5	3.25	8.2	5.0
29	3.5	41	4.2	15.1	4.0	5.4	4.5	-	11.3	3.25	5.4	19.0
30	14.9	32.5	11.2	5.4	3.85	43	25	-	6.1	3.75	4.7	51
31	17.1	15.6	-	7.7	-	23	8.8	-	4.7	-	4.4	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million Gallons	Acre-feet
July	17.1	2.3	4.23	6.54	131	403
August	70	4.9	15.6	24.1	484	1,490
September	38	3.65	9.13	14.1	274	841
October	29.5	3.4	8.93	13.8	277	849
November	144	3.85	11.7	18.1	351	1,080
December	64	4.0	15.8	24.4	489	1,500
Calendar year 1940	144	2.3	8.28	12.8	3,030	9,300
January	317	4.0	17.5	27.1	541	1,660
February	39.5	3.15	6.57	10.2	184	564
March	105	3.85	14.1	21.8	436	1,340
April	17.6	3.25	5.45	8.43	164	502
May	30.5	3.15	7.52	11.6	233	715
June	51	3.0	8.53	13.2	256	786
Fiscal year 1940-41	317	2.3	10.5	16.2	3,820	11,730

Note.- No gage-height record Dec. 12 to Feb. 4; discharge computed on basis of records for station on Pelekunu Stream.

Waikolu Stream below pipe-line crossing, near Kalaupapa

Location.- Concrete and stone dam, lat. 21°09'50", long. 156°56'00", three-quarters of a mile upstream from mouth and 3.9 miles southeast of Kalaupapa post office. Datum of gage is 253 feet above mean sea level (hand levels from Reclamation Service bench mark).
Drainage area.- 4.0 square miles.
Records available.- August 1931 to July 1932, September 1937 to June 1941. June 1919 to November 1930 at site 500 feet upstream.
Extremes.-Maximum discharge during year, 1,030 million gallons a day (1,590 second-feet) Nov. 20 (gage height, 5.30 feet), from rating curve extended above 42 million gallons a day by logarithmic plotting; minimum, 5.8 million gallons a day (9.0 second-feet) July 26-28.
1919-32, 1937-41: Maximum discharge, 2,510 million gallons a day (3,880 second-feet) Apr. 9, 1938 (gage height, 6.01 feet), from rating curve extended above 50 million gallons a day by logarithmic plotting; minimum, 1.3 million gallons a day (2.0 second-feet) Nov. 1, 2, 1925, June 5, 1926.
Remarks.- Records good. Kalaupapa water-supply system diverts water above station.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.3	5.8	2.0	40
1.4	8.5	2.3	69
1.5	11.9	2.6	106
1.6	16.0	3.0	172
1.8	26.5	3.4	258

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	7.2	12.0	36.5	11.3	8.8	16.6	179	8.5	8.0	9.9	8.5	9.2
2	6.6	7.4	32.5	8.2	27	85	19.2	8.2	8.0	12.1	8.5	9.2
3	6.6	7.2	19.1	7.4	14.9	9.9	11.2	8.2	8.2	27.5	8.5	8.8
4	6.6	6.6	19.6	7.4	21.5	8.2	9.9	12.8	9.9	22.5	8.5	8.8
5	6.6	7.1	10.2	7.4	19.0	9.2	9.9	11.4	8.2	12.3	8.5	8.8
6	7.2	10.8	8.5	7.4	8.5	8.5	9.5	8.5	8.0	12.7	8.5	8.5
7	12.7	12.1	8.2	7.4	8.0	79	9.2	39	7.7	11.6	9.2	8.5
8	8.5	10.7	8.0	7.4	7.7	15.7	8.5	11.4	7.7	11.2	50	8.5
9	7.2	10.8	7.7	7.4	7.8	9.9	8.5	8.5	7.7	9.9	21	8.5
10	6.9	8.0	7.2	7.4	8.6	15.7	30.5	8.2	8.2	9.2	13.1	8.5
11	6.9	10.5	7.2	7.7	11.6	35	16.0	8.0	8.2	9.2	11.2	8.8
12	6.6	14.4	7.2	65	8.0	21	10.9	8.0	8.2	9.5	13.6	9.2
13	6.3	7.2	7.2	60	7.7	12.7	9.2	8.0	8.0	12.7	22.5	8.8
14	6.3	6.9	6.9	12.1	8.5	11.4	8.5	8.0	54	9.9	19.9	8.5
15	6.3	15.6	7.6	8.5	13.2	8.8	8.5	8.0	102	9.2	24.5	8.5
16	6.3	9.3	7.4	7.7	8.2	9.5	8.5	8.0	102	8.8	15.5	8.5
17	6.3	28.5	8.3	15.9	8.0	8.5	10.1	8.0	28.5	8.8	14.9	8.5
18	6.3	11.8	9.5	21.5	7.4	16.9	9.5	8.0	17.8	8.5	19.2	8.5
19	6.3	7.7	8.0	16.7	7.2	9.9	8.5	8.0	15.1	8.5	11.6	11.8
20	6.1	7.2	8.3	11.9	144	8.5	8.5	7.7	11.2	8.5	10.2	9.5
21	6.1	6.6	8.2	12.2	12.8	8.0	8.5	7.7	10.2	8.5	10.9	18.7
22	6.1	6.6	7.4	13.2	8.5	8.0	8.8	7.7	9.9	8.5	9.9	25
23	6.1	6.3	7.4	10.9	8.0	17.0	8.5	7.7	9.5	8.5	9.5	19.4
24	6.1	49	7.4	8.8	7.7	67	8.5	10.8	9.5	8.5	13.1	16.2
25	6.1	83	16.6	8.2	7.7	16.7	8.2	61	9.5	8.5	27	31.5
26	6.1	28.5	10.7	8.0	7.4	11.6	8.8	11.6	9.2	8.2	13.1	10.9
27	6.1	9.9	7.7	7.7	7.4	9.2	11.6	8.5	10.2	8.2	18.0	9.9
28	6.1	8.2	7.7	7.7	7.4	12.8	9.2	8.2	35	8.2	13.2	9.5
29	6.3	42	7.4	18.1	7.2	13.3	8.5	-	22.5	8.5	9.9	16.7
30	21	35.5	7.9	8.8	7.2	73	29.5	-	12.7	9.2	9.9	46
31	17.0	14.0	-	8.0	-	24	11.8	-	10.5	-	9.5	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	21	6.1	7.51	11.6	233	715
August	83	6.3	16.2	25.1	501	1,540
September	36.5	6.9	10.8	16.7	324	993
October	65	7.4	13.5	20.9	417	1,280
November	144	7.2	14.6	22.6	437	1,340
December	85	8.0	21.3	33.0	660	2,030
Calendar year 1940	144	6.1	14.0	21.7	5,140	15,780
January	179	8.2	16.6	25.7	516	1,580
February	61	7.7	11.7	18.1	328	1,010
March	102	7.7	18.9	29.2	585	1,800
April	27.5	8.2	10.6	16.4	317	974
May	50	8.5	14.6	22.6	451	1,390
June	46	8.5	12.7	19.6	382	1,170
Fiscal year 1940-41	179	6.1	14.1	21.8	5,150	15,820

Keolewa Stream near Kalae

Location.- Soil Conservation Service type H (De Fabritis) flume, lat. 21°10'30", long. 156°58'45", 2.1 miles northeast of Kalae and 6.4 miles northeast of Kaunakai post office. Altitude of gage, 1,950 feet (from topographic map).

Records available.- June 1940 to June 1941.

Extremes.- Maximum discharge during period, 42 million gallons a day (65 second-feet) Nov. 20 (gage height, 2.57 feet), from rating curve extended above 5 million gallons a day by broad-crested weir formula; minimum, 0.01 million gallons a day (0.02 second-foot) Aug. 1-5.

Remarks.- Records excellent. No diversions.

Discharge, in million gallons a day, 1940-41

1940

Day	June	Day	June	Day	June
18	0.02	23	0.02	28	0.02
19	.02	24	.02	29	.02
20	.02	25	.02	30	.36
21	.02	26	.02		
22	.02	27	.02		

1940-41

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.03	0.02	4.0	0.29	0.07	0.07	0.68	0.06	0.03	0.06	0.04	0.04
2	.02	.01	1.43	.06	.38	1.65	.19	.06	.03	.28	.04	.04
3	.02	.01	.38	.06	.08	.09	.12	.06	.17	2.05	.04	.04
4	.02	.01	.53	.05	.11	.06	.11	.97	.77	1.30	.04	.04
5	.02	.02	.18	.04	1.16	.10	.10	.11	.04	.15	.04	.04
6	.02	.07	.14	.04	.06	.06	.10	.05	.03	.15	.04	.04
7	.02	.04	.13	.04	.06	2.8	.09	.23	.03	.56	.03	.03
8	.03	.77	.11	.04	.05	.31	.08	.06	.03	.12	3.6	.03
9	.03	.03	.10	.04	.71	.07	.08	.04	.03	.07	.53	.03
10	.03	.02	.08	.04	.19	.64	2.3	.04	.03	.07	.06	.03
11	.03	.03	.08	.04	.52	4.2	.20	.04	.03	.07	.05	.03
12	.03	.13	.08	.64	.06	1.32	.09	.04	.03	.36	.92	.03
13	.03	.02	.07	.73	.05	.50	.08	.04	.03	.36	1.41	.03
14	.03	.02	.06	.16	2.3	.22	.08	.03	4.7	.07	.11	.03
15	.03	.44	.25	.04	.75	.15	.08	.04	5.5	.06	.10	.03
16	.03	.85	.18	.04	.08	.30	.08	.03	6.9	.06	.25	.03
17	.03	3.35	1.00	.04	.07	.12	1.50	.03	1.34	.05	.13	.03
18	.03	.35	.12	.23	.10	.16	.14	.03	1.13	.05	.07	.03
19	.03	.13	.06	1.84	.08	.12	.08	.03	.22	.05	.06	.09
20	.03	.05	.06	.20	6.1	.41	.08	.03	.15	.04	.06	.04
21	.03	.04	.05	.33	.26	.10	.08	.03	.12	.04	.05	.20
22	.03	.03	.05	.12	.15	.08	.08	.03	.10	.04	.05	1.62
23	.03	.03	.04	.06	.12	.74	.07	.03	.10	.04	.05	1.06
24	.03	4.9	.04	.05	.10	1.72	.07	.37	.08	.04	.18	.43
25	.02	6.7	2.55	.05	.09	.17	.07	2.5	.08	.04	.11	1.64
26	.02	.71	.13	.04	.08	.12	.08	.07	.07	.03	.08	.07
27	.02	.13	.06	.04	.07	.10	.20	.03	.07	.03	.53	.05
28	.02	.10	.06	.04	.07	.10	.07	.03	2.1	.03	.09	.05
29	.02	3.45	.05	3.1	.06	.23	.06	-	.32	.04	.05	.92
30	.54	1.67	.14	.08	.06	.59	.06	-	.07	.04	.05	4.2
31	.05	.25	-	.14	-	1.21	.06	-	.06	-	.04	-

Monthly discharge, in million gallons, 1940-41

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
June 18-30, 1940	0.36	0.02	0.046	0.071	0.60	1.8
Fiscal year	-	-	-	-	-	-
July 1940	.54	.02	.044	.068	1.35	4.1
August	6.7	.01	.786	1.22	24.4	75
September	4.0	.04	.407	.630	12.2	37
October	3.1	.04	.281	.436	8.70	27
November	6.1	.05	.468	.724	14.0	43
December	4.2	.06	.597	.924	18.6	57
Calendar year	-	-	-	-	-	-
January 1941	2.3	.06	.231	.357	7.16	22
February	2.5	.03	.182	.282	5.11	16
March	6.9	.03	.787	1.22	24.4	75
April	2.05	.03	.212	.328	6.35	19
May	3.6	.03	.290	.449	9.00	28
June	4.2	.03	.366	.566	11.0	34
Fiscal year 1240-41	6.9	.01	.390	.603	142	437

Waialala Springs near Kalae

Location.- Right angle weir control, lat. 21°10'20", long. 157°00'05", on the highway from Kalae to the Kalaupapa Pali, 0.8 mile northeast of Kalae, and 5.7 miles northeast of Kaunakakai post office. Altitude of gage, 1,600 feet (from topographic map).

Records available.- September 1940 to June 1941.

Extremes.- Maximum daily discharge during period, 0.056 million gallons a day (0.087 second-foot) Mar. 16; minimum daily, 0.018 million gallons a day (0.028 second-foot) Dec. 4-7, 9, 10.

Remarks.- Records excellent. Maui County Water Works diverts the entire flow for domestic supply, from tail bay at station.

Rating table, Sept. 6, 1940 to June 30, 1941 (gage height, in feet, and discharge, in million gallons a day)

1.16	0.018	1.24	0.048
1.20	.031	1.28	.070

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1			-	0.024	0.024	0.019	0.031	0.034	0.031	0.037	0.032	0.031
2			-	.024	.024	.019	.031	.034	.031	.037	.031	.031
3			-	.024	.024	.020	.031	.034	.031	.038	.032	.031
4			-	.024	.023	.018	.031	.034	.031	.038	.031	.031
5			-	.024	.024	.018	.031	.033	.031	.036	.031	.031
6			0.024	.024	.024	.018	.031	.032	.030	.036	.031	.031
7			.024	.024	.024	.018	.031	.032	.030	.036	.031	.031
8			.024	.024	.023	.019	.031	.031	.030	.036	.032	.031
9			.024	.024	.023	.018	.031	.031	.030	.035	.032	.031
10			.025	.024	.024	.018	.034	.031	.030	.035	.031	.031
11			.027	.024	.023	.020	.034	.031	.030	.035	.031	.031
12			.027	.024	.023	.031	.032	.031	.030	.035	.031	.031
13			.027	.026	.023	.033	.031	.031	.030	.035	.033	.031
14			.027	.024	.023	.031	.032	.031	.040	.034	.031	.030
15			.027	.024	.023	.030	.032	.031	.049	.034	.031	.030
16			.027	.024	.023	.030	.032	.031	.056	.034	.031	.030
17			.027	.024	.023	.030	.034	.031	.054	.034	.031	.030
18			.027	.024	.023	.030	.034	.031	.046	.034	.031	.030
19			.025	.024	.023	.030	.034	.031	.042	.034	.031	.030
20			.024	.024	.035	.031	.034	.031	.031	.034	.031	.029
21			.024	.024	.032	.031	.034	.031	.031	.034	.031	.029
22			.024	.025	.027	.030	.034	.032	.031	.034	.031	.029
23			.024	.024	.024	.031	.034	.032	.037	.034	.031	.029
24			.024	.024	.021	.031	.034	.032	.037	.034	.030	.029
25			.024	.024	.021	.031	.034	.033	.037	.034	.030	.030
26			.024	.024	.020	.031	.034	.031	.038	.034	.029	.029
27			.024	.024	.020	.031	.034	.031	.038	.034	.030	.029
28			.024	.024	.020	.031	.034	.031	.038	.032	.031	.029
29			.024	.024	.019	.031	.034	-	.037	.032	.031	.029
30			.024	.024	.019	.031	.034	-	.037	.033	.031	.031
31			-	.024	-	.031	.034	-	.037	-	.031	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	-	-	-	-	-	-
August	-	-	-	-	-	-
September 6-30	0.027	0.024	0.025	0.039	0.626	1.9
October	.026	.024	.024	.037	.747	2.3
November	.035	.019	.023	.036	.702	2.2
December	.033	.018	.026	.040	.821	2.3
Calendar year	-	-	-	-	-	-
January	.034	.031	.033	.051	1.02	3.1
February	.034	.031	.032	.050	.889	2.7
March	.066	.030	.036	.056	1.11	3.4
April	.038	.032	.035	.054	1.04	3.2
May	.033	.029	.031	.048	.962	3.0
June	.031	.029	.030	.046	.905	2.8
The period	-	-	-	-	8.82	27.1

a No gage-height record; discharge computed on basis of estimated gage heights.

ISLAND OF MOLOKAI

Makaeleele Stream near Kalae

Location.- Soil Conservation Service type H (De Fabritis) flume, lat. 21°09'05", long. 156°57'55", about 50 feet downstream from Maui County pipe-line intake, 3.1 miles southeast of Kalae, and 5.6 miles northeast of Kaunakakai post office. Altitude of gage, 2,450 feet (from topographic map).

Records available.- May 1940 to June 1941.

Extremes.- Maximum discharge during period, 22 million gallons a day (34 second-feet) Nov. 20 (gage height, 2.71 feet), from rating curve extended above 4.2 million gallons a day by broad-crested weir formula; minimum, 0.01 million gallons a day (0.02 second-foot) July 27.

Remarks.- Records excellent. Maui County Water Works diverts about 0.014 million gallons a day for domestic supply from pool about 50 feet upstream.

Discharge, in million gallons, 1940-41

1940

Day	May	June	Day	May	June	Day	May	June
1	-	0.24	11	0.85	0.07	21	0.10	0.08
2	-	.16	12	2.5	.06	22	.09	.05
3	-	.48	13	.34	.06	23	.12	.04
4	-	.21	14	.22	.05	24	.39	.03
5	-	.12	15	.17	.05	25	.21	.03
6	-	.10	16	.15	.05	26	.23	.04
7	-	.22	17	.13	.04	27	.18	.04
8	-	.15	18	.12	.04	28	.09	.08
9	0.38	.09	19	.11	.04	29	2.2	.10
10	.38	.08	20	.10	.08	30	.36	.59
						31	.92	-

1940-41

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.14	0.35	4.1	0.19	0.30	0.10	4.9	0.10	0.04	0.15	0.18	0.13
2	.06	.23	2.9	.12	1.13	3.05	.80	.07	.03	.66	.09	.11
3	.04	.15	1.12	.07	.26	.30	.33	.05	.28	1.90	.10	.10
4	.07	.07	1.00	.07	.22	.14	.26	.47	.46	.69	.05	.10
5	.10	.33	.48	.09	.93	.12	.26	a.18	.08	.42	.04	.14
6	.13	1.13	.33	.17	.18	.11	.20	.06	.05	.64	.04	.10
7	.21	.87	.29	.16	.13	6.1	.16	1.21	.03	.50	.28	.08
8	.10	1.43	.24	.14	.10	.76	.14	.19	.03	.34	5.0	.08
9	.05	.34	.21	.12	.10	.29	.12	.07	.03	.18	1.08	.07
10	.03	.16	.18	.10	.09	1.09	1.97	.06	.13	.15	.42	.07
11	.03	1.14	.16	.10	.21	3.1	.40	.05	.11	.12	.68	.67
12	.02	.55	.16	1.22	.10	1.06	.19	.06	.07	.31	.84	.22
13	.02	.15	.14	1.97	.08	.74	.14	.06	.04	.53	2.3	.10
14	.02	.45	.12	.37	.22	.40	.12	.06	3.6	.18	1.38	.26
15	.02	1.74	.14	.12	.72	.22	.11	.07	5.8	.12	1.04	.18
16	.02	1.49	.20	.08	.12	.38	.10	.07	8.6	.10	1.80	.09
17	.02	3.15	.22	.41	.09	.18	1.02	.07	1.97	.09	.81	.07
18	.02	.68	.19	.90	.08	.41	.27	.06	.80	.08	.56	.24
19	.01	.42	.12	.59	.07	.26	.12	.06	.40	.07	.27	.47
20	.01	.24	.10	.32	4.9	.16	.10	.06	.24	.07	.18	.21
21	.01	.16	.09	.21	.47	.15	.16	.06	.18	.07	.21	2.25
22	.01	.12	.08	.77	.21	.12	.16	.06	.15	.06	.16	4.2
23	.01	.11	.07	.26	.16	1.37	.10	.06	.13	.06	.12	1.33
24	.01	5.1	.07	.55	.12	3.7	.10	.10	.10	.05	1.07	.68
25	.01	9.4	2.25	.22	.10	.64	.09	2.55	.10	.05	2.15	.89
26	.01	1.84	.34	.13	.09	.26	.13	.19	.09	.05	.54	.32
27	.01	.48	.13	.12	.08	.18	.27	.07	.34	.05	1.08	.40
28	.01	.44	.11	.24	.07	.16	.13	.05	3.35	.05	.50	.25
29	.16	3.95	.10	1.62	.07	1.32	.12	-	1.04	.04	.21	2.25
30	3.5	2.15	.09	.21	.06	1.68	.30	-	.51	.34	.18	3.9
31	.69	1.39	-	.13	-	1.04	.17	-	.19	-	.16	-

Monthly discharge, in million gallons, 1940-41

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
May 9-31, 1940	2.5	0.09	0.450	0.696	10.3	32
June	.59	.03	.116	.179	3.47	11
July	3.5	.01	.179	.277	5.55	17
August	9.4	.07	1.30	2.01	40.2	123
September	4.1	.07	.524	.811	15.7	48
October	1.97	.07	.380	.588	11.8	36
November	4.9	.06	.382	.591	11.5	35
December	6.1	.10	.954	1.48	29.6	91
Calendar year	-	-	-	-	-	-
January 1941	4.9	.09	.434	.671	13.4	41
February	2.55	.05	.222	.343	6.22	19
March	8.6	.03	.928	1.44	28.8	88
April	1.90	.04	.271	.419	8.12	25
May	5.0	.04	.759	1.17	23.5	72
June	4.2	.07	.665	1.03	20.0	61
Fiscal year 1940-41	9.4	.01	.567	.908	214	656

a No gage-height record; discharge computed on basis of records for station on Keolewa Stream.

Kapuna Stream near Kalae

Location.- Soil Conservation Service type H (De Fabritis) flume, lat. 21°09'05", long. 156°59'00", 2.1 miles southeast of Kalae and 4.9 miles northeast of Kaunakakai post office. Altitude of gage, 1,900 feet (from topographic map).

Records available.- June 1940 to June 1941.

Extremes.- Maximum discharge during period, 5.6 million gallons a day (8.7 second-feet) Nov. 20 (gage height, 1.71 feet); minimum, 0.01 million gallons a day (0.02 second-foot) Nov. 11-19.

Remarks.- Records excellent except those for period of no gage-height record, which are poor. No diversions.

Discharge, in million gallons, 1940-41

1940

Day	June	Day	June	Day	June
17	0.04	22	0.04	27	0.03
18	.04	23	.03	28	.03
19	.04	24	.03	29	.03
20	.04	25	.03	30	.03
21	.04	26	.03	31	-

1940-41

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.03	0.03	0.04	0.02	0.01	0.02	0.05	0.04	0.05	0.05	0.04	0.03
2	.03	.03	.03	.02	.01	.02	.08	.04	.05	.05	.03	.03
3	.03	.02	.04	.02	.01	.02	.09	.04	.05	.05	.03	.03
4	.03	.02	.03	.02	.01	.03	.09	.04	.05	.05	.03	.03
5	.03	.02	.03	.02	.01	.03	.08	.04	.05	.05	.03	.03
6	.03	.02	.03	.02	.01	.03	.07	.04	.05	.05	.03	.03
7	.03	.02	.03	.01	.01	.09	.07	.04	.05	.05	.03	.03
8	.03	.02	.03	.01	.01	.13	.06	.04	.05	.05	.03	.03
9	.03	.02	.03	.01	.01	.12	.06	.04	.04	.05	.03	.03
10	.03	.02	.03	.01	.01	.09	.06	.04	.04	.05	.03	.02
11	.03	.02	.03	.01	.01	.08	.06	.04	.04	.05	.03	.02
12	.03	.02	.03	.02	.01	.07	.06	.04	.04	.05	.03	.02
13	.03	.02	.03	.01	.01	.07	.05	.04	.04	.05	.03	.02
14	.03	.02	.03	.01	.01	.07	.05	.04	.04	.05	.03	.02
15	.03	.02	.04	.01	.01	.06	.05	.04	.05	.06	.03	.02
16	.03	.02	.03	.01	.01	.06	.05	.04	.06	.06	.03	.02
17	.03	.02	.03	.01	.01	.06	.05	.04	.09	.05	.03	.02
18	.03	.02	.03	.01	.01	.05	.05	.04	.10	.05	.03	.02
19	.03	.02	.02	.01	.01	.05	.05	.04	.10	.05	.03	.02
20	.03	.02	.02	.01	.24	.05	.05	.04	.08	.05	.03	.02
21	.03	.02	.02	.01	.12	.05	.05	.04	.08	.05	.03	.02
22	.03	.02	.02	.01	.08	.04	.04	.04	.07	.05	.03	.02
23	.03	.02	.02	.01	.06	.04	.04	.04	.06	.05	.03	.02
24	.03	.02	.02	.01	.05	.04	.04	.04	.06	.05	.03	.02
25	.03	.02	.02	.01	.04	.05	.04	.04	.06	.05	.03	.02
26	.03	.02	.02	.01	.04	.05	.04	.04	.06	.05	.03	.02
27	.03	.02	.02	.01	.03	.05	.04	.05	.06	.06	.03	.02
28	.03	.02	.02	.01	.03	.05	.04	.05	.06	.06	.03	.02
29	.03	.03	.02	.01	.03	.05	.04	-	.06	.05	.03	.02
30	.03	.03	.02	.01	.03	.05	.04	-	.05	.04	.03	.02
31	.03	.03	-	.01	-	.05	.04	-	.05	-	.03	-

Monthly discharge, in million gallons, 1940-41

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
June 17-30, 1940	0.04	0.03	0.034	0.053	0.48	1.5
July	.03	.03	.030	.046	.93	2.9
August	.03	.02	.022	.034	.67	2.1
September	.04	.02	.027	.042	.81	2.5
October	.02	.01	.012	.019	.38	1.2
November	.24	.01	.031	.048	.94	2.9
December	.13	.02	.055	.085	1.72	5.3
Calendar year	-	-	-	-	-	-
January 1940	.09	.04	.054	.084	1.68	5.2
February	.05	.04	.041	.063	1.14	3.5
March	.10	.04	.057	.088	1.78	5.5
April	.05	.04	.050	.077	1.49	4.6
May	.04	.03	.030	.046	.94	2.9
June	.03	.02	.023	.036	.69	2.1
Fiscal year 1940-41	.24	.01	.036	.056	13.2	40.7

Note.- No gage-height record Sept. 3-19; discharge computed on basis of records for station on Hakaleele Stream.

Left Branch of Makamakaole Stream near Waihee

Location.- Combined orifice and concrete control, lat. 20°57'40", long. 156°33'45", at intake to Marshall Ranch diversion ditch on left branch, a quarter of a mile upstream from confluence with main stream, 2 miles northeast of Waihee, and 2¼ miles south of Kahakuloa village. Altitude of gage, 1,500 feet (by barometer).

Drainage area.- 0.4 square mile.

Records available.- July 1939 to June 1941.

Extremes.- Maximum discharge during year, 90 million gallons a day (139 second-feet) Nov. 20 (gage height, 3.12 feet), from rating curve extended above 20 million gallons a day by test on model of station site; minimum, 0.55 million gallons a day (0.85 second-foot) July 28.
1939-41: Maximum discharge, that of Nov. 20, 1940; minimum, that of July 28, 1940.

Remarks.- Records good. Marshall Ranch diversion ditch diverts water from gage pool for watering stock.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.2	0.54	1.6	1.90	2.0	10.0
1.3	.60	1.7	3.0	2.1	14.3
1.4	.72	1.8	4.5	2.2	19.5
1.5	1.09	1.9	6.8	2.3	26

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.71	1.55	3.55	1.78	2.3	1.67	22.5	0.90	0.82	2.35	1.93	1.55
2	.67	.80	2.25	1.22	2.25	3.85	9.8	.86	.80	3.35	1.22	1.09
3	.64	.71	1.90	1.09	1.62	1.62	7.8	.80	1.41	9.1	1.09	1.03
4	1.03	2.0	3.3	1.09	1.45	1.37	2.9	1.26	1.62	7.2	2.55	1.23
5	.72	2.05	2.1	1.65	2.8	1.53	2.55	1.23	1.29	3.6	1.37	1.09
6	.69	2.7	1.71	1.44	1.53	1.29	2.1	.82	.94	2.65	1.80	.94
7	1.53	1.22	1.62	.98	1.29	4.3	1.90	2.7	.80	2.25	1.80	1.30
8	.90	1.22	1.37	.90	1.22	2.35	1.71	1.41	.82	1.90	7.9	1.76
9	.80	1.93	1.29	.86	2.35	2.25	1.62	.94	.86	1.71	5.1	1.24
10	.82	1.09	1.22	.86	1.88	1.75	3.55	.82	1.67	1.62	2.1	2.75
11	.69	2.05	1.09	.86	2.6	13.0	3.2	.82	1.09	1.62	1.71	1.15
12	.65	1.53	1.29	3.15	3.0	5.2	2.1	.80	1.56	1.83	1.71	1.03
13	.64	1.29	1.29	2.25	2.1	2.55	1.71	.80	.98	3.8	2.0	.98
14	.65	.94	2.1	1.29	3.7	2.0	1.53	.77	6.6	1.71	1.45	.94
15	.64	1.09	1.81	.98	8.9	1.80	1.45	.75	19.8	2.05	1.93	.90
16	.61	1.09	1.42	.94	2.35	2.1	1.29	.72	18.2	1.53	1.84	.86
17	.77	2.5	1.97	2.35	2.0	1.62	1.29	.71	17.2	1.29	1.62	.86
18	1.22	3.45	1.90	11.0	1.71	1.45	1.22	.69	6.1	1.22	2.1	.82
19	.74	1.53	1.29	5.3	1.62	1.45	1.15	.69	2.9	2.25	2.0	.82
20	.64	1.15	1.15	2.8	14.7	1.37	1.09	.69	3.65	1.60	1.68	1.26
21	.64	.98	1.45	7.8	3.1	1.29	1.09	.68	2.45	1.22	1.44	1.55
22	1.14	.90	1.09	2.9	4.8	1.22	1.03	.68	2.0	1.29	1.15	1.45
23	.67	1.10	.98	2.1	2.45	1.70	.98	.77	2.25	5.5	1.09	1.34
24	.62	6.4	.98	1.68	2.45	7.0	.98	1.49	2.35	2.5	1.56	1.43
25	.59	8.6	3.75	1.45	2.0	2.65	.94	6.9	1.90	1.62	1.76	4.7
26	.58	3.8	1.83	1.45	1.8	1.62	.98	1.53	1.80	1.45	1.49	1.37
27	.57	1.80	1.22	1.53	1.71	1.45	.94	.98	2.7	1.37	1.83	1.22
28	.57	1.62	1.62	1.93	1.71	1.45	.90	.86	4.2	1.29	1.29	1.15
29	.70	7.3	1.09	3.95	1.45	1.29	.86	-	3.5	1.09	1.56	1.56
30	4.0	4.9	2.55	1.62	1.45	3.05	2.2	-	2.0	3.3	1.29	13.8
31	1.08	2.25	-	5.4	-	3.1	1.22	-	1.71	-	2.65	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	4.0	0.57	0.868	1.34	26.9	83
August	8.6	.71	2.31	3.57	71.5	220
September	3.75	.98	1.74	2.69	52.2	160
October	11.0	.86	2.40	3.71	74.5	229
November	14.7	1.22	2.81	4.35	84.5	259
December	13.0	1.22	2.59	4.01	80.3	247
Calendar year 1940	17.8	.57	1.87	2.89	684	2,100
January	22.5	.86	2.73	4.22	84.6	260
February	6.9	.68	1.18	1.83	33.1	101
March	19.8	.80	3.74	5.79	116	356
April	9.1	1.09	2.51	3.88	75.3	231
May	7.9	1.09	2.00	3.09	62.0	190
June	13.8	.82	1.77	2.74	55.2	168
Fiscal year 1940-41	22.5	.57	2.25	3.45	814	2,500

Kakakuloa Stream near Honokohau

Location.- Concrete control, lat. 20°58'50", long. 156°33'25", just downstream from confluence with lowest tributary, 1.3 miles south of Kahakuloa, and 2 miles west of Puu Makawana.

Drainage area.- 3.4 square miles.

Records available.- July 1939 to June 1941. Fragmentary records at site about 1 mile upstream January 1913 to December 1914.

Extremes.- Maximum discharge during year, 861 million gallons a day (1,330 second-feet) Nov. 20 (gage height, 3.77 feet), from rating curve extended above 55 million gallons a day by test on model of station site; minimum, 3.2 million gallons a day (5.0 second-feet) July 27.
1939-41: Maximum discharge, that of Nov. 20, 1940; minimum, 3.15 million gallons a day (4.87 second-feet) Mar. 21, 1940.

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

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	4.6	14.8	30	8.9	9.0	4.6	155	4.2	3.8	11.4	10.3	6.2
2	3.75	4.6	14.5	5.3	10.0	19.9	62	3.8	3.65	21	5.5	5.6
3	3.6	3.9	9.4	4.8	6.2	5.5	66	3.8	10.3	52	5.8	5.4
4	6.1	14.6	31	4.8	5.5	4.8	10.0	5.0	14.8	48	25	5.0
5	4.8	19.0	10.4	9.8	16.5	5.7	8.3	6.7	7.8	21	6.7	4.8
6	3.9	15.9	7.1	9.5	5.7	4.8	6.7	4.0	4.8	11.3	10.0	4.5
7	15.5	7.1	7.1	5.0	4.8	33.5	5.9	14.6	4.0	10.3	13.7	20
8	7.4	6.1	5.8	4.3	4.6	14.7	5.3	6.4	4.2	7.2	62	7.0
9	7.3	26	7.1	4.1	5.1	11.1	4.6	4.2	4.4	5.9	27.5	5.6
10	8.4	6.8	5.6	4.1	4.8	5.9	37	3.8	12.3	6.2	9.6	5.0
11	4.6	15.0	5.0	3.9	5.9	66	14.9	3.8	5.9	6.4	8.3	4.5
12	3.9	12.4	5.6	15.8	8.1	28	7.8	4.0	11.6	10.6	10.9	4.4
13	3.75	9.4	5.8	10.4	6.7	7.5	5.3	4.6	5.1	32.5	f21.5	4.4
14	3.6	4.8	11.7	6.6	15.8	5.9	5.1	4.6	41	9.4	10	4.4
15	4.1	5.6	9.0	4.8	48	5.3	4.8	4.6	134	7.8	9.0	4.2
16	3.6	10.8	7.6	4.3	7.5	6.2	4.6	3.8	203	5.9	f13.9	4.2
17	5.0	31	9.4	5.2	5.9	4.8	4.6	3.7	75	5.3	f8.8	4.2
18	12.1	28.5	10.0	44	5.1	4.6	4.6	3.65	50	4.8	25	4.5
19	5.0	9.0	6.3	34.5	4.8	4.4	4.4	3.65	11.0	8.4	13	4.6
20	4.5	6.3	5.3	18.2	106	4.4	4.4	3.65	11.4	6.9	9.0	7.0
21	15	5.0	5.3	32	11.1	4.2	4.2	3.5	9.8	4.8	7.0	11.2
22	6.0	4.6	4.8	8.8	18.9	4.2	4.2	3.5	7.5	5.3	5.8	10.0
23	5.0	5.9	4.3	6.2	7.2	5.3	4.2	3.65	12.7	39	5.0	8.8
24	4.6	52	4.3	5.1	6.2	33.5	4.0	5.1	9.9	10.9	20	14.7
25	4.2	59	30.5	4.7	5.5	14.0	4.0	29.5	6.7	5.7	30	12.0
26	3.8	27.5	9.6	6.5	5.1	5.3	4.0	6.4	6.4	5.1	15	5.9
27	3.5	8.4	5.7	6.7	4.8	4.8	4.0	4.2	9.6	4.8	16	5.5
28	3.2	8.1	12.7	7.5	5.1	5.7	3.8	3.8	30	4.6	10	5.1
29	4.1	49	5.0	26.5	4.6	5.7	3.8	-	22	4.4	9.0	13.8
30	24	30	9.2	5.9	4.4	24.5	11.9	-	7.2	19.4	10	128
31	7.1	11.2	-	28.5	-	12.2	6.2	-	6.2	-	8.0	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	24	2.4	6.32	9.78	196	602
August	59	3.9	16.6	25.7	514	1,580
September	31	4.3	9.82	15.2	296	904
October	44	3.9	10.7	16.6	331	1,010
November	106	4.4	12.0	18.6	359	1,100
December	66	4.2	11.8	18.3	367	1,130
Calendar year 1940	106	2.4	9.64	14.9	3,550	10,920
January	153	3.8	15.3	23.7	474	1,450
February	29.5	3.5	5.59	8.65	156	480
March	203	3.65	24.1	37.3	746	2,290
April	52	4.4	13.2	20.4	396	1,220
May	62	5.0	14.2	22.0	441	1,350
June	128	4.2	11.0	17.0	330	1,010
Fiscal year 1940-41	203	2.4	12.6	19.5	4,600	14,130

f Computed on basis of partly estimated gage-height record.
Note.- No gage-height record July 19-27, May 14, 15, May 18 to June 18; discharge computed on basis of records for stations on nearby streams.

Honokohau Stream near Honokohau

Location.- Masonry dam control, lat. 20°57'45", long. 156°35'20", 1,000 feet upstream from intake of Honokohau ditch and about 5 miles southeast of Honokohau. Altitude of gage, about 950 feet (by barometer).
Drainage area.- 4.2 square miles.
Records available.- March 1913 to September 1920, May 1922 to June 1941.
Average discharge.- 23 years (1916-20, 1922-41), 26.3 million gallons a day (40.7 second-feet).
Extremes.- Maximum discharge during year, 1,290 million gallons a day (2,000 second-feet) Nov. 20 (gage height, 6.62 feet), from rating curve extended above 120 million gallons a day; minimum, 9.0 million gallons a day (13.9 second-feet) July 25-29.
1913-20, 1922-41: Maximum discharge, 2,200 million gallons a day (3,400 second-feet) Feb. 13, 1924 (gage height, 7.92 feet), from rating curve extended above 100 million gallons a day; minimum, 6.2 million gallons a day (9.6 second-feet) June 30, 1926.
Remarks.- Records good. No diversions.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

2.0	8.7	3.0	73
2.1	11.5	3.3	114
2.3	18.9	3.6	165
2.5	29	4.0	250
2.7	42	4.5	398

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	10.4	52	140	21	18.5	11.8	149	10.9	10.9	20	20	14.2
2	9.5	14.2	62	15.3	26	28	60	10.9	10.4	48	18.8	13.2
3	9.3	11.8	24.5	14.6	15.7	13.2	63	10.9	29.5	85	35.5	12.9
4	21.5	28	106	14.6	28.5	12.5	14.6	12.9	38	90	56	13.6
5	11.2	39	38	18.6	55	17.3	13.2	14.2	13.2	35	14.6	16.1
6	15.1	23	31.5	19.8	13.9	14.6	13.2	10.9	11.5	22.5	24	14.9
7	48	21	18.5	14.2	12.9	85	12.5	27	10.4	40	24.5	35.5
8	31.5	43	16.9	13.5	12.2	23	11.2	12.9	10.9	15.7	87	15.7
9	36.5	57	16.1	13.5	12.2	14.9	11.2	10.9	11.8	13.5	47	13.9
10	21	14.2	15.3	13.2	11.8	12.5	22.5	10.9	g32	13.5	27	13.2
11	11.2	59	14.6	13.5	12.2	51	22.5	11.2	g16.9	18.2	21	13.2
12	10.1	117	14.9	19.3	12.2	30.5	14.2	12.5	g24	53	58	16.0
13	9.5	16.2	16.5	16.1	12.9	13.9	11.8	19.4	g11.2	76	45	13.2
14	10.6	11.2	23	14.2	64	13.9	11.5	33	46	16.5	26.5	12.9
15	13.6	39	18.5	13.2	116	12.2	10.9	12.5	165	14.2	22.5	13.2
16	9.5	84	15.7	12.9	14.9	12.2	10.9	10.9	227	12.5	49	12.9
17	25	110	19.9	13.5	13.5	11.8	10.9	10.7	81	12.5	21	12.5
18	20	49	24	37	12.5	11.5	10.9	10.7	126	11.8	75	12.5
19	16.4	23	16.1	51	12.2	11.2	11.2	10.7	24.5	13.5	18.9	30.5
20	12.2	13.2	14.9	23	155	11.2	10.9	10.7	15.3	12.5	13.9	19.5
21	22.5	11.5	14.2	20.5	16.9	11.2	11.2	10.4	17.2	11.8	13.5	39
22	23	11.5	14.2	15.3	15.3	11.2	10.9	10.4	15.3	11.8	13.2	27
23	10.1	24.6	13.9	13.5	13.2	11.8	11.2	10.1	16.5	30	12.9	33.5
24	9.0	271	15.7	13.2	12.5	26.5	10.9	12.3	17.3	21	51	83
25	9.0	279	159	12.9	12.2	18.2	10.7	24	14.2	12.5	85	49
26	9.0	68	23	23	11.8	15.3	10.7	11.8	15.6	12.2	33	17.3
27	9.0	16.9	15.7	25.5	11.8	14.2	10.7	10.7	23	12.2	54	17.3
28	9.0	21.5	28.5	16.1	11.8	17.3	10.7	10.9	76	11.8	33.5	13.2
29	11.6	171	15.3	92	11.5	12.9	10.9	-	52	11.8	29	134
30	35	101	18.8	14.6	11.5	27.5	22.5	-	18.1	38	19.4	228
31	36	25.5	-	83	-	14.6	13.1	-	16.9	-	16.5	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	48	9.0	17.3	26.8	537	1,650
August	279	11.2	58.9	91.1	1,830	5,600
September	159	13.9	32.2	49.8	965	2,960
October	92	12.9	22.6	35.0	702	2,150
November	155	11.5	25.4	39.3	761	2,330
December	85	11.2	19.1	29.6	593	1,820
Calendar year 1940	279	9.0	25.1	38.8	9,190	28,200
January	149	10.7	20.3	31.4	630	1,930
February	33	10.1	13.4	20.7	375	1,150
March	227	10.4	38.6	59.7	1,200	3,680
April	90	11.8	26.6	41.2	797	2,450
May	87	12.9	34.4	53.2	1,070	3,270
June	228	12.5	32.0	49.5	960	2,950
Fiscal year 1940-41	279	9.0	28.5	44.1	10,420	31,940

g Computed from graph based on gage readings.

Honokawai ditch near Lahaina

Location.- Lat. 20°56'00", long. 156°37'30", just downstream from intake on Honokawai Stream, 2½ miles upstream from Pioneer Mill Co.'s power house, and 7½ miles northeast of Lahaina. Altitude of gage, about 1,900 feet (from topographic map).

Records available.- July 1912 to June 1941.

Average discharge.- 22 years (1919-41), 5.80 million gallons a day (8.97) second-feet).

Extremes.- Maximum daily discharge, 22.5 million gallons a day (34.8 second-feet) Aug. 24; minimum daily, 2.6 million gallons a day (4.0 second-feet) July 11, 12, 24. 1912-32: Maximum discharge, 76 million gallons a day (118 second-feet) Aug. 11, 1929 (gage height, 2.17 feet); no flow occasionally, when water was shut out of ditch.

Remarks.- Records good. Ditch diverts water for power and irrigation from Honokawai Stream just above station. Flow regulated by head gates at intake.

Cooperation.- Records of daily discharges since July 1932 furnished by Pioneer Mill Co.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.95	10.8	13.8	3.86	3.55	4.4	14.9	3.7	3.55	4.5	5.0	3.15
2	2.8	3.9	12.6	3.1	5.4	5.0	10.2	3.65	3.55	7.8	4.5	3.15
3	2.75	3.7	5.9	2.85	3.2	3.9	7.6	3.45	3.85	15.9	4.8	3.15
4	4.8	5.0	10.0	2.8	6.7	3.6	3.95	3.5	8.7	14.0	8.8	3.15
5	3.0	9.3	6.1	2.85	9.0	4.5	3.65	3.5	3.65	5.8	3.45	3.4
6	9.2	6.9	3.65	3.65	2.95	4.3	3.7	3.5	3.55	6.0	3.7	3.3
7	9.4	5.6	3.65	3.2	2.85	12.2	3.7	4.6	3.6	6.6	4.2	5.6
8	8.4	13.2	3.6	2.95	2.8	4.4	3.7	4.2	3.45	4.2	8.8	3.35
9	7.2	9.3	3.55	2.85	2.85	3.45	3.75	3.65	3.4	3.45	8.5	3.15
10	3.0	3.35	3.3	2.8	2.85	3.3	3.9	3.55	6.5	3.45	6.6	3.15
11	2.6	8.2	2.95	2.9	2.95	5.6	4.9	3.6	4.8	3.65	5.0	3.15
12	2.6	4.8	3.0	2.95	2.95	5.5	4.2	3.5	8.0	6.5	11.7	3.1
13	2.85	3.35	3.0	2.95	3.0	3.5	4.0	4.6	3.9	8.6	12.7	3.1
14	3.2	3.85	3.25	3.0	6.3	3.9	3.95	6.7	5.9	3.9	4.3	3.1
15	3.6	12.8	3.05	3.0	12.2	3.65	3.8	4.1	20	3.7	5.0	3.1
16	2.95	10.6	2.9	3.0	3.65	3.55	3.8	3.6	19.8	3.5	14.0	3.0
17	4.6	13.5	3.25	3.15	3.4	3.5	3.85	3.55	12.5	3.45	6.5	3.1
18	4.0	6.2	4.0	3.6	3.3	3.55	3.75	3.55	13.4	3.4	12.7	3.1
19	4.1	4.3	3.1	7.6	3.2	3.6	3.7	3.55	7.3	3.35	5.0	8.4
20	3.5	3.15	3.0	5.4	7.4	3.7	3.7	3.55	4.2	3.15	3.4	4.7
21	5.3	2.85	2.95	3.6	6.2	3.9	3.6	3.65	4.0	3.2	3.3	9.6
22	3.95	2.8	2.95	3.55	5.3	3.7	3.45	3.55	3.75	3.25	3.2	6.3
23	2.75	3.3	2.95	3.45	5.1	3.8	3.4	3.5	3.7	3.25	3.25	10.3
24	2.6	22.5	2.8	3.45	5.0	4.0	3.4	3.55	4.1	3.95	7.9	12.1
25	2.85	22	10.4	3.55	4.9	4.9	3.45	4.1	3.5	3.6	15.0	13.9
26	2.85	10.8	5.3	4.2	4.6	4.3	3.5	3.95	3.8	3.25	7.7	4.6
27	2.75	4.1	3.25	6.8	4.4	4.2	3.5	3.65	4.7	3.1	12.0	4.1
28	2.8	6.7	4.7	3.6	4.4	4.6	3.5	3.65	11.1	3.1	7.7	3.45
29	2.8	16.6	3.0	9.5	4.4	4.0	3.6	-	10.4	3.1	5.8	13.7
30	6.6	13.1	2.95	3.2	4.4	3.9	3.9	-	4.3	6.9	4.1	17.6
31	8.6	5.5	-	9.8	-	4.2	4.3	-	4.0	-	3.2	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	9.4	2.6	4.24	6.56	131	403
August	22.5	2.8	8.13	12.6	252	774
September	13.8	2.8	4.63	7.16	139	426
October	9.8	2.8	3.97	6.14	123	378
November	12.2	2.8	4.64	7.18	139	427
December	12.2	3.3	4.34	6.71	135	413
Calendar year 1940	22.5	2.6	4.64	7.18	1,700	5,220
January	14.9	3.4	4.46	6.90	138	424
February	6.7	3.45	3.83	5.93	107	329
March	20	3.4	6.48	10.0	201	617
April	15.9	3.1	5.05	7.81	152	465
May	15.0	3.2	6.83	10.6	212	650
June	17.6	3.0	5.60	8.66	168	516
Fiscal year 1940-41	22.5	2.6	5.20	8.05	1,900	5,820

Olowalu ditch near Olowalu

Location.- Parshall flume control, lat. 20°49'40", long. 156°36'40", 114 feet upstream from intake of pipe line to hydroelectric plant, 1¼ miles northeast of Olowalu, and 7 miles east of Lahaina.

Records available.- August 1911 to June 1941.

Average discharge.- 23 years (1917-20, 1921-41), 5.01 million gallons a day (7.75 second-feet).

Extremes.- Maximum daily discharge, 10.4 million gallons a day (16.1 second-feet) June 30; minimum daily, 2.3 million gallons a day (3.6 second-feet) Mar. 1, 2, 6, 8, 9.
1911-32: Maximum discharge, 18 million gallons a day (28 second-feet) Dec. 25, 1920 (gage height, 1.53 feet, datum then in use); no flow occasionally, when water was shut out of ditch.

Remarks.- Records good. Ditch diverts water from Olowalu Stream at altitude of about 450 feet. Water used for power and irrigation. Regulated by head gates.

Cooperation.- Records of daily discharge furnished by Pioneer Mill Co.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	4.2	7.4	8.3	8.6	7.3	4.8	4.9	2.75	2.3	5.7	4.2	5.9
2	3.5	4.6	8.4	8.9	5.9	5.6	5.5	2.75	2.3	7.6	3.6	5.3
3	3.25	3.85	7.8	8.4	5.1	4.7	5.9	2.75	2.55	9.7	3.6	4.8
4	5.1	4.3	7.9	7.6	5.2	4.4	4.4	2.9	4.2	10.3	6.5	4.5
5	4.0	5.4	7.8	7.4	6.5	4.5	3.95	2.75	2.5	9.4	4.4	4.3
6	3.7	6.3	7.6	7.0	6.6	4.4	3.75	2.7	2.3	9.2	3.95	4.1
7	5.8	5.6	7.5	6.1	5.5	8.5	3.55	2.8	2.35	9.1	4.2	4.6
8	5.0	8.4	6.9	5.6	5.0	8.1	3.5	2.65	2.3	8.4	6.2	4.0
9	6.2	8.3	7.7	5.4	4.7	5.9	3.4	2.6	2.3	6.8	8.7	3.75
10	7.5	7.4	8.2	5.2	4.5	5.2	3.4	2.6	2.55	5.9	7.0	3.6
11	5.1	7.7	7.6	5.0	4.3	7.4	3.3	2.65	2.55	5.4	6.7	3.5
12	4.1	8.7	7.4	4.9	4.2	7.2	3.25	2.6	3.2	6.0	8.4	3.4
13	3.65	8.9	6.9	4.8	4.2	7.1	3.15	2.85	255	9.6	9.4	3.25
14	3.5	7.9	6.8	4.6	4.6	8.2	3.15	2.75	2.6	9.2	8.7	3.15
15	3.6	6.6	6.4	4.5	9.4	6.2	3.1	2.65	6.7	7.7	7.3	3.15
16	3.2	8.7	6.2	4.4	7.6	5.5	3.1	2.55	9.6	6.3	9.2	3.1
17	4.0	9.4	7.1	4.2	5.9	5.1	3.0	2.55	9.7	5.5	8.6	3.0
18	4.1	9.2	8.7	4.5	5.2	5.0	3.05	2.53	9.7	4.9	8.6	2.95
19	3.4	8.9	7.2	5.4	4.8	4.7	3.0	2.55	9.2	4.6	9.5	3.55
20	3.25	8.0	7.5	5.0	7.6	4.5	2.95	2.55	7.5	4.4	7.6	3.2
21	3.7	6.5	8.3	4.4	7.8	4.3	3.05	2.45	5.6	4.1	6.0	4.4
22	4.4	5.6	6.8	4.2	7.7	4.2	3.05	2.45	4.7	3.85	5.2	4.3
23	3.5	5.5	6.1	3.95	7.8	4.1	2.95	2.5	4.7	3.85	4.7	5.4
24	3.15	9.8	5.8	3.9	6.8	4.0	2.9	2.55	4.1	3.7	5.8	5.6
25	2.95	9.5	8.8	3.7	6.1	3.85	2.85	2.5	3.7	3.45	9.7	9.4
26	2.9	8.7	9.6	4.5	5.7	3.85	4.0	2.4	3.75	3.3	9.6	7.9
27	2.85	8.0	9.2	4.7	5.3	3.75	3.65	2.4	3.95	3.25	9.5	5.8
28	2.8	7.7	9.0	4.4	5.0	3.7	3.2	2.35	8.2	3.1	9.4	4.7
29	2.9	8.3	6.8	8.2	4.7	3.65	3.0	-	9.4	3.05	9.2	6.6
30	5.1	8.4	7.1	6.0	4.8	3.85	2.85	-	8.4	3.8	8.0	10.4
31	4.2	7.8	-	7.1	-	3.7	2.85	-	6.3	-	6.8	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	7.5	2.8	4.02	6.22	125	382
August	9.8	3.85	7.46	11.5	231	710
September	9.8	5.9	7.58	11.7	227	698
October	5.9	3.7	5.57	8.62	173	530
November	9.4	4.2	5.93	9.18	178	546
December	8.5	3.65	5.16	7.98	160	491
Calendar year 1940	10.2	2.75	5.80	8.97	2,120	6,520
January	5.9	2.85	3.47	5.37	108	330
February	2.9	2.35	2.61	4.04	73.1	224
March	9.7	2.3	4.90	7.58	152	466
April	10.3	3.05	6.04	9.35	181	556
May	9.7	3.6	7.10	11.0	220	676
June	10.4	2.95	4.72	7.30	142	435
Fiscal year 1940-41	10.4	2.3	5.39	8.34	1,970	6,040

Oheo Stream below diversion dam, near Kipahulu

Location.- Concrete control, lat. 20°41'05", long. 156°04'10", just downstream from old diversion dam at elevation 1,550 feet, 2 miles northwest of Kipahulu, and 2½ miles upstream from mouth.
Drainage area.- 5.8 square miles.
Records available.- February 1927 to September 1929, December 1931 to June 1941.
Extremes.- Maximum discharge during year, 3,000 million gallons a day (4,640 second-feet) Oct. 22 (gage height, 9.74 feet), from rating curve extended above 750 million gallons a day by text on model of station site; minimum, 0.04 million gallons a day (0.06 second-foot) Feb. 22.
1927-29, 1931-41: Maximum discharge, 6,190 million gallons a day (9,580 second-feet) Jan. 4, 1933 (gage height, 11.95 feet), from rating curve extended above 400 million gallons a day; no flow in dry periods.
Remarks.- Records good. Small quantity of water is diverted for domestic supply and livestock.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.1	0.04	0.5	1.08	1.3	15.3	3.0	136
.2	.14	.6	1.79	1.6	27.5	4.0	254
.3	.33	.8	4.0	2.0	51	5.0	465
.4	.63	1.0	7.5	2.5	91.	6.0	760

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.14	39.5	315	18.5	10.9	8.5	5.1	0.07	0.09	0.45	4.4	0.47
2	.08	1.70	215	87	187	.82	24	.07	.09	.45	.48	.24
3	.07	1.50	44	275	125	.82	40	.07	.09	.76	2.9	.13
4	.09	28	378	59	110	.29	131	.09	.09	29.5	34	.09
5	.13	16.0	72	6.2	77	2.4	20.5	.08	.09	32.5	2.55	.08
6	44	10.8	22.5	8.0	5.4	1.05	2.3	.08	.09	16.0	1.34	.07
7	53	20.5	29	1.44	11.2	44	.81	.82	.09	14.5	.45	2.85
8	54	22.5	7.2	.76	131	21.5	.48	1.78	.10	8.7	.33	18.2
9	40	77	2.05	.51	58	6.8	.29	.08	.10	.93	.29	1.55
10	26	12.7	1.78	.39	25	.68	.22	.06	.12	.48	.23	.24
11	2.9	67	.90	.31	6.3	.51	.13	.06	.12	.39	.46	.18
12	.36	126	.57	.25	1.92	.31	.10	.06	.12	.42	19.5	.46
13	.18	27	.48	.20	1.04	.27	.07	.07	.24	20	30	.18
14	.20	6.6	.51	.27	20	.22	.07	5.7	.09	1.60	1.98	.09
15	.60	89	.29	.16	86	.11	.06	29.5	49	62	.42	.08
16	.13	61	88	.11	4.5	.08	.06	1.50	68	3.25	31	.07
17	3.45	107	320	.10	1.19	.06	.06	.10	56	.76	41	.07
18	2.45	52	126	.08	11.8	.06	.06	.07	59	.60	182	.08
19	.31	13.1	86	.09	4.1	.06	.06	.06	17.6	2.0	36.5	52
20	.18	3.9	4.7	.20	57	.28	.06	.06	42	1.42	32	13.7
21	44	1.32	1.89	204	8.7	.10	.06	.05	127	.31	3.7	17.5
22	10.7	5.0	1.08	498	.76	.06	.06	.05	21	.24	.99	15.8
23	.60	11.0	.72	8.8	.48	.06	.06	.05	71	9.8	.60	46
24	.22	330	.57	1.11	.36	.06	.06	.06	24	25.5	9.0	182
25	.13	542	71	.54	.31	.06	.06	.06	13.9	1.02	56	470
26	.09	100	28	1.05	.94	.07	.06	.06	3.05	.54	12.6	19.1
27	.08	11.5	2.1	3.25	4.4	.08	.06	.06	5.8	.39	4.1	6.6
28	.08	14.6	25	1.95	3.1	3.95	.07	.08	22.5	.29	16.5	1.08
29	.09	200	1.33	101	.39	134	.07	-	14.7	.20	1.12	53
30	.21	209	26	2.3	.42	41	.07	-	10.4	2.45	.51	500
31	58	25.5	-	33	-	7.6	.07	-	.81	-	.63	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	58	0.07	11.0	17.0	342	1,050
August	542	1.32	72.0	111	2,230	6,850
September	378	.29	62.4	96.5	1,870	5,740
October	498	.08	42.4	65.6	1,310	4,030
November	187	.31	31.8	49.2	954	2,930
December	134	.06	8.90	13.8	276	847
Calendar year 1940	542	.06	23.2	35.9	8,480	26,040
January	131	.06	7.29	11.3	225	694
February	29.5	.05	1.46	2.26	40.8	125
March	127	.09	19.6	30.3	607	1,860
April	62	.20	7.92	12.3	237	729
May	182	.23	17.0	26.3	528	1,620
June	500	.07	46.7	72.3	1,400	4,300
Fiscal year 1940-41	542	.05	27.5	42.6	10,020	30,780

Right Branch of Kahalawe Stream near Kipahulu

Location.- Columbus control, lat. 20°41'05", long. 156°03'00", at old ditch intake and 2 miles north of Kipahulu. Altitude of gage, 1,100 feet.
Drainage area.- 0.1 square mile.
Records available.- February 1927 to June 1941.
Average discharge.- 11 years (1927-34, 1935-36, 1938-41), 3.67 million gallons a day (5.68 second-feet).
Extremes.- Maximum discharge during year, 323 million gallons a day (500 second-feet) Sept. 17 (gage height, 3.38 feet), from rating curve extended above 12 million gallons a day by test on model of station site; minimum, 0.17 million gallons a day (0.26 second-foot) Mar. 1, 2.
1927-41: Maximum discharge, 1,940 million gallons a day (3,000 second-feet) Apr. 29, 1937 (gage height, 15.74 feet, datum then in use), from rating curve extended above 22 million gallons a day; minimum, 0.15 million gallons a day (0.23 second-foot) Dec. 18, 1929.
Remarks.- Records good except those for periods of no gage-height record, which are poor. No diversions.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.7	0.13	1.2	2.25	2.0	29.5
.8	.26	1.3	3.3	2.2	47
.9	.51	1.4	4.8	2.4	73
1.0	.89	1.6	9.3		
1.1	1.46	1.8	17.4		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.99	4.9	10.4	7.4	1.82	1.78	2.2	0.35	0.18	1.5	1.50	1.82
2	.80	1.72	14.2	25	4.8	1.14	4.5	.32	.18	1.5	1.39	1.53
3	.72	1.39	4.3	13.5	2.75	1.20	5.4	.32	.23	2.0	2.75	1.53
4	1.81	3.65	25.5	4.9	3.95	.99	24	.32	1.09	5.0	4.6	1.26
5	1.13	2.65	6.3	2.75	3.55	1.60	10.0	.32	.26	5.4	1.90	1.20
6	3.15	2.7	3.7	3.05	1.67	1.26	2.7	.30	.23	3.5	2.25	1.20
7	5.0	2.9	4.0	2.05	4.7	4.6	1.8	.51	.23	3.0	1.53	2.2
8	4.3	2.9	2.85	1.82	11.1	2.5	1.5	1.9	.21	2.15	1.57	5.7
9	5.3	9.3	2.45	1.67	7.6	2.75	1.32	.48	.20	1.82	1.69	2.2
10	4.9	2.65	2.15	1.53	11.4	1.5	1.20	.48	.46	1.53	1.82	1.60
11	2.5	7.1	1.90	1.46	2.9	1.3	1.09	.35	.94	1.46	1.82	1.32
12	1.53	6.8	1.74	1.32	1.98	1.2	.99	.32	2.05	1.86	2.7	1.53
13	1.20	3.4	1.82	1.26	1.74	1.1	.89	.30	2.9	4.7	6.0	1.14
14	1.62	2.05	2.05	1.32	5.2	1.1	.84	1.7	.57	2.1	2.35	1.09
15	1.90	5.2	1.67	1.14	7.1	1.0	.80	6.0	5.0	4.7	1.67	1.04
16	1.24	7.6	18.7	1.09	2.25	.99	.76	1.1	10.8	1.82	3.4	.94
17	2.0	8.9	52	1.04	1.74	.89	.72	.68	4.8	1.46	2.2	.89
18	2.85	6.8	20.5	.99	1.92	.84	.68	.57	4.2	1.32	6.1	1.23
19	1.46	3.95	8.1	1.49	1.97	.76	.64	.42	2.0	2.25	10.9	5.3
20	1.20	2.45	3.05	1.45	3.75	.89	.60	.35	5.0	1.60	7.5	2.6
21	4.8	1.98	2.45	17.2	1.79	.76	.57	.32	20	1.32	2.75	3.25
22	3.75	2.05	2.05	16.2	1.46	.68	.54	.28	3.5	1.09	1.98	3.0
23	1.60	2.55	1.82	2.05	1.20	.60	.51	.26	5.6	5.9	1.67	3.5
24	1.26	17.8	1.74	1.46	1.14	.57	.48	.24	4.0	5.3	3.4	9.0
25	.99	24	5.6	1.14	1.07	.54	.48	.23	2.5	1.39	8.1	8.0
26	.89	6.5	2.35	1.83	1.68	.51	.45	.21	1.6	1.14	4.0	2.85
27	.89	2.95	1.98	3.76	6.1	.51	.42	.20	2.6	1.04	2.75	2.06
28	.80	2.8	5.2	1.90	2.65	.89	.40	.20	4.5	.94	2.45	1.67
29	.80	11.8	1.82	5.9	1.26	26	.40	-	3.0	.84	2.05	3.1
30	1.34	6.4	11.3	1.53	1.20	12.4	.38	-	2.2	1.87	1.74	17.1
31	5.8	3.3	-	2.55	-	3.1	.38	-	1.7	-	2.7	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	5.8	0.72	2.21	3.42	68.5	210
August	24	1.39	5.51	8.53	171	525
September	52	1.67	7.46	11.5	224	686
October	25	.99	4.25	6.58	132	404
November	11.4	1.07	3.45	5.34	103	317
December	26	.51	2.45	3.79	76.0	233
Calendar year 1940	52	.35	3.08	4.77	1,130	3,460
January	24	.38	2.18	3.37	67.6	208
February	6.0	.20	.677	1.06	19.0	58
March	20	.18	2.98	4.63	92.7	285
April	5.9	.84	2.38	3.68	71.5	219
May	10.9	1.39	3.29	4.95	99.2	305
June	17.1	.89	3.03	4.69	90.8	279
Fiscal year 1940-41	52	.18	3.35	5.15	1,220	3,730

Note.- No gage-height record Dec. 10 to Jan. 6, Feb. 3-20, Mar. 19 to Apr. 7; discharge computed on basis of records for station on Ohee Stream.

Hana flume near Hana

Location.- Soil Conservation Service type H (De Fabritis) flume, lat. 20°45'10", long. 156°01'50", on Hana flume, 13 feet downstream from end of wooden flume, 2.5 miles south of Kaeleku, and 2.7 miles west of Hana.

Records available.- February 1940 to June 1941. Records prior to July 1940 unpublished.

Extremes.- Maximum discharge during year, not determined due to faulty gage-height record; no flow many times.

Remarks.- Records poor. Water used for fluming cane and for domestic supply near Hana.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	-	-	1.15	0.67	-	0.83	1.34	0.01	0	0.03	0	0.14
2	-	-	1.15	1.31	-	.31	1.23	.01	0	.26	0	.01
3	-	-	.89	.87	-	.14	.96	.01	.16	.45	.09	.15
4	-	-	.91	.36	-	.04	1.80	0	.53	.37	.22	.05
5	-	-	1.26	.16	-	.99	-	.01	.16	.31	.01	.02
6	-	0.07	.17	.10	-	.79	-	0	0	.15	.22	.10
7	-	.03	.56	.06	-	1.35	-	.01	0	.04	.15	.79
8	-	-	.34	.03	-	1.45	-	.01	0	.12	.32	1.18
9	-	-	.21	0	-	2.75	-	.01	-	.05	.32	.24
10	-	.75	.18	0	-	.58	.62	.01	-	0	.12	.01
11	-	.98	.02	0	-	1.47	1.42	.01	-	0	.15	.02
12	-	.93	.54	.03	-	1.08	1.18	0	-	.06	.15	.01
13	-	.81	.93	0	-	.31	.49	0	-	.62	.12	0
14	-	.16	.82	.07	-	.06	.34	.22	-	.35	.26	0
15	-	.66	.59	0	-	.03	.09	.55	.90	.84	.26	0
16	-	.83	-	-	-	.03	.01	.04	1.29	.16	.42	0
17	-	.84	-	-	-	.02	.01	.01	1.03	.02	.35	0
18	-	.66	-	-	-	.02	.01	0	1.04	0	.85	0
19	0.02	.52	.55	-	-	.07	.01	0	.44	.22	.70	.35
20	.01	.24	.14	-	-	.03	.01	0	.70	.08	1.07	.05
21	-	.29	.50	-	-	.01	.01	0	.94	.01	.38	.37
22	-	.21	.20	-	-	.01	0	0	.65	0	.11	.44
23	-	.33	.01	-	-	.06	0	0	.69	.24	.01	.44
24	-	-	.07	-	-	.81	0	0	.41	.50	.69	.76
25	-	-	.90	-	-	.94	0	.19	.18	.02	1.01	1.23
26	-	-	.88	-	-	1.15	.08	.02	.06	0	.75	.68
27	-	.05	.63	-	.69	.69	.03	0	.30	0	.48	.23
28	-	.09	.76	-	.11	1.12	.01	0	.40	0	.14	.16
29	-	.78	.19	-	.01	1.95	.01	-	.16	0	.29	1.01
30	-	1.05	.68	-	.19	1.64	.46	-	.08	.08	.36	1.59
31	-	.84	-	-	-	1.33	.04	-	.03	-	.66	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	-	-	-	-	-	-
August	-	-	-	-	-	-
September	-	-	-	-	-	-
October	-	-	-	-	-	-
November	-	-	-	-	-	-
December	2.75	0.01	0.712	1.10	22.1	68
Calendar year	-	-	-	-	-	-
January	-	-	-	-	-	-
February	.55	0	.040	.062	1.12	3.4
March	-	-	-	-	-	-
April	.84	0	.166	.257	4.98	15
May	1.07	0	.344	.552	10.7	33
June	1.59	0	.334	.517	10.0	31
Fiscal year	-	-	-	-	-	-

Note.- Data insufficient to compute discharge for days for which no figures are given.

Kaeleku flume near Kaeleku

Location.- Soil Conservation Service type H (De Fabritis) flume, lat. 20°46'00", long. 156°03'25", on Kaeleku flume, just downstream from its intake from Hana flume, 2.5 miles southwest of Kaeleku, and 5.5 miles west of Hana.

Records available.- February 1940 to June 1941.

Extremes.- Maximum discharge during year, not determined due to faulty gage-height record; no flow many times.

Remarks.- Records poor. Water used for fluming cane and domestic water supply near Kaeleku.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.51	1.74	-	1.05	2.05	0.02	-	0.06	0	1.99	1.16	0
2	.13	1.07	-	1.09	3.4	.01	-	0	0	3.05	1.10	0
3	.02	.69	-	-	2.35	.01	-	0	.46	4.1	1.21	0
4	.67	1.08	-	-	3.0	.01	-	.43	2.05	4.1	2.7	0
5	.41	1.28	-	-	3.2	.02	-	.67	.56	3.15	.91	0
6	1.46	2.15	-	-	1.73	.01	-	.03	.35	1.91	1.99	0
7	2.3	2.25	-	-	1.11	.56	-	.47	.03	1.91	1.89	.14
8	2.3	2.3	-	-	2.95	.15	-	.30	0	1.34	2.2	.28
9	2.6	1.95	-	.15	2.7	.04	-	.01	.01	.53	2.85	.18
10	2.65	1.35	-	.03	1.85	.01	0.03	0	.30	.49	2.35	.04
11	1.56	1.81	-	.01	2.05	.17	.04	0	.36	.20	2.45	.22
12	.37	1.48	-	.72	.77	.01	.01	0	.28	1.53	3.0	.39
13	.08	1.13	-	.40	.85	.01	0	.38	.66	3.25	2.9	.12
14	.96	1.01	-	.21	1.51	0	0	1.90	1.75	1.64	2.9	.08
15	1.38	.63	-	.01	3.15	0	0	2.55	5.0	3.15	1.98	.02
16	.73	-	-	0	.78	0	0	.65	5.0	1.10	3.3	0
17	1.94	-	-	0	.47	0	0	.10	4.1	.38	2.5	0
18	1.95	-	-	.66	.43	0	0	.01	4.6	.24	3.8	.56
19	.89	-	1.45	.92	.10	0	0	0	2.5	1.28	2.75	2.4
20	.48	-	.21	1.20	.41	.01	0	0	3.75	.55	2.85	1.97
21	1.84	-	1.22	3.75	.45	.01	0	0	4.5	.07	1.28	2.8
22	2.45	-	.70	3.8	.05	0	0	0	2.85	0	.52	2.75
23	.80	-	.36	1.59	.03	.01	0	0	3.0	.56	.20	2.8
24	.14	-	.80	.70	.02	.36	0	0	3.0	1.86	2.35	3.1
25	0	-	1.34	.59	.02	.01	0	1.40	2.2	.21	4.0	4.3
26	0	-	.10	1.49	.01	.13	0	.29	1.25	.04	3.45	3.1
27	.01	-	.44	1.61	.02	.01	0	.01	2.55	0	2.5	2.1
28	.01	-	1.87	.78	.01	.08	0	0	4.1	0	1.75	.99
29	.02	-	.52	2.15	.01	.98	0	-	2.95	0	1.20	3.7
30	.49	-	1.46	1.12	.01	-	1.41	-	2.2	1.25	.68	3.05
31	1.17	-	-	3.6	-	-	.94	-	1.65	-	.17	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	2.65	0	0.977	1.51	30.3	93
August	-	-	-	-	-	-
September	-	-	-	-	-	-
October	-	-	-	-	-	-
November	3.4	.01	1.19	1.84	35.8	110
December	-	-	-	-	-	-
Calendar year	-	-	-	-	-	-
January	-	-	-	-	-	-
February	2.55	0	.331	.512	9.26	28
March	5.0	0	2.00	3.09	62.0	190
April	4.1	0	1.33	2.06	39.9	122
May	4.0	.17	2.09	3.23	64.9	199
June	4.3	0	1.16	1.79	34.9	107
Fiscal year	-	-	-	-	-	-

Note.- Data insufficient to compute discharge for days for which no figures are given.

Makapipi Stream near Nahiku

Location.- Concrete control, lat. 20°48'35", long. 156°05'35", 100 feet upstream from highway crossing, 1¼ miles south of Nahiku, and 4⅝ miles southeast of Keanae post office.

Drainage area.- 5.0 square miles.

Records available.- July 1932 to June 1941. Records at same site collected by East Maui Irrigation Co. June 1930 to June 1932.

Extremes.- Maximum discharge during year, 458 million gallons a day (709 second-feet) Aug. 12 (gage height, 3.49 feet), from rating curve extended above 70 million gallons a day by tests on model of station site; no flow during periods of dry weather.
1932-41: Maximum discharge, 1,220 million gallons a day (1,890 second-feet) Apr. 7, 1938 (gage height, 5.90 feet), from rating curve extended above 70 million gallons a day by tests on model of station site; no flow occasionally during dry weather.

Remarks.- Records good. Koolau ditch diverts water 1 mile above station for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0	0	0.4	4.6	1.0	45
.1	.2	.5	7.8	1.2	65
.2	.9	.6	12.0	1.4	86
.3	2.3	.8	23.5	1.6	109

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1		0	35	3.2	3.7	0.7	99		0	0.8	0	1.6
2		0	18.2	3.2	3.2	.6	60		0	.8	0	1.5
3		0	10.3	3.7	3.0	.6	19.9		0	1.0	0	1.2
4		0	13.5	3.7	3.0	.6	7.5		0	3.9	0	1.2
5		0	7.8	3.7	3.4	.6	5.2		0	3.4	0	.9
6		0	4.6	3.4	3.7	.5	4.4		0	2.2	0	.8
7		0	3.2	3.2	3.4	.6	3.4		0	1.7	0	.8
8		0	2.2	3.0	3.0	.6	2.8		0	1.3	0	.7
9		0	1.6	3.0	2.5	.6	2.2		0	1.2	.6	.6
10		0	1.1	2.8	2.2	.6	1.9		0	.9	.6	.6
11		0	.9	2.8	2.0	.7	1.7		0	.7	.5	.5
12		35	.8	2.8	1.9	.9	1.5		0	.5	.5	.4
13		5.0	.8	2.5	1.7	.8	1.3		0	.6	.8	.3
14		2.2	.8	2.3	1.7	.8	1.0		0	.6	1.2	.3
15		2.3	.8	2.3	5.3	.8	.9		37.5	.5	1.2	.3
16		3.9	.8	2.3	2.8	.7	.8		27	.2	2.6	.2
17		6.4	1.3	2.2	2.2	.6	.7		32.5	.1	2.3	.2
18		3.4	1.3	2.2	2.0	.6	.6		27.5	0	6.0	.2
19		2.3	1.5	2.0	1.6	.6	.6		8.0	0	6.2	.3
20		1.6	1.6	2.0	1.6	.6	.5		4.6	0	4.9	.3
21		1.0	1.5	4.3	1.5	.6	.3		3.9	0	3.7	.3
22		.6	1.7	10.3	1.3	.6	.3		3.0	0	2.5	.6
23		.3	1.7	3.7	1.2	.5	.2		2.0	0	2.0	.8
24		58	1.7	3.0	1.2	1.5	.2		1.6	0	1.7	10.4
25		101	7.9	2.8	1.0	1.6	.1		1.0	0	5.1	50
26		20.5	3.4	2.3	.9	1.0	.1		.8	0	3.0	4.9
27		7.4	3.0	2.2	.8	.9	.1		.7	0	2.5	3.4
28		5.2	3.0	2.2	.8	.9	0		5.4	0	2.2	2.8
29		23.5	3.0	3.9	.8	.8	0		3.9	0	2.0	13.8
30		23	3.4	2.5	.8	42	.8		1.7	0	2.0	92
31		5.6	-	4.0	-	5.0	.4		1.3	-	1.9	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	0	0	0	0	0	0
August	101	0	9.94	15.4	308	946
September	35	.8	4.61	7.13	138	424
October	10.3	2.0	3.15	4.87	97.5	299
November	5.3	.8	2.14	3.31	64.2	197
December	42	.5	2.21	3.42	68.5	210
Calendar year 1940	101	0	2.08	3.22	762	2,340
January	99	0	7.05	10.9	218	670
February	0	0	0	0	0	0
March	37.5	0	5.24	8.11	162	498
April	3.9	0	.680	1.05	20.4	63
May	6.2	0	1.81	2.80	56.0	172
June	92	.2	6.40	9.90	192	589
Fiscal year 1940-41	101	0	3.63	5.62	1,320	4,070

West Makapipi Spring near Nahiku

Location.- Parshall flume, lat. 20°48'20", long. 156°06'20", half a mile upstream from highway, 1.7 miles south of Nahiku, and 4⅝ miles southeast of Keanae post office.

Records available.- July 1932 to June 1941. Records at same site collected by East Maui Irrigation Co. June 1931 to June 1932.

Extremes.- Maximum discharge during year, 1.41 million gallons a day (2.18 second-feet) Sept. 25 (gage height, 0.53 foot); no flow July 1 to Sept. 8, Apr. 1-3, 6-21.
1932-41: Maximum discharge, 32 million gallons a day (50 second-feet) Feb. 25, 1935 (gage height, 2.93 feet), from rating curve extended above 1.5 million gallons a day by weir formulas; no flow in dry weather.

Remarks.- Records good. No diversions.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0	0	0.3	0.40
.1	.05	.4	.79
.2	.17	.5	1.26

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1			0	1.26	0.79	0.38	0.66	0.23	0.19	0.01	0.23	0.40
2			0	1.26	.75	.38	.75	.23	.17	0	.23	.40
3			0	1.26	.75	.38	.58	.23	.17	0	.25	.38
4			0	1.26	.75	.38	.50	.23	.17	.07	.27	.35
5			0	1.21	.75	.38	.47	.23	.17	.03	.27	.35
6			0	1.21	.75	.38	.44	.23	.16	0	.30	.35
7			0	1.21	.71	.38	.40	.23	.14	0	.30	.35
8			0	1.21	.66	.38	.38	.23	.14	0	.32	.35
9			.02	1.21	.62	.38	.38	.23	.13	0	.38	.32
10			.04	1.21	.58	.38	.35	.23	.11	0	.38	.32
11			.10	1.21	.58	.40	.35	.23	.13	0	.38	.32
12			.16	1.17	.54	.44	.32	.23	.13	0	.38	.30
13			.25	1.17	.54	.44	.32	.23	.13	0	.44	.30
14			.32	1.12	.54	.44	.32	.23	.11	0	.44	.32
15			.40	1.12	.58	.44	.32	.23	.28	0	.47	.30
16			.50	1.07	.50	.44	.30	.23	.24	0	.50	.32
17			.62	1.07	.47	.44	.30	.23	.30	0	.50	.32
18			.75	1.02	.47	.44	.30	.23	.25	0	.54	.32
19			.84	1.02	.47	.44	.30	.23	.21	0	.54	.35
20			.88	.98	.47	.44	.27	.23	.16	0	.54	.35
21			.98	1.02	.44	.44	.27	.23	.13	0	.50	.35
22			1.02	1.07	.44	.40	.25	.23	.11	.04	.47	.38
23			1.12	1.02	.40	.40	.23	.23	.10	.07	.44	.40
24			1.12	.98	.40	.44	.23	.21	.08	.09	.44	.44
25			1.21	.93	.38	.50	.21	.21	.07	.11	.44	.75
26			1.26	.88	.38	.44	.21	.21	.05	.13	.47	.54
27			1.26	.84	f.38	.44	.21	.21	.04	.14	.44	.50
28			1.26	.84	.38	.40	.21	.21	.09	.16	.44	.47
29			1.26	.84	.38	.40	.21	-	.06	.17	.44	.54
30			1.26	.79	.38	.58	.23	-	.03	.21	.44	.75
31			-	.84	-	.50	.25	-	.02	-	.40	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	0	0	0	0	0	0
August	0	0	0	0	0	0
September	1.26	0	.554	.857	16.6	51
October	1.26	.79	1.07	1.66	33.3	102
November	.79	.38	.541	.837	16.2	50
December	.58	.38	.423	.654	13.1	40
Calendar year 1940	1.26	0	.267	.413	97.8	300
January	.75	.21	.339	.525	10.5	32
February	.23	.21	.226	.350	6.34	19
March	.30	.02	.138	.214	4.27	13
April	.21	0	.041	.063	1.23	3.8
May	.54	.23	.406	.628	12.6	39
June	.75	.30	.395	.611	11.9	36
Fiscal year 1940-41	1.26	0	.345	.534	126	386

f Computed on basis of partly estimated gage-height record.
Note.- No gage-height record Aug. 27 to Sept. 10, Nov. 28 to Dec. 3; discharge computed on basis of records for stations on nearby streams and recorded range in stage.

Hanawi Stream near Nahiku

Location.- Lat. 20°48'35", long. 156°06'50", 200 feet upstream from Koolau ditch intake and trail, 1⅞ miles southwest of Nahiku, and 4⅛ miles southeast of Keanae.

Drainage area.- 0.8 square mile.

Records available.- January 1914 to January 1916, November 1921 to June 1941.

Average discharge.- 19 years (1922-41), 12.8 million gallons a day (19.8 second-feet).

Extremes.- Maximum discharge during year, 748 million gallons a day (1,160 second-feet) Aug. 12 (gage height, 7.99 feet), from rating curve extended above 120 million gallons a day; minimum, 1.6 million gallons a day (2.5 second-feet) Feb. 24.
1914-16, 1921-41: Maximum gage height, about 20 feet during flood of Jan. 18, 1916, from floodmarks; minimum discharge, 1.2 million gallons a day (1.9 second-feet) Feb. 19, 1936.

Remarks.- Records good except those for period of no gage-height record and those above 200 million gallons a day, which are poor. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.2	1.3	1.3	13.7	3.5	137
.3	1.9	1.6	19.3	4.0	188
.5	3.4	2.0	29.5	5.0	311
.7	5.4	2.5	52		
1.0	9.2	3.0	88		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.1	8.6	89	6.0	7.6	2.9	230	2.7	1.7	6.1	3.0	4.5
2	1.8	3.5	50	5.2	30.5	2.8	50	2.6	1.7	11.2	2.85	4.1
3	1.7	3.0	18.1	6.5	12.6	2.7	22	2.45	2.05	18.1	2.85	4.0
4	2.05	6.6	23	4.6	16.3	2.6	8.4	3.1	4.2	12.3	4.9	3.95
5	1.8	5.3	13.7	4.2	12.6	2.5	6.6	3.85	2.25	7.1	2.85	3.85
6	5.4	6.4	12.1	4.7	5.8	2.6	5.4	3.4	1.9	7.1	4.2	3.95
7	12.9	7.1	13.7	3.85	4.6	30	4.4	2.85	1.8	24	5.4	4.1
8	12.2	8.8	12.9	3.5	4.1	6.0	3.85	3.0	1.8	11.6	14.3	3.65
9	14.0	7.8	10.6	3.3	3.8	3.3	3.5	2.3	1.8	7.0	10.8	3.6
10	7.4	5.3	10.0	3.15	4.0	2.9	5.0	2.25	3.5	6.0	6.1	3.5
11	5.0	30	9.5	3.25	5.6	11	7.9	2.1	5.3	5.5	7.2	3.6
12	3.5	94	9.6	4.1	6.6	5.2	5.3	2.1	7.0	9.0	32	3.6
13	3.0	12.2	10.6	3.5	5.4	3.4	3.6	2.05	2.85	13.6	30	3.3
14	3.85	7.0	9.9	2.9	5.0	3.1	3.4	2.25	48	6.5	14.5	3.25
15	5.3	21	11.4	2.7	25	3.0	3.3	2.05	161	6.0	10.9	3.15
16	3.15	26.5	8.2	2.6	5.0	2.9	5.25	1.9	128	5.4	64	3.0
17	5.5	19.4	8.1	2.45	4.5	2.8	3.15	1.9	48	5.0	14.0	2.9
18	3.95	9.7	7.6	3.25	4.2	2.7	3.0	1.9	44	4.7	20.5	3.15
19	3.0	6.1	6.6	6.0	3.9	2.6	2.9	1.8	10.0	4.6	9.9	9.2
20	2.6	4.8	5.8	4.7	18	2.5	2.85	1.8	5.8	4.2	6.8	9.3
21	12.1	4.3	6.4	10.6	5.6	2.4	2.85	1.7	4.8	4.0	5.6	11.5
22	11.1	4.0	5.8	38	5.0	2.3	2.7	1.7	4.1	3.85	4.6	14.0
23	4.5	4.0	5.2	f4.8	4.2	2.2	2.6	1.7	6.4	3.65	4.0	11.3
24	3.4	147	5.6	4.1	3.8	9.0	2.55	1.7	5.3	3.6	17.5	48
25	3.0	284	48	4.3	3.5	4.5	2.45	3.85	7.5	3.4	70	116
26	2.7	60	10.2	5.0	3.3	5.8	2.7	2.45	4.7	3.25	18.6	12.0
27	2.45	10.2	6.5	6.0	3.2	3.7	2.7	1.8	12.1	3.1	10.0	10.4
28	2.3	26.5	6.6	9.6	3.1	3.1	2.4	1.8	37.5	2.9	8.9	6.8
29	2.25	107	5.2	22	3.0	2.9	2.3	-	26.5	2.85	7.5	70
30	3.1	56	6.5	4.6	2.9	45	19.3	-	11.6	3.4	8.7	230
31	7.1	22	-	26.5	-	11	4.3	-	6.0	-	5.1	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	14.0	1.7	4.97	7.69	154	475
August	284	3.0	32.8	50.7	1,020	3,120
September	89	5.2	14.9	23.1	446	1,370
October	38	2.45	6.97	10.8	216	663
November	30.5	2.9	7.52	11.6	226	695
December	45	2.2	6.11	9.45	189	581
Calendar year 1940	284	1.4	8.29	12.8	3,030	9,300
January	230	2.3	13.7	21.2	425	1,300
February	3.85	1.7	2.32	35.9	65.0	200
March	161	1.7	19.6	30.3	609	1,870
April	24	2.85	6.97	10.8	209	641
May	70	2.85	13.8	21.4	428	1,310
June	230	2.9	20.5	31.7	614	1,880
Fiscal year 1940-41	284	1.7	12.6	19.3	4,600	14,100

f Computed on basis of partly estimated gage-height record.
Note.- No gage-height record Nov. 8 to Jan. 2; discharge computed on basis of records for stations on nearby streams.

Hanawi Stream below Government Road, near Nahiku

Location.- Concrete control, lat. 20°49'15", long. 156°06'25", three-quarters of a mile southwest of Nahiku and 4 miles southeast of Keanae post office. Altitude of gage, 500 feet (by barometer).

Drainage area.- 1.6 square miles.

Records available.- July 1932 to June 1941. Records at same site collected by East Maui Irrigation Co. January 1927 to June 1932.

Extremes.- Maximum discharge during year, 4,160 million gallons a day (6,440 second-feet) Aug. 12 (gage height, 7.73 feet), from rating curve extended above 28 million gallons a day; minimum, 9.9 million gallons a day (15.3 second-feet) July 3.

1932-41: Maximum discharge, 7,180 million gallons a day (11,100 second-feet) Mar. 21, 1937 (gage height, 9.54 feet); minimum, 8.2 million gallons a day (12.7 second-feet) Feb. 25, 26, 1936.

Flood that destroyed shelter Apr. 6 or 7, 1938, probably reached a higher stage than 9.54 feet, the maximum given.

Remarks.- Records good. Entire flow of stream above station up to 25 million gallons a day is diverted by the East Maui Irrigation Co.'s ditch at altitude 1,300 feet for irrigation in central Maui.

Rating tables, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Aug. 12				Aug. 13 to June 30			
0.8	8.6	1.8	80	0.8	7.9	2.0	100
1.0	15.7	2.0	106	1.0	14.8	2.5	183
1.2	26.5	2.2	140	1.2	24.5	3.0	300
1.4	40	2.5	198	1.4	37.5	3.5	465
1.6	59	3.0	322	1.7	64	4.0	665

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	10.2	13.0	200	16.1	14.8	11.1	383	10.8	10.8	12.6	11.1	12.6
2	10.2	11.5	122	15.2	24.5	11.1	189	10.8	10.8	12.6	11.1	12.2
3	10.2	11.5	57	16.5	14.4	11.1	73	10.8	10.8	14.4	11.1	11.8
4	10.2	11.8	64	15.6	14.8	11.1	24.5	10.8	10.8	16.1	11.8	11.8
5	10.5	11.8	48	15.2	20.5	11.1	14.1	10.5	10.8	14.8	11.5	11.8
6	10.5	11.8	20.5	14.8	14.1	11.1	13.0	10.5	10.5	13.7	11.5	11.8
7	11.2	11.8	17.7	14.8	13.3	12.9	12.6	10.5	10.5	17.2	11.8	11.8
8	10.6	11.8	16.5	14.8	12.6	11.8	12.2	10.5	10.5	13.3	18.3	11.8
9	11.2	12.6	15.6	14.8	12.6	11.1	11.8	10.5	10.8	12.6	14.8	11.5
10	11.2	12.6	15.2	14.8	12.6	11.1	12.2	10.5	10.8	12.6	12.2	11.5
11	11.2	f31	14.8	14.8	12.6	13.7	16.4	10.5	10.8	12.6	12.6	11.5
12	10.8	f301	14.8	14.8	12.2	11.8	12.2	10.5	11.5	12.2	23	11.5
13	10.8	40	15.2	14.4	12.2	11.1	11.5	10.5	10.8	14.8	28.5	11.5
14	10.6	16.1	14.8	14.4	12.2	11.1	11.1	10.5	21.5	12.6	14.8	11.5
15	11.2	22	14.8	14.4	31	11.1	11.1	10.5	329	12.6	13.7	11.5
16	11.2	34	14.8	14.4	13.0	11.1	11.1	10.5	198	12.2	64	11.5
17	11.2	34	15.2	14.4	12.6	10.8	11.1	10.8	114	12.2	16.9	11.5
18	11.2	16.9	14.8	14.4	12.2	10.8	11.1	10.5	85	12.2	25	11.1
19	11.2	14.4	14.8	14.8	12.2	10.8	11.1	10.5	29.5	11.8	17.0	13.3
20	11.2	13.7	15.2	14.8	26.5	10.8	11.1	10.5	14.1	11.8	14.4	11.8
21	11.8	13.0	15.2	19.0	12.2	10.8	11.1	10.5	13.3	11.8	13.3	12.2
22	12.6	12.6	15.2	66	12.2	10.5	10.8	10.5	12.6	11.8	12.6	12.6
23	11.5	12.6	15.2	14.1	11.8	11.1	10.8	10.8	12.6	11.8	12.6	13.3
24	11.5	323	15.2	13.3	11.8	13.5	10.8	10.8	13.0	11.5	20.5	56
25	11.5	620	65	13.0	11.8	12.6	10.8	11.8	12.2	11.5	68	267
26	11.2	155	23.5	13.0	11.5	13.0	10.8	10.8	12.2	11.5	17.8	26
27	11.2	27.5	15.6	13.0	11.5	11.5	11.1	10.8	13.0	11.5	14.1	13.7
28	11.2	30	14.8	13.0	11.1	11.1	10.8	10.8	54	11.5	13.3	13.0
29	11.2	216	14.8	30	11.1	11.1	10.8	-	19.9	11.5	13.0	100
30	11.5	154	16.5	13.0	11.1	111	24.5	-	13.3	11.5	13.0	525
31	11.8	67	-	28.5		21.5	11.1	-	12.5	-	12.6	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	12.6	10.2	11.1	17.2	344	1,060
August	620	11.5	73.4	114	2,270	6,980
September	200	14.8	31.2	48.3	937	2,870
October	65	13.0	17.2	26.6	533	1,640
November	31	11.1	14.2	22.0	427	1,310
December	111	10.5	15.0	23.2	464	1,420
Calendar year 1940	520	10.2	21.7	33.6	7,930	24,340
January	383	10.8	32.1	49.7	997	3,060
February	11.8	10.5	10.7	16.6	298	915
March	329	10.5	36.1	55.9	1,120	3,440
April	17.2	11.5	12.7	19.6	381	1,170
May	68	11.1	18.3	28.3	566	1,740
June	525	11.1	42.5	65.8	1,270	3,910
Fiscal year 1940-41	620	10.2	26.3	40.7	9,610	29,520

f Computed on basis of partly estimated gage-height record.

Kapaula Stream near Nahiku

Location.- Lat. 20°48'50", long. 156°07'05", 40 feet upstream from intake to Koolau ditch, 300 feet upstream from ditch trail, 1⅝ miles southwest of Nahiku, and 4 miles southeast of Keanae.

Drainage area.- 0.2 square mile.

Records available.- November 1921 to June 1941.

Average discharge.- 19 years (1922-41), 10.7 million gallons a day (16.6 second-feet).

Extremes.- Maximum discharge during year, 1,360 million gallons a day (2,100 second-feet) Aug. 12 (gage height, 7.26 feet), from rating curve extended above 140 million gallons a day; minimum, 1.19 million gallons a day (1.84 second-feet) Feb. 24, 25, Mar. 2, 3. 1921-41: Maximum discharge, 1,780 million gallons a day (2,750 second-feet) Apr. 6, 1938 (gage height, 8.40 feet), from rating curve extended above 140 million gallons a day; minimum, 0.2 million gallons a day (0.3 second-foot) Nov. 23-25, 1933, Oct. 2-5, 1938.

Remarks.- Records excellent except those for period of no gage-height record, which are fair. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.4	0.70	0.8	5.0	1.6	25	2.8	106
.5	1.40	1.0	8.8	1.8	32	3.0	130
.6	2.35	1.2	13.4	2.0	41	3.3	176
.7	3.5	1.4	18.6	2.4	68	3.6	232

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.88	9.3	90	4.7	7.6	1.88	118	2.6	1.26	5.4	2.15	3.4
2	1.40	2.9	45	3.95	26	1.78	57	2.05	1.19	9.3	2.05	3.05
3	1.33	2.25	15	5.0	12.2	1.78	17.5	1.78	1.40	20.5	2.2	2.8
4	1.59	6.6	23	3.8	17.0	1.68	6.6	2.05	4.5	15.0	4.7	2.6
5	1.59	5.2	10	3.15	13.2	1.68	4.6	2.9	2.25	5.7	2.25	2.45
6	5.7	6.1	7.0	3.4	4.7	1.78	3.8	1.97	1.59	5.4	4.3	2.35
7	13.2	6.8	9.0	2.9	3.8	28	3.15	2.15	1.40	18.9	5.5	2.85
8	13.5	9.7	6.6	2.6	3.4	7.7	2.8	2.35	1.33	13.2	13.4	2.15
9	17.8	8.0	5.6	2.35	3.05	3.05	2.6	1.68	1.26	5.5	12.8	2.05
10	8.3	3.8	5.0	2.15	3.4	2.25	3.75	1.59	3.25	3.95	4.8	1.88
11	3.95	32	4.8	2.15	4.7	10.5	9.4	1.50	5.5	3.25	5.9	1.88
12	2.7	97	5.7	2.9	6.3	5.5	5.4	1.40	8.9	6.2	26	1.97
13	2.15	9.3	7.6	2.9	4.7	2.9	3.25	1.40	2.35	14.8	31.5	1.78
14	3.05	4.6	7.0	2.25	6.7	2.25	2.7	1.59	24	4.3	15.0	1.68
15	4.9	16.3	11.0	2.05	23.5	2.05	2.45	1.50	136	3.4	9.7	1.68
16	2.7	26	5.2	1.88	4.8	1.88	2.25	1.40	95	2.9	80	1.68
17	6.3	21	6.1	1.78	3.95	1.78	2.15	1.40	49	2.6	14.6	1.68
18	3.85	9.4	6.0	1.97	3.15	1.68	2.05	1.33	37	2.35	22	1.78
19	2.45	4.7	4.8	4.0	2.7	1.68	1.88	1.26	11.3	2.35	12.2	8.2
20	2.15	3.8	3.95	5.0	17.3	1.68	1.78	1.26	4.2	2.15	5.5	9.4
21	12.1	3.15	4.2	11.0	5.6	1.59	1.78	1.26	3.65	2.05	4.1	11.2
22	13.7	2.9	4.2	23	4.8	1.59	1.68	1.26	2.9	1.88	3.4	14.2
23	3.95	2.7	3.8	3.9	3.65	1.78	1.59	1.19	5.2	1.88	3.15	11.6
24	2.6	100	4.5	2.9	3.05	8.0	1.59	1.19	6.2	1.88	22	24.5
25	2.15	200	44	3.05	3.05	8.8	1.50	4.8	7.3	1.88	61	87
26	2.05	54	8.9	3.25	2.6	9.2	1.59	2.25	5.0	1.88	18.6	11.6
27	1.88	8.0	4.7	4.7	2.25	3.55	1.59	1.50	13.4	1.78	10.7	9.1
28	1.88	25	4.7	6.5	2.15	2.8	1.50	1.33	40	1.78	8.1	5.4
29	1.68	100	3.5	24.5	2.05	2.25	1.40	-	29	1.78	6.6	48
30	2.6	50	5.4	3.95	1.88	45	20	-	14.4	2.15	8.4	165
31	9.2	15	-	29	-	11.8	4.0	-	5.9	-	4.1	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	17.8	1.33	4.98	7.71	154	473
August	200	2.25	27.3	42.2	846	2,590
September	90	3.5	12.2	18.9	367	1,130
October	29	1.78	5.70	8.82	177	542
November	26	1.88	6.77	10.5	203	624
December	45	1.59	5.80	8.97	180	552
Calendar year 1940	200	.91	7.20	11.1	2,640	8,090
January	118	1.40	9.40	14.5	291	894
February	4.8	1.19	1.78	2.75	49.9	153
March	136	1.19	17.0	26.3	526	1,610
April	20.5	1.78	5.54	8.57	166	510
May	61	2.05	13.1	20.3	407	1,250
June	165	1.68	14.8	22.9	445	1,370
Fiscal year 1940-41	200	1.19	10.4	16.1	3,810	11,700

Note.- No gage-height record Aug. 24 to Sept. 10; discharge computed on basis of records for stations on all nearby streams.

Kapaula Stream below Government Road, near Nahiku

Location.- Concrete control, lat. 20°49'25", long. 156°06'55", 3,000 feet downstream from highway, 1.3 miles southwest of Nahiku, and 3.8 miles southeast of Keanae post office. Altitude of gage, 620 feet (by barometer).
Drainage area.- 0.5 square mile.
Records available.- July 1932 to June 1941. Records at same site collected by East Maui Irrigation Co. March 1927 to June 1932.
Extremes.- Maximum discharge during year, 723 million gallons a day (1,120 second-feet) Aug. 12 (gage height, 4.38 feet), from rating curve extended above 10 million gallons a day by logarithmic plotting; minimum, 1.1 million gallons a day (1.7 second-feet) Feb. 24.
1932-41: Maximum discharge, 960 million gallons a day (1,490 second-feet) Apr. 7, 1938 (gage height, 5.00 feet), from rating curve extended above 10 million gallons a day by logarithmic plotting; minimum, 1.1 million gallons a day (1.7 second-feet) several days in August 1934, January 1935, Apr. 22, 1940, and Feb. 24, 1941.
Remarks - Records good. Koolau ditch diverts water 4,000 feet above station, at 1,300 feet altitude, for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.2	0.7	0.7	11.4	1.6	74
.3	1.6	.8	15.6	1.8	97
.4	3.2	1.0	26	2.0	123
.5	5.3	1.2	39	2.2	153
.6	8.0	1.4	55		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.2	3.2	39	1.9	4.9	1.3	63	1.3	1.2	1.6	1.3	1.5
2	1.2	1.5	24	1.6	19.2	1.3	41	1.2	1.2	2.3	1.2	1.5
3	1.2	1.4	5.2	2.1	6.2	1.3	13.2	1.2	1.3	16.8	1.2	1.4
4	1.2	1.6	16.0	1.6	10.6	1.3	5.4	1.3	1.4	14.6	1.3	1.4
5	1.2	1.6	6.7	1.6	9.4	1.3	2.7	1.3	1.3	2.7	1.3	1.4
6	1.3	1.8	4.2	1.5	2.7	1.3	2.4	1.2	1.2	2.1	1.3	1.4
7	2.3	1.8	4.4	1.5	2.2	15.4	2.1	1.3	1.2	15.2	1.6	1.4
8	2.6	2.1	2.7	1.4	2.1	4.5	1.9	1.2	1.2	6.1	8.2	1.3
9	4.9	2.7	2.1	1.4	1.9	1.5	1.6	1.2	1.2	2.2	8.2	1.3
10	2.6	1.9	1.9	1.4	1.8	1.4	1.9	1.2	1.3	1.9	1.8	1.3
11	1.6	19.0	1.9	1.4	1.9	5.9	3.0	1.2	1.3	1.6	1.9	1.3
12	1.4	84	1.9	1.5	1.8	2.9	1.9	1.2	3.1	2.4	17.8	1.3
13	1.3	8.8	2.4	1.3	1.9	1.5	1.8	1.2	1.5	10.7	25	1.2
14	1.3	2.4	1.8	1.3	4.0	1.4	1.5	1.3	8.2	2.1	9.4	1.2
15	1.4	8.5	4.0	1.3	17.0	1.4	1.4	1.3	98	1.8	4.8	1.2
16	1.3	17.9	1.9	1.3	2.2	1.4	1.4	1.2	61	1.5	47	1.2
17	1.5	18.8	1.8	1.3	1.8	1.3	1.3	1.2	44	1.5	8.0	1.2
18	1.6	7.4	1.6	1.4	1.6	1.3	1.3	1.2	39	1.4	21	1.3
19	1.4	2.4	1.5	1.4	1.5	1.3	1.3	1.2	11.9	1.4	10.6	2.1
20	1.3	2.2	1.5	1.4	9.4	1.2	1.2	1.2	2.6	1.3	2.9	1.8
21	3.8	2.1	1.5	6.0	2.6	1.2	1.3	1.2	2.1	1.3	1.9	1.6
22	5.3	1.9	1.3	15.6	1.6	1.2	1.3	1.2	1.9	1.3	1.6	3.4
23	1.9	1.9	1.4	2.1	1.5	1.3	1.2	1.2	1.8	1.3	1.6	4.0
24	1.5	88	1.4	1.6	1.4	6.8	1.2	1.2	2.8	1.3	11.3	19.0
25	1.4	148	25	1.6	1.4	3.8	1.2	2.1	2.0	1.3	46	58
26	1.4	45	5.6	1.5	1.4	2.6	1.2	1.4	1.6	1.3	15.0	5.2
27	1.3	6.4	1.8	1.6	1.4	1.8	1.3	1.3	6.2	1.2	4.7	3.6
28	1.3	14.0	1.5	1.6	1.3	1.5	1.2	1.2	31.5	1.2	2.4	1.8
29	1.3	51	1.4	16.8	1.3	1.4	1.2	-	20.5	1.2	1.8	39
30	1.4	24.5	2.1	1.8	1.3	30.5	8.6	-	7.4	1.3	2.1	134
31	2.1	3.5	-	19.3	-	6.5	2.1	-	1.9	-	1.6	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	5.3	1.2	1.82	2.82	56.5	173
August	148	1.4	18.6	28.8	578	1,770
September	39	1.3	5.65	8.74	170	520
October	19.3	1.3	3.20	4.95	99.1	304
November	19.2	1.3	3.98	6.16	119	366
December	30.5	1.2	3.51	5.43	109	334
Calendar year 1940	148	1.2	4.27	6.61	1,560	4,800
January	63	1.2	5.59	8.65	173	532
February	2.1	1.2	1.26	1.95	35.4	109
March	98	1.2	11.7	18.1	363	1,110
April	16.8	1.2	3.46	5.35	104	319
May	47	1.2	8.58	13.3	266	816
June	134	1.2	9.92	15.3	298	913
Fiscal year 1940-41	148	1.2	6.49	10.0	2,370	7,270

Koolau ditch at Nahiku weir, near Nahiku

Location.- Masonry dam and weir control, lat. 20°48'55", long. 156°07'15", between Kapaula and Waiohue Streams, 3½ miles southwest of Nahiku, and 4 miles southeast of Keanae. Datum of gage is 1,289.14 feet above mean sea level.

Records available.- February 1919 to June 1941.

Average discharge.- 22 years (1919-41), 21.4 million gallons a day (33.1 second-feet).

Extremes.- Maximum discharge during year, 58 million gallons a day (90 second-feet) Sept. 25 (gage height, 1.66 feet); no flow Mar. 18, 19, 28, when water was shut out of ditch. 1919-41: Maximum discharge, 61 million gallons a day (94 second-feet) May 3, 1934 (gage height, 1.68 feet); no flow occasionally, when intake gates are closed.

Remarks.- Records excellent. Flow regulated by spillways and gates. Ditch diverts water, at altitude of about 1,200 feet, from nearly all streams from the Makapipi west to the Alo. Water used for irrigation in central Maui.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	7.7	27.5	50	26	33.5	12.0	48	11.4	6.2	25.5	10.S	21.5
2	6.7	15.3	50	23	42	11.7	52	9.9	6.0	35.5	10.5	19.2
3	6.4	13.3	42	27	38	11.4	38	9.6	6.7	45	10.5	18.1
4	7.2	22.5	50	22	45	10.S	32.5	10.2	14.4	48	18.4	17.0
5	6.7	20.5	42	19.9	38	10.5	35.5	12.3	9.0	35.5	11.4	16.0
6	14.3	23.5	48	19.9	29.5	10.5	28	9.6	7.4	31	16.4	15.6
7	31	24	52	17.S	24.5	35	22.5	9.9	6.9	45	20.5	17.0
8	33.5	31	48	16.4	22	24.5	19.5	10.5	6.4	42	24	14.6
9	45	31	42	15.0	19.5	14.3	17.8	S.7	6.4	30	35.5	13.6
10	30	22	38	14.3	19.9	12.7	20.5	S.5	10.8	25.5	23.5	13.0
11	19.9	42	35.5	14.3	22.5	26	24.5	S.2	14.S	22.5	25.5	12.7
12	16.0	40	35.5	16.0	25.5	22	22	7.7	26.5	27.5	45	12.7
13	14.0	38	40	14.6	22	15.3	17.0	7.7	12.0	42	4S	11.7
14	15.3	33.5	38	13.0	26	13.6	15.3	S.2	21	27	45	11.4
15	19.2	42	45	12.0	45	12.7	14.3	7.7	48	23.5	40	11.4
16	14.0	48	35.5	11.4	29	12.0	13.6	7.2	45	20.5	50	10.8
17	21	48	35.5	10.8	24.5	11.4	12.7	6.9	42	19.2	45	10.5
18	18.8	45	31	12.0	21	10.S	12.3	6.9	31.5	17.8	48	10.S
19	14.3	38.5	27.5	17.4	18.S	10.5	11.4	6.9	31.5	17.4	45	25
20	12.7	27.5	24	17.4	29.5	10.5	11.1	6.7	35.5	15.6	38	29.5
21	32	23.5	24.5	34	25	9.9	11.1	6.4	29	16.0	29.5	33.5
22	38	20.5	23.5	42	23.5	9.6	10.5	6.2	23	14.0	24	42
23	21.6	18.S	21.5	22	19.5	10.2	9.9	6.2	25.5	13.3	20.5	38
24	17.0	50	21.5	17.8	18.1	22.5	9.6	6.0	29	12.7	30	42
25	15.0	50	48	17.0	17.0	23	9.6	14.4	29	12.0	50	48
26	13.6	50	38	17.8	15.6	19.9	9.6	S.7	23	11.4	48	45
27	12.3	45	29	22	14.6	15.6	9.9	6.9	33.5	11.1	42	42
28	11.4	48	28.5	21	14.0	13.6	9.0	6.4	33.5	10.5	38	31
29	11.1	50	23.5	38	13.0	12.0	8.7	-	45	9.9	33.5	45
30	13.6	45	29	22	12.7	42	22	-	40	11.4	33.5	52
31	26.5	35.5	-	45	-	42	16.S	-	28	-	24	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	45	6.4	1S.2	28.2	566	1,740
August	50	13.3	34.3	53.1	1,060	3,270
September	52	21.5	36.6	56.6	1,100	3,370
October	45	10.8	20.6	31.9	639	1,960
November	45	12.7	25.0	38.7	749	2,300
December	42	9.6	16.7	25.8	518	1,590
Calendar year 1940	52	5.3	18.3	28.3	6,680	20,550
January	52	8.7	19.2	29.7	595	1,830
February	14.4	6.0	8.42	13.0	236	724
March	48	6.0	23.4	36.2	726	2,230
April	48	9.9	23.9	37.0	717	2,200
May	50	10.5	31.7	49.0	984	3,020
June	52	10.5	24.4	37.8	731	2,240
Fiscal year 1940-41	52	6.0	23.6	36.5	8,620	26,470

Waiaaka Stream near Nahiku

Location.- Concrete control, lat. 20°49'25", long. 156°07'00", 3,000 feet downstream from Government Road, 1½ miles west of Nahiku, and 3⅝ miles southeast of Keanae post office. Altitude of gage, about 650 feet (by barometer).

Drainage area.- 0.1 square miles.

Records available.- July 1932 to June 1941. Records at same site collected by East Maui Irrigation Co. March 1927 to June 1932.

Extremes.- Maximum discharge during year, 31.5 million gallons a day (48.7 second-feet) June 25 (gage height, 2.03 feet), from rating curve extended above 14 million gallons a day by tests on model of station site; minimum, 0.32 million gallons a day (0.50 second-foot) Feb. 12.

1932-41: Maximum discharge, 73 million gallons a day (113 second-feet) Mar. 6, 1933 (gage height, 1.87 feet, site and datum then in use), from rating curve extended above 1 million gallons a day by formula for V-notch weirs; minimum, 0.30 million gallons a day (0.46 second-foot) several days in October, November, 1933, and April, May, and June, 1934.

Remarks.- Records good. No diversions.

Rating tables, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.3	0.23	0.6	1.72
.4	.53	.7	2.7
.5	1.01	.8	4.0

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.34	0.65	1.70	0.61	0.75	0.40	2.75	0.40	0.37	0.57	0.40	0.53
2	.34	.53	1.51	.57	.80	.40	2.7	.40	.37	.70	.40	.49
3	.34	.49	1.13	.84	.70	.40	1.48	.37	.37	1.07	.40	.46
4	.37	.61	1.72	.61	.84	.40	1.13	.43	.40	1.13	.43	.46
5	.37	.61	1.13	.57	.87	.40	.95	.37	.37	.85	.40	.46
6	.37	.61	.95	.53	.70	.40	.85	.37	.37	.75	.47	.46
7	.49	.61	1.04	.53	.65	.49	.80	.40	.37	.85	.58	.49
8	.46	.65	.85	.49	.61	.46	.70	.37	.37	.70	.55	.46
9	.57	.90	.75	.49	.57	.43	.65	.37	.37	.70	.61	.43
10	.57	.70	.70	.49	.61	.40	.75	.37	.40	.65	.49	.43
11	.49	.80	.70	.49	.65	.68	.70	.34	.40	.61	.49	.43
12	.46	2.55	.65	.58	.57	.53	.61	.34	.53	.61	.57	.43
13	.43	1.78	.99	.49	.53	.46	.57	.34	.43	.85	.57	.43
14	.46	.80	.65	.46	.74	.43	.53	.37	.46	.61	.69	.43
15	.46	.75	.65	.46	1.03	.43	.53	.34	1.96	.61	.71	.43
16	.43	1.01	.61	.46	.65	.43	.49	.34	1.52	.57	.75	.40
17	.49	1.25	.61	.46	.61	.40	.49	.34	2.85	.53	.65	.40
18	.49	1.01	.57	.46	.57	.40	.49	.34	1.65	.53	.90	.40
19	.46	.85	.53	.43	.49	.40	.46	.34	1.64	.53	.90	.54
20	.46	.75	.53	.43	.57	.40	.46	.34	.80	.49	.75	.46
21	.46	.70	.53	1.60	.57	.40	.49	.34	.85	.49	.65	.49
22	.70	.65	.49	1.02	.57	.40	.46	.34	.76	.43	.61	.71
23	.53	.75	.49	.61	.49	.43	.43	.34	.75	.43	.57	.70
24	.49	1.94	.49	.53	.49	1.17	.43	.34	.93	.43	.73	1.42
25	.46	2.1	.92	.53	.46	.57	.43	.67	.61	.43	.70	2.35
26	.46	1.54	.61	.49	.46	.49	.46	.40	.61	.43	.70	.80
27	.46	.95	.53	.49	.46	.46	.43	.37	.70	.40	.61	.70
28	.46	.90	.53	.56	.43	.46	.37	.37	2.6	.40	.61	.61
29	.46	1.57	.49	.77	.43	.46	.37	-	.83	.40	.57	.70
30	.49	1.38	.86	.57	.43	1.45	.66	-	.65	.43	.57	2.75
31	.67	.95	-	1.77	-	.92	.43	-	.61	-	.53	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	0.70	0.34	0.467	0.723	14.5	44
August	2.55	.49	1.01	1.56	31.3	96
September	1.72	.49	.797	1.23	23.9	73
October	1.77	.43	.625	.967	19.4	60
November	1.03	.43	.610	.944	18.3	56
December	1.45	.40	.515	.797	16.0	49
Calendar year 1940	2.55	.34	.575	.890	210	645
January	2.75	.37	.744	1.15	23.0	71
February	.67	.34	.373	.577	10.4	32
March	2.85	.37	.835	1.29	25.9	79
April	1.13	.40	.606	.938	18.2	56
May	.90	.40	.599	.927	18.6	57
June	2.75	.40	.675	1.04	20.2	62
Fiscal year 1940-41	2.85	.34	.657	1.02	240	735

Paakea Stream near Nahiku

Location.- Concrete control, lat. 20°49'25", long. 156°07'05", 3,000 feet downstream from highway, 1½ miles west of Nahiku, and 3¼ miles southeast of Keanae post office. Altitude of gage, 650 feet (by barometer).
Drainage area.- 0.5 square mile.
Records available.- July 1932 to June 1941. Records at same site collected by East Maui Irrigation Co. March 1927 to June 1932.
Extremes.- Maximum discharge during year, 180 million gallons a day (279 second-feet) Aug. 12 (gage height, 4.58 feet), from rating curve extended above 20 million gallons a day by logarithmic plotting; minimum, 2.1 million gallons a day (3.2 second-feet) July 2, 3, Jan. 25, 26, 28-30, Feb. 11, 12.
1932-41: Maximum discharge, 234 million gallons a day (362 second-feet) May 2, 1937 (gage height, 5.48 feet), from rating curve extended above 20 million gallons a day; minimum, 1.8 million gallons a day (2.8 second-feet) Feb. 18, 19, 1936.
Remarks.- Records excellent. Koolau ditch diverts all low flow at altitude of about 1,200 feet for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.4	1.50	0.7	6.7	1.0	15.8	1.6	37
.5	2.9	.8	9.2	1.2	23	1.8	44
.6	4.6	.9	12.3	1.4	30		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.25	4.3	15.2	3.05	3.75	2.25	38.5	2.4	2.25	2.7	2.4	2.6
2	2.1	2.9	9.4	2.9	4.3	2.25	23.5	2.4	2.25	3.25	2.4	2.55
3	2.1	2.55	4.1	3.25	3.25	2.25	8.9	2.25	2.25	8.0	2.4	2.4
4	2.25	3.4	8.6	2.9	4.6	2.25	4.4	2.4	2.5	7.2	2.9	2.4
5	2.25	3.25	4.1	2.7	4.5	2.25	3.75	2.25	2.55	3.75	2.4	2.4
6	2.55	3.25	3.6	2.7	3.05	2.25	3.4	2.1	2.4	3.4	2.8	2.4
7	4.1	3.0	3.75	2.55	2.9	6.4	3.25	2.25	2.25	8.4	3.4	2.55
8	3.7	3.4	3.4	2.4	2.7	3.0	2.9	2.25	2.25	3.4	7.8	2.4
9	5.0	3.8	3.05	2.4	2.7	2.55	2.7	2.1	2.25	3.05	4.8	2.4
10	3.25	3.05	2.9	2.4	2.7	2.55	3.15	2.1	2.55	2.9	2.9	2.25
11	2.7	8.8	2.9	2.4	3.05	7.7	3.7	2.1	2.55	2.9	2.9	2.25
12	2.55	24	2.7	2.9	2.9	3.25	3.05	2.1	4.7	4.0	8.1	2.25
13	2.4	4.8	3.25	2.55	2.7	2.56	2.7	2.1	2.25	6.5	10.1	2.25
14	2.4	3.4	3.05	2.4	3.55	2.4	2.75	2.25	6.0	3.05	4.3	2.25
15	2.55	6.4	4.4	2.4	11.5	2.55	2.4	2.25	25	3.05	3.65	2.25
16	2.4	10.1	3.05	2.4	3.05	2.55	2.4	2.25	22	2.9	8.3	2.25
17	3.0	7.9	2.9	2.4	2.9	2.25	2.4	2.1	13.1	2.7	3.4	2.4
18	3.05	5.3	2.9	2.4	2.7	2.25	2.25	2.1	17.3	2.7	10.7	2.7
19	2.7	3.4	2.7	2.7	2.4	2.25	2.25	2.25	3.9	2.7	6.8	4.5
20	2.55	3.25	2.55	2.7	2.95	2.25	2.25	2.1	3.4	2.7	3.4	3.25
21	6.0	2.9	2.55	9.0	2.7	2.25	2.25	2.1	3.25	2.55	3.05	3.25
22	5.1	2.9	2.55	12.3	2.7	2.25	2.25	2.25	3.05	2.4	2.9	3.9
23	3.05	3.0	2.55	3.25	2.7	2.4	2.25	2.25	3.05	2.4	2.9	3.95
24	2.7	27	2.25	3.05	2.55	7.0	2.25	2.1	3.9	2.4	6.8	13.7
25	2.7	38	16.8	2.7	2.55	3.4	2.1	3.85	2.9	2.4	12.4	19.3
26	2.55	12.0	4.6	2.7	2.4	3.3	2.3	2.85	2.7	2.4	4.5	4.3
27	2.55	3.9	2.7	2.9	2.4	2.7	2.4	2.4	3.9	2.4	3.25	3.9
28	2.55	3.95	2.55	3.8	2.25	2.55	2.1	2.25	11.2	2.25	3.05	3.8
29	2.55	15.2	2.55	8.0	2.25	2.55	2.1	-	4.0	2.25	2.9	10.3
30	2.9	11.0	4.0	3.05	2.25	27	8.4	-	3.05	2.4	3.05	38.5
31	4.1	3.95	-	11.1	-	4.9	2.7	-	2.9	-	2.7	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	6.0	2.1	2.99	4.63	92.6	284
August	38	2.55	7.55	11.7	234	718
September	16.8	2.25	4.39	6.79	132	404
October	12.3	2.4	3.68	5.69	114	350
November	11.5	2.25	3.23	5.00	96.9	297
December	27	2.25	3.82	5.91	118	363
Calendar year 1940	38	2.1	3.74	5.79	1,370	4,200
January	38.5	2.1	4.89	7.57	152	466
February	3.85	2.1	2.28	3.53	63.8	196
March	25	2.25	5.41	8.37	168	514
April	8.4	2.25	3.44	5.32	103	316
May	12.4	2.4	4.62	7.15	143	440
June	38.5	2.25	5.18	8.01	155	477
Fiscal year 1940-41	38.5	2.1	4.31	6.67	1,570	4,820

Waiohue Stream near Nahiku

Location.- Lat. 20°49'05", long. 156°07'40", 200 feet upstream from intake to Koolau ditch, 300 feet upstream from ditch trail, 2¼ miles southwest of Nahiku, and 3¼ miles southeast of Keanae.
Drainage area.- 1.5 square miles.
Records available.- October 1921 to June 1941.
Average discharge.- 19 years (1922-41), 8.20 million gallons a day (12.7 second-feet).
Extremes.- Maximum discharge during year, 620 million gallons a day (959 second-feet) Aug. 12 (gage height, 5.68 feet), from rating curve extended above 50 million gallons a day; minimum, 1.99 million gallons a day (3.06 second-feet) Feb. 23, 24, Mar. 2.
1921-41: Maximum discharge, 760 million gallons a day (1,180 second-feet) Apr. 7, 1938 (gage height, 6.24 feet), from rating curve extended above 50 million gallons a day; minimum, 1.4 million gallons a day (2.2 second-feet) Nov. 25, 1933.
Remarks.- Records good except those for period of no gage-height record and those above 100 million gallons a day, which are poor. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.5	1.45	0.9	5.1	1.4	16.3	2.3	67
.6	2.05	1.0	6.6	1.6	24	2.6	93
.7	2.85	1.1	8.4	1.8	33.5		
.8	3.8	1.2	10.6	2.0	45		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.35	7.6	34.5	5.3	5.7	3.6	75	2.95	2.05	5.6	3.05	4.7
2	2.2	4.3	23.5	4.4	11.4	3.4	34.5	2.75	2.05	8.8	3.05	4.4
3	2.15	3.4	11.0	5.0	7.1	3.3	13.8	2.6	2.2	16.8	3.15	4.3
4	2.45	5.5	17.7	4.2	11.7	3.25	6.3	2.95	5.1	13.4	5.4	4.2
5	2.35	5.2	9.5	3.95	10.2	3.15	6.0	2.95	2.75	6.8	3.05	4.1
6	4.3	5.4	7.7	3.8	5.8	3.25	5.6	2.6	2.45	6.2	5.3	3.95
7	7.2	5.8	10.3	3.7	5.6	14.6	5.1	3.05	2.2	14.4	5.5	4.4
8	7.0	7.3	7.9	3.5	5.4	5.2	4.7	2.75	2.15	8.9	11.6	3.7
9	8.0	7.2	6.3	3.3	5.1	3.6	4.4	2.55	2.15	5.8	7.2	3.5
10	6.0	4.7	5.7	3.25	5.4	3.25	5.7	2.45	3.5	5.2	4.7	3.3
11	4.5	17.1	5.4	3.3	6.4	11.5	7.8	2.45	4.6	5.0	5.1	3.3
12	4.0	58	5.6	3.9	6.4	4.7	4.8	2.35	8.2	6.8	23	3.3
13	3.5	7.8	6.0	3.25	5.4	3.6	4.3	2.35	3.15	11.9	25	3.15
14	4.5	5.4	5.6	3.15	6.4	3.4	4.1	2.6	10.9	5.0	9.0	3.05
15	5.4	10.0	9.1	3.05	16.3	3.3	3.8	2.35	66	4.7	6.4	2.95
16	3.5	16.1	5.1	2.85	5.4	3.3	3.6	2.3	44	4.3	25	2.85
17	5.8	14.0	5.5	2.85	5.1	3.15	3.5	2.2	27	4.1	13	2.75
18	4.3	8.4	5.2	3.45	4.6	3.15	3.5	2.2	23	3.8	20	3.0
19	3.7	6.0	4.4	4.5	4.3	3.05	3.4	2.2	6.4	3.95	8.0	6.3
20	3.4	5.4	4.1	4.2	9.4	3.05	3.25	2.15	4.3	3.6	7.0	6.8
21	8.4	5.1	4.4	8.9	5.4	2.95	3.25	2.15	4.3	3.5	6.0	6.6
22	7.6	4.8	4.2	11.3	5.2	2.85	3.15	2.05	3.95	3.3	5.2	8.2
23	4.5	4.7	4.1	4.1	4.6	3.15	3.05	1.99	4.7	3.25	4.5	7.5
24	4.0	61	4.3	3.6	4.4	9.1	2.85	1.99	7.0	3.15	10	25.5
25	3.8	38	24	3.4	4.2	5.0	2.75	5.4	5.7	3.05	30	33
26	3.6	25.5	6.2	4.4	4.1	6.0	2.9	2.6	4.8	3.05	14	6.2
27	3.4	6.3	4.6	5.0	3.8	3.7	3.05	2.5	9.4	2.95	8.0	5.7
28	3.4	12.5	4.8	4.8	3.8	3.3	2.7	2.2	20.5	2.85	6.0	4.8
29	3.3	38	4.1	14.1	3.7	3.15	2.6	-	13.1	2.75	5.8	29.5
30	4.0	23.5	6.4	4.4	3.6	38	11.9	-	7.2	3.15	6.4	81
31	7.0	10.6	-	18.4	-	7.8	3.65	-	5.2	-	5.0	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	8.4	2.15	4.50	6.96	140	428
August	88	3.4	15.6	24.1	485	1,490
September	34.5	4.1	8.57	13.3	257	789
October	18.4	2.85	5.07	7.84	157	483
November	16.3	3.6	6.26	9.69	188	577
December	38	2.85	5.61	8.68	174	534
Calendar year 1940	88	1.75	5.66	8.76	2,070	6,360
January	75	2.6	7.90	12.2	245	752
February	5.4	1.99	2.55	5.95	71.3	219
March	66	2.05	10.0	15.5	310	951
April	16.8	2.75	5.87	9.08	176	540
May	30	3.05	9.50	14.7	294	903
June	81	2.75	9.53	14.7	286	878
Fiscal year 1940-41	88	1.99	7.65	11.8	2,780	8,540

Note.- No gage-height record July 9 to Aug. 2, May 12-14, 17-27; discharge computed on basis of records for stations on nearby streams.

West Kopiliula Stream near Keanae

Location.- Lat. 20°40'10", long. 156°08'15", 600 feet upstream from Koolau ditch crossing and highway bridge and 3 miles southeast of Keanae post office. Datum of gage is 1,292.30 feet above mean sea level.
Drainage area.- 3.9 square miles.
Records available.- January 1914 to September 1917, October 1921 to June 1941.
Average discharge.- 17 years (1922-34, 1936-41), 19.0 million gallons a day (29.4 second-feet).
Extremes.- Maximum discharge during year, 2,770 million gallons a day (4,290 second-feet) Aug. 12 (gage height, 7.47 feet), from rating curve extended above 75 million gallons a day; minimum, 1.48 million gallons a day (2.29 second-feet) Feb. 1, 28, Mar. 1-3.
1914-17, 1921-41: Maximum discharge, 4,020 million gallons a day (6,220 second-feet) Apr. 6, 1938 (gage height, 9.12 feet), from rating curve extended above 75 million gallons a day; minimum, 0.6 million gallons a day (0.9 second-foot) Sept. 15-17, 1917.
Remarks.- Records good. No diversions. Water used for irrigation in central Maui.

Rating tables, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Aug. 12

0.5	2.75	1.4	35
.6	4.2	1.7	59
.8	8.4	2.0	92
1.0	14.6	2.5	165
1.2	23.5	3.0	265

Aug. 13 to June 30

0.3	1.00	0.8	11.0	1.8	73	4.0	555
.4	1.95	1.0	18.2	2.0	95	4.5	750
.5	3.2	1.2	27.5	2.5	165		
.6	5.5	1.4	40	3.0	265		
.7	8.3	1.6	55	3.5	400		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.2	10.2	75	7.0	14.1	3.2	276	2.7	1.57	9.0	2.8	6.3
2	1.98	3.2	50	4.9	43	3.2	84	2.6	1.57	14.4	2.6	5.8
3	1.87	2.75	20	6.6	21	2.95	23.5	2.3	1.86	23.5	2.55	5.5
4	2.4	7.9	21	4.3	22.5	2.8	9.3	2.7	7.2	14.8	5.8	4.9
5	2.1	5.8	11.3	4.1	16.7	2.8	8.0	3.9	2.7	8.6	2.45	4.6
6	7.9	6.7	8.6	4.9	7.7	2.95	6.3	2.3	1.95	8.8	6.2	4.3
7	15.3	8.1	13.8	3.7	5.8	41	4.9	3.1	1.66	26	6.8	4.9
8	16.2	10.1	9.9	3.2	5.5	12.6	4.3	3.1	1.66	17.6	15.9	3.9
9	18.4	8.2	7.4	3.1	4.3	4.1	3.7	2.2	1.66	8.6	13.4	3.7
10	8.5	4.6	6.3	3.2	4.9	3.55	6.8	2.2	5.5	6.9	6.1	3.35
11	5.2	41	5.8	3.2	7.7	21.5	13.4	2.2	7.4	6.1	7.7	3.35
12	3.5	253	8.8	6.5	8.3	7.7	11.5	2.2	10.1	10.8	33.5	3.55
13	2.9	21	8.8	3.7	6.3	4.3	5.5	2.2	2.6	15.5	40	3.1
14	4.9	8.3	6.9	3.1	8.0	3.7	4.3	2.3	37	6.3	20.5	2.95
15	6.1	19.7	11.2	2.8	28	3.2	4.1	2.1	325	4.9	13.0	2.8
16	3.5	30.5	6.3	2.8	6.9	3.2	3.55	1.86	158	4.3	87	2.7
17	7.3	26.5	6.9	2.7	5.8	2.95	3.2	1.86	81	3.9	18.7	2.6
18	4.1	12.6	7.4	4.6	4.6	2.8	3.1	1.76	43	g3.9	22.6	3.2
19	2.9	7.7	6.6	9.6	3.9	2.8	2.95	1.66	13.2	3.7	12.6	12.4
20	2.55	5.8	5.2	6.0	37	2.8	2.8	1.66	6.9	3.2	6.9	13.0
21	16.4	4.9	5.5	14.7	14.7	2.7	2.8	1.57	5.5	2.95	5.5	14.9
22	12.2	4.3	4.9	23	9.0	2.6	2.7	1.57	4.1	2.8	4.1	18.6
23	3.75	4.3	4.3	5.5	6.6	3.2	2.7	1.57	7.8	2.7	3.7	15.2
24	3.05	275	6.6	4.6	6.6	12.6	2.6	1.57	7.2	2.7	23.5	38
25	2.75	630	52	4.6	5.5	12.3	2.6	8.5	9.9	2.6	86	151
26	2.55	113	11.9	6.1	4.6	23	2.9	2.8	8.0	2.45	26.5	16.2
27	2.4	12.0	6.3	6.9	3.9	6.6	3.0	1.57	84	2.3	15.3	13.4
28	2.3	30	6.9	5.6	3.55	4.6	2.3	1.57	80	2.2	12.7	8.0
29	2.2	115	4.3	14.5	3.2	3.7	2.2	-	55	2.1	10.9	95
30	4.7	56	6.5	5.8	3.2	48	22	-	30	2.95	13.8	421
31	11.0	21	-	38	-	18.0	5.8	-	12.0	-	7.4	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	18.4	1.87	5.91	9.14	183	562
August	630	2.75	56.7	87.7	1,760	5,400
September	75	4.3	13.5	20.9	406	1,250
October	38	2.7	7.72	11.9	239	734
November	43	3.2	10.8	16.7	323	991
December	48	2.6	8.75	13.6	271	833
Calendar year 1940	630	.98	11.4	17.6	4,180	12,820
January	276	2.2	17.2	26.6	533	1,640
February	8.5	1.57	2.42	3.74	67.6	208
March	325	1.57	32.7	50.6	1,020	3,120
April	26	2.1	7.55	11.7	227	695
May	87	2.45	17.3	26.8	536	1,650
June	421	2.6	29.6	45.8	888	2,730
Fiscal year 1940-41	630	1.57	17.7	27.4	6,450	19,810

g Computed from graph based on gage readings.

East Wailuaiki Stream near Keanae

Location.- Lat. 20°49'05", long. 156°08'25", 1,000 feet upstream from Koolau ditch crossing and trail and 3 miles southeast of Keanae post office.
Drainage area.- 3.7 square miles.
Records available.- December 1913 to October 1917, July 1922 to June 1941.
Average discharge.- 19 years (1922-41), 19.8 million gallons a day (30.6 second-feet).
Extremes.- Maximum discharge during year, 2,250 million gallons a day (3,480 second-feet) Aug. 12 (gage height, 8.40 feet), from rating curve extended above 300 million gallons a day; minimum, 1.92 million gallons a day (2.97 second-feet) Mar. 2, 3.
1913-17, 1922-41: Maximum discharge, 3,060 million gallons a day (4,730 second-feet) Apr. 6, 1938 (gage height, 9.26 feet), from rating curve extended above 300 million gallons a day; minimum, 1.0 million gallons a day (1.6 second-feet) Oct. 22, 23, 1917, Aug. 1, 2, 1922.
Flood of Dec. 24, 1921 may have reached a higher stage than 9.26 feet, the maximum given, but owing to destruction of station no data are available for this peak.
Remarks.- Records good except those for periods of no gage-height record, which are fair. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.4	1.50	1.0	6.0	2.0	28	3.6	151
.5	2.1	1.2	8.5	2.4	46	4.0	213
.6	2.7	1.4	11.5	2.8	72	4.5	310
.8	4.1	1.6	16.0	3.2	105	5.0	425

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.0	13.3	a90	8.2	13.9	4.3	226	3.0	2.05	8.1	4.2	5.8
2	2.6	4.3	a50	6.2	43	3.65	103	2.75	1.98	15.5	3.4	5.2
3	2.5	3.65	a26	6.8	22	3.35	33	2.65	2.4	32	3.25	5.4
4	3.3	10.4	28.5	5.5	25.5	3.2	9.6	3.25	11.0	f20	7.4	4.9
5	2.9	7.6	13.3	5.2	19.8	3.3	8.2	4.3	3.7	a11	3.1	4.6
6	11.1	8.8	9.9	5.8	8.0	3.35	6.6	2.85	2.5	a9.0	9.1	4.3
7	24	12.1	16.4	4.8	6.4	57	5.3	4.0	2.15	44	10.4	4.8
8	25.5	13.3	11.8	4.5	5.7	14.5	4.8	3.7	2.15	a16	30.5	4.0
9	30	10.1	8.2	4.3	5.1	4.6	4.4	2.7	2.15	a10	19.0	3.8
10	10.1	5.8	7.3	4.3	5.4	3.8	8.3	2.5	6.7	a8.0	7.7	3.65
11	5.4	63	6.7	4.4	8.2	34	16.6	2.5	9.0	a6.4	9.1	3.65
12	4.4	224	8.9	8.0	9.2	9.0	10.0	2.5	14.0	a12	54	3.9
13	4.0	24.5	10.3	5.3	6.6	4.6	5.5	2.6	3.35	24.5	65	3.35
14	6.0	9.6	7.7	4.1	11.7	3.9	4.7	2.85	51	7.0	29.5	3.3
15	8.0	28	16.2	3.9	40	3.6	4.4	2.5	275	5.8	16.1	3.2
16	4.6	42	7.5	3.65	7.1	3.7	4.0	2.4	197	5.0	98	3.1
17	9.3	34	8.1	3.5	6.1	3.35	3.8	2.3	108	4.6	21	3.0
18	5.6	22.5	8.1	5.8	5.1	3.2	3.7	2.2	68	4.5	32	4.0
19	3.8	8.4	7.6	13.6	4.7	3.15	3.6	2.15	15.2	4.5	15.4	16.5
20	3.4	6.7	5.9	7.6	48	3.2	3.4	2.15	7.3	4.0	7.7	17.4
21	29	6.0	6.0	18.6	16.4	3.15	3.55	2.1	6.0	3.9	6.1	19.6
22	19.1	5.4	5.8	24.5	8.4	2.95	3.35	2.1	4.9	3.7	5.4	21.5
23	5.4	6.2	5.6	5.5	6.6	3.9	3.15	2.05	9.4	3.65	4.9	17.1
24	4.2	f29e	10.0	4.8	5.9	18.4	3.1	2.1	10.6	3.4	31.5	55
25	3.9	a350	86	5.1	5.3	12.2	3.0	12.5	12.4	3.3	120	148
26	3.5	a70	17.0	6.8	4.5	28	3.5	3.95	7.5	3.2	36	15.7
27	3.2	a15	7.4	7.8	4.0	6.1	3.55	2.4	27	3.2	17.4	13.1
28	3.1	a40	8.1	7.6	3.9	4.4	2.9	2.1	68	3.1	13.2	7.5
29	3.0	a120	5.9	45	3.6	3.6	2.85	-	59	2.95	11.6	97
30	7.1	a60	8.7	6.7	3.6	75	33.5	-	28	4.4	14.4	318
31	20	a30	-	50	-	17.4	6.6	-	10.3	-	6.8	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	30	2.5	8.74	13.5	271	832
August	350	3.65	50.1	77.5	1,550	4,760
September	90	5.6	17.0	26.3	509	1,560
October	50	3.5	9.61	14.9	298	914
November	48	3.6	12.1	18.7	364	1,120
December	75	2.95	11.2	17.3	348	1,070
Calendar year 1940	350	1.74	13.1	20.3	4,770	14,650
January	226	2.85	17.4	26.9	538	1,650
February	12.5	2.05	3.04	4.70	85.2	261
March	275	1.98	33.2	51.4	1,030	3,150
April	44	2.95	9.56	14.8	287	880
May	120	3.1	23.0	35.6	713	2,190
June	318	3.0	27.3	42.2	820	2,520
Fiscal year 1940-41	350	1.98	18.7	28.9	6,810	20,910

a No gage-height record; discharge computed on basis of records for stations on nearby streams.
f Computed on basis of partly estimated gage-height record.

West Wailuaiki Stream near Keanae

Location.- Lat. 20°49'20", long. 156°08'35", 500 feet upstream from Koolau ditch crossing and trail bridge and 2¾ miles south of Keanae post office.
Drainage area.- 3.6 square miles.
Records available.- January 1914 to October 1917, November 1921 to June 1941.
Average discharge.- 19 years (1922-41), 25.2 million gallons a day (39.0 second-feet).
Extremes.- Maximum discharge during year, 2,740 million gallons a day (4,240 second-feet) Aug. 12 (gage height, 10.72 feet), from rating curve extended above 420 million gallons a day; minimum, 1.65 million gallons a day (2.55 second-feet) Feb. 22-24.
1914-17, 1921-41: Maximum discharge, 4,500 million gallons a day (6,960 second-feet), estimated, Jan. 14, 1923 (gage height, about 13.5 feet, from floodmarks), from rating curve extended above 420 million gallons a day; minimum, 0.3 million gallons a day (0.5 second-foot) July 28, 1922.
Remarks.- Records excellent. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.4	1.65	1.3	12.5	3.0	121
.5	2.1	1.6	22	4.0	270
.7	3.4	2.0	40	5.0	510
1.0	7.0	2.5	73	6.0	835

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.25	18.8	116	10.4	19.2	3.9	327	3.4	1.96	10.4	3.95	7.5
2	2.8	5.7	67	7.6	56	3.5	147	2.9	1.83	16.3	2.9	6.7
3	2.55	4.4	30.5	7.5	27	3.25	50	2.6	2.05	37	2.65	6.0
4	3.25	10.0	32	5.9	26.5	3.0	13.5	2.9	9.7	24.5	5.8	5.5
5	2.7	8.1	15.3	5.5	23.5	3.0	11.4	4.4	4.9	11.4	2.65	4.9
6	10.9	8.7	10.8	6.3	10.4	3.0	8.4	3.2	2.9	11.0	6.7	4.4
7	26.5	13.5	19.6	5.2	8.1	69	6.7	3.9	2.3	42	9.0	4.4
8	30	13.8	12.7	4.6	7.2	17.3	5.7	4.2	2.1	26.5	32	3.8
9	34.5	10.7	8.6	4.3	6.0	5.9	5.1	2.8	2.05	11.5	29	3.5
10	12.8	6.9	7.2	4.2	5.9	4.5	9.1	2.5	6.4	8.4	9.0	3.3
11	7.8	79	6.4	4.5	8.4	36.5	21.5	2.4	8.5	6.9	9.4	3.3
12	5.6	366	7.4	10.5	9.9	12.4	15.7	2.4	12.5	12.9	54	3.5
13	4.6	40	8.3	6.9	8.0	5.9	7.0	2.5	3.9	25	81	3.0
14	6.7	12.3	7.2	4.9	10.3	4.8	5.7	2.55	63	7.6	44	2.9
15	8.7	28	14.5	4.2	49	4.1	5.0	2.3	347	6.3	23	2.9
16	5.5	48	8.0	3.9	9.1	4.1	4.4	2.4	239	5.4	115	2.65
17	8.5	44	6.1	3.5	7.3	3.5	4.0	2.1	144	4.8	25	2.6
18	6.1	17.9	10.3	6.4	5.9	3.25	3.8	1.96	83	4.4	32.5	3.6
19	4.3	10.2	9.2	15.8	5.2	3.1	3.5	1.88	21	4.4	25.5	14.3
20	3.9	7.8	6.3	8.2	58	3.25	3.3	1.83	10.0	4.0	10.4	15.6
21	28.5	6.6	6.2	30	17.8	3.1	3.3	1.78	8.1	3.7	7.8	20.5
22	20.5	5.6	5.9	23.5	9.9	2.8	3.2	1.74	6.9	3.6	6.3	23.5
23	7.4	6.5	5.6	7.3	8.1	3.9	2.9	1.70	10.2	4.1	5.4	19.4
24	5.1	340	10.8	6.3	6.7	17.6	2.8	1.74	10.1	4.8	35.5	53
25	4.5	556	94	5.9	6.0	17.0	2.65	10.2	14.2	3.5	141	205
26	4.1	144	18.3	6.9	5.0	36	2.7	4.8	9.8	3.1	44	22
27	3.6	17.9	8.8	8.0	4.5	8.2	2.96	2.45	33	3.0	22.5	17.0
28	3.3	47	8.4	9.8	4.1	5.6	2.5	2.1	85	2.7	16.8	9.7
29	3.2	171	6.2	56	3.8	4.4	2.4	-	76	2.6	15.4	127
30	6.3	86	16.8	9.0	3.6	99	28.5	-	38	3.65	17.3	527
31	16.6	33	-	68	-	28.5	8.5	-	13.8	-	9.0	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	34.5	2.55	9.49	14.7	294	902
August	556	4.4	69.9	108	2,170	6,650
September	116	5.6	20.2	31.3	606	1,860
October	68	3.5	11.6	17.9	361	1,110
November	58	3.6	14.4	22.3	432	1,330
December	99	2.8	13.7	21.2	425	1,300
Calendar year 1940	556	1.60	16.6	25.7	6,090	18,690
January	327	2.4	23.2	35.9	720	2,210
February	10.2	1.70	2.92	4.52	81.6	251
March	347	1.83	41.1	63.6	1,270	3,910
April	42	2.6	10.5	16.2	315	968
May	141	2.65	27.2	42.1	844	2,590
June	527	2.6	37.6	58.2	1,130	3,460
Fiscal year 1940-41	556	1.70	23.7	36.7	8,650	26,540

Wailuanui Stream near Keanae

Location.- Concrete weir control, lat. 20°50'20", long. 156°08'30", 500 feet downstream from highway, 1.6 miles southeast of Keanae post office, and 3 miles northwest of Nahiku. Altitude of gage, 620 feet (by barometer).

Drainage area.- 1.8 square miles.

Records available.- July 1932 to March 1936, November 1938 to June 1941. Records at same site collected by East Maui Irrigation Co. March 1927 to June 1932.

Extremes.- Maximum discharge during year, 911 million gallons a day (1,410 second-feet) Aug. 12 (gage height, 7.32 feet), from rating curve extended above 90 million gallons a day by logarithmic plotting; minimum, 0.20 million gallons a day (0.31 second-foot) Feb. 24.

1932-36, 1938-41: Maximum discharge, 1,010 million gallons a day (1,560 second-feet) Mar. 4, 1939 (gage height, 7.03 feet), from rating curve based on standard Hofmann weir curve from 10 to 100 million gallons a day and extended above; minimum, 0.12 million gallons a day (0.19 second-foot) Oct. 10-12, 1933, datum then in use.

Remarks.- Records good. Koolau ditch diverts all low flow, at altitude of about 1,200 feet, for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.4	0.28	0.9	7.1	2.5	67
.5	.69	1.1	12.1	3.0	98
.6	1.45	1.3	18.0	3.5	145
.7	2.75	1.6	27	4.0	203
.8	4.8	2.0	42	4.5	271

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.45	12.1	71	2.0	4.8	0.59	145	0.45	0.25	1.26	0.59	0.94
2	.32	.87	54	1.85	21	.59	97	.41	.25	6.3	.54	.87
3	.31	.75	18.4	1.42	3.15	.54	42	.38	.31	33.5	.49	.87
4	.41	3.55	24	1.01	16.4	.64	4.2	.49	2.95	20.5	.97	.81
5	.38	1.62	5.2	1.09	12.1	.54	2.85	.54	.49	2.75	.54	.81
6	.66	1.45	3.1	.94	1.45	.64	2.0	.41	.31	2.0	1.06	.75
7	9.7	3.65	8.4	.81	1.26	32	1.55	.76	.28	33.5	2.7	1.08
8	12.6	4.8	2.8	.75	1.09	4.5	1.35	.64	.25	8.8	21	.69
9	28	4.3	1.66	.69	1.01	.64	1.17	.45	.25	1.55	14.4	.59
10	2.4	1.45	1.01	.64	1.01	.54	1.84	.38	.60	1.26	1.17	.59
11	.81	40	1.26	.64	1.73	31	7.8	.38	.67	1.17	f1.2	.54
12	.64	133	1.17	1.12	1.09	2.9	1.17	.34	8.3	5.3	45	.54
13	.59	23.5	1.38	.64	.94	.81	1.01	.38	.64	17.7	50	.45
14	.59	3.45	1.23	.59	5.0	.69	.94	.38	28	1.26	23	.45
15	.64	12.5	8.6	.54	38	.64	.87	.34	140	1.17	20	.45
16	.49	38	.94	.49	1.35	.69	.81	.28	130	1.01	54	.38
17	3.5	29.5	.87	.49	1.09	.59	.75	.25	78	.87	16	.38
18	1.51	13.4	.81	1.40	1.01	.54	.75	.25	70	.81	30	.41
19	.64	3.1	.64	4.2	.87	.54	.64	.22	11.1	.61	23	8.8
20	.59	2.15	.59	1.26	18.7	.54	.59	.22	1.89	.75	2.5	5.3
21	19.1	1.77	.59	15.5	3.4	.54	.59	.22	1.77	.64	1.5	5.5
22	15.3	1.65	.64	16.7	1.09	.49	.59	.22	1.35	.59	1.3	10.2
23	.94	2.25	.45	1.55	1.16	.75	.54	.22	1.44	.59	1.0	8.8
24	.75	136	.45	1.26	1.01	16.3	.45	.22	6.9	.59	38	39
25	.69	235	47	1.01	.81	4.8	.49	1.69	2.65	.54	70	95
26	.64	75	6.2	1.01	.75	10.4	.49	.54	1.09	.49	20	6.3
27	.59	5.5	.64	1.17	.69	.75	.69	.31	11.2	.45	3.5	3.3
28	.54	15.4	.87	1.53	.64	.69	.45	.28	50	.45	2.0	1.35
29	.59	87	.59	32	.59	.59	.45	-	32.5	.45	1.77	45
30	.88	61	11.8	1.01	.59	93	19.2	-	14.2	.54	4.8	189
31	9.1	17.5	-	47	-	15.4	1.19	-	1.45	-	1.09	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	28	0.51	3.69	5.71	114	351
August	235	.75	31.4	48.6	973	2,990
September	71	.45	9.21	14.2	276	848
October	47	.49	4.59	7.10	142	437
November	58	.59	4.79	7.41	144	441
December	93	.49	7.22	11.2	224	687
Calendar year 1940	235	.20	7.45	11.5	2,730	8,360
January	145	.45	10.9	16.9	339	1,040
February	1.69	.22	.416	.644	11.6	36
March	140	.25	19.3	29.9	599	1,840
April	33.5	.45	4.92	7.61	148	453
May	70	.49	14.6	22.6	453	1,390
June	189	.38	14.3	22.1	429	1,320
Fiscal year 1940-41	235	.22	10.6	16.4	3,850	11,830

f Computed on basis of partly estimated gage-height record.

Note.- No gage-height record May 12-28; discharge computed on basis of records for stations on the east and west branches.

East Wailuanui Stream near Keanae

Location.- Lat. 20°49'25", long. 156°08'40", 125 feet upstream from Koolau ditch intake, 250 feet upstream from trail, and 2¾ miles south of Keanae post office.

Drainage area.- 0.6 square mile.

Records available.- November 1921 to June 1941. January 1914 to October 1917 at site 500 feet upstream.

Average discharge.- 19 years (1922-41), 5.83 million gallons a day (9.02 second-feet).

Extremes.- Maximum discharge during year, 582 million gallons a day (900 second-feet) Aug. 12 (gage height, 5.41 feet), from rating curve extended above 50 million gallons a day; minimum, 0.45 million gallons a day (0.70 second-foot) Feb. 22.
1914-17, 1921-41: Maximum discharge, 1,050 million gallons a day (1,620 second-feet) Feb. 12, 1925 (gage height, 6.96 feet), from rating curve extended above 100 million gallons a day; minimum, 0.1 million gallons a day (0.2 second-foot) Apr. 11, 1926.

Remarks.- Records excellent. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.3	0.35	0.7	6.3	1.6	52
.4	1.00	.9	12.5	1.8	66
.5	2.5	1.1	22	2.0	83
.6	4.4	1.3	33		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.60	9.4	29.5	5.1	5.0	1.45	71	1.00	0.60	3.45	1.60	2.3
2	1.32	2.5	19.1	3.25	8.9	1.32	32	.91	.55	7.0	1.21	2.1
3	1.32	2.1	6.9	3.25	5.3	1.21	17.0	.91	.74	17.7	1.03	2.1
4	1.60	5.1	12.9	2.5	10.4	1.10	4.8	1.10	6.5	12.0	4.1	1.94
5	1.45	4.3	5.5	2.3	8.3	1.10	4.0	1.32	1.60	4.6	1.21	1.60
6	5.7	4.6	4.0	2.3	3.85	1.21	3.45	.82	1.00	4.1	4.7	1.60
7	10.7	6.8	7.2	1.94	3.05	13.7	2.9	1.61	.82	19.4	6.7	1.76
8	12.1	7.8	4.4	1.60	2.7	4.0	2.5	1.21	.74	7.0	13.7	1.32
9	18.0	6.7	3.25	1.60	2.5	1.60	2.1	.82	.74	3.85	8.6	1.32
10	6.7	3.85	2.9	1.45	2.5	1.32	4.5	.74	3.2	3.25	4.5	1.21
11	4.0	17.5	2.5	1.60	4.3	18.0	7.2	.66	4.4	2.7	5.0	1.21
12	3.05	74	2.7	4.6	5.0	4.4	3.05	.66	9.0	6.8	23	1.32
13	2.7	6.9	3.05	1.76	3.25	2.3	2.3	.66	1.94	10.5	22.5	1.10
14	3.3	4.2	2.7	1.45	5.9	1.94	1.94	.74	18.3	3.25	11.2	1.00
15	3.95	10.6	7.9	1.32	20	1.60	1.76	.66	35.5	2.7	8.7	1.00
16	2.7	17.1	2.9	1.21	3.85	1.76	1.60	.66	42	2.3	17.7	.91
17	6.6	12.9	3.0	1.10	3.05	1.45	1.45	.60	22.5	1.94	7.0	.91
18	4.7	7.6	2.7	3.75	2.5	1.32	1.45	.55	28.5	1.76	19.3	1.48
19	2.9	4.2	2.3	8.4	2.3	1.32	1.32	.55	5.9	1.60	12.9	7.7
20	2.6	3.45	1.94	3.6	6.5	1.32	1.21	.55	3.25	1.45	5.0	8.2
21	15.6	2.9	2.3	8.0	2.9	1.21	1.21	.50	2.7	1.32	3.45	6.8
22	12.2	2.7	2.3	9.8	2.9	1.10	1.10	.45	2.45	1.32	2.7	9.2
23	4.0	2.7	2.2	2.9	2.5	1.90	1.00	.60	4.9	1.21	2.3	8.1
24	3.05	48	4.5	2.5	2.3	8.7	1.00	.50	6.4	1.10	12.8	22.5
25	2.7	62	26.5	2.6	1.94	3.75	.91	4.7	4.7	1.00	26	32.5
26	2.3	20.5	6.8	3.5	1.76	7.7	1.00	1.21	3.45	1.00	10.3	5.7
27	1.94	4.6	3.25	3.6	1.60	2.3	1.10	.74	7.8	1.00	5.7	4.6
28	1.76	7.8	3.65	5.2	1.45	1.94	.91	.60	18.3	.91	4.7	3.45
29	1.60	32	2.5	14.4	1.46	1.60	.82	-	9.7	.82	5.3	21
30	3.45	20.6	7.3	3.25	1.32	46	9.4	-	4.6	1.64	5.2	65
31	9.9	8.5	-	21	-	8.6	1.81	-	3.45	-	2.9	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	18.0	1.32	5.01	7.75	155	477
August	74	2.1	13.7	21.2	424	1,300
September	29.5	1.94	6.25	9.67	188	576
October	21	1.10	4.22	6.53	131	401
November	20	1.32	4.28	6.62	128	394
December	46	1.10	4.78	7.40	148	455
Calendar year 1940	74	.50	4.74	7.33	1,730	5,320
January	71	.82	6.06	9.38	188	576
February	4.7	.45	.926	1.43	25.9	80
March	42	.55	8.27	12.8	256	786
April	19.4	.82	4.29	6.64	129	395
May	26	1.03	8.42	13.0	261	801
June	65	.91	7.36	11.4	221	678
Fiscal year 1940-41	74	.45	6.18	9.56	2,250	6,920

West Wailuanui Stream near Keanae

Location.- Columbus type control, lat. 20°49'40", long. 156°08'55", 150 feet upstream from Koolau ditch crossing and intake and 2¼ miles south of Keanae post office.

Drainage area.- 0.7 square mile.

Records available.- December 1913 to October 1917 and July 1922 to June 1941.

Average discharge.- 19 years (1922-41), 9.29 million gallons a day (14.4 second-feet).

Extremes.- Maximum discharge during year, 1,500 million gallons a day (2,320 second-feet Aug. 12 (gage height, 6.89 feet), from rating curve extended above 58 million gallons a day; minimum, 0.53 million gallons a day (0.82 second-foot) Feb. 23.
1913-17, 1922-41: Maximum discharge, that of Aug. 12, 1940; minimum, 0.2 million gallons a day (0.3 second-foot) July 16-21, 1922.

Remarks.- Records excellent. No diversions. Water used for irrigation of sugarcane in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.7	0.42	1.2	4.2	2.5	82
.8	.75	1.4	8.0	3.0	152
.9	1.30	1.7	17.5	3.5	245
1.0	2.0	2.0	33.5		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.48	8.4	36.5	6.2	8.0	1.74	88	1.30	0.63	5.2	2.1	3.6
2	1.30	2.65	29	3.6	17.5	1.60	53	1.11	.59	8.6	1.60	3.1
3	1.17	2.3	13.2	3.6	10.0	1.48	21	1.00	.80	17.6	1.64	2.85
4	1.60	5.7	15.6	2.75	12.5	1.36	6.9	1.23	6.5	12.6	4.4	2.55
5	1.42	4.6	8.2	2.65	9.8	1.36	5.6	1.48	1.87	6.0	1.42	2.4
6	5.7	4.8	6.2	2.75	4.8	1.42	4.2	1.00	1.05	5.6	4.8	2.2
7	10.2	6.4	8.9	2.3	3.95	17.7	3.45	1.99	.80	18.7	7.3	2.4
8	11.9	7.8	5.5	2.1	3.45	6.1	2.95	1.47	.75	9.4	14.9	1.90
9	15.6	7.0	4.2	2.0	2.95	2.4	2.65	.90	.75	5.2	9.5	1.74
10	6.2	3.8	3.8	1.90	2.85	1.90	5.3	.85	3.46	4.2	4.7	1.67
11	3.8	24	3.3	2.1	5.0	19.0	8.9	.85	4.3	3.6	5.2	1.60
12	2.85	148	3.3	5.8	5.2	4.8	4.7	.80	8.6	6.8	22	1.67
13	2.5	22	3.7	2.5	3.6	2.55	3.2	.85	1.67	11.8	25	1.48
14	3.4	7.6	3.45	2.0	6.1	2.1	2.75	.95	14.8	3.8	13.8	1.36
15	3.85	12.4	7.6	1.74	20	1.82	2.5	.80	101	3.45	11.8	1.36
16	2.5	18.2	3.45	1.60	4.2	1.90	2.2	.80	86	2.75	36	1.30
17	6.4	16.6	4.1	1.54	3.45	1.60	2.1	.66	58	2.55	9.8	1.17
18	4.3	9.8	3.6	4.9	2.75	1.48	2.0	.63	33.5	2.4	18.4	1.84
19	2.5	5.8	3.2	8.2	2.5	1.42	1.74	.63	9.0	2.4	16.7	8.0
20	2.3	4.5	2.65	4.0	16.1	1.42	1.60	.59	6.0	2.0	4.4	8.6
21	14.4	3.8	2.85	12.8	7.3	1.36	1.74	.56	4.1	1.90	3.1	7.5
22	11.3	3.45	2.75	10.2	4.4	1.23	1.54	.56	3.4	1.74	2.5	10.4
23	3.7	3.6	2.75	3.6	3.7	2.35	1.30	.53	5.2	1.94	2.2	8.3
24	2.85	95	4.8	3.1	2.95	7.9	1.30	.56	6.9	2.4	a25	25
25	2.55	188	29	2.95	2.65	4.6	1.17	5.5	5.7	1.74	f44	64
26	2.3	67	7.0	3.9	2.3	9.6	1.17	1.30	3.95	1.54	a17.7	9.2
27	2.0	11.1	3.8	4.0	2.1	3.1	1.23	.70	9.5	1.48	a11.8	6.6
28	1.82	14.4	3.95	5.0	2.0	2.3	1.00	.66	28	1.36	f8.5	4.5
29	1.74	52	2.85	17.2	1.82	1.82	1.00	-	22	1.30	7.4	33
30	3.45	38	7.2	4.1	1.67	48	10.2	-	15.6	2.2	7.2	152
31	9.8	14.1	-	24	-	9.8	2.45	-	6.7	-	3.95	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	15.6	1.17	4.74	7.33	147	451
August	188	2.3	26.2	40.5	813	2,490
September	36.5	2.65	7.88	12.2	236	725
October	24	1.54	5.00	7.74	155	476
November	20	1.67	5.85	9.05	176	539
December	48	1.23	5.39	8.34	167	513
Calendar year 1940	188	.47	6.44	9.96	2,360	7,230
January	88	1.00	8.03	12.4	249	764
February	5.5	.53	1.08	1.67	30.3	93
March	101	.59	14.5	22.4	450	1,380
April	18.7	1.30	5.08	7.86	152	467
May	44	1.42	11.3	17.5	349	1,070
June	152	1.17	12.4	19.2	373	1,140
Fiscal year 1940-41	188	.53	9.03	14.0	3,300	10,110

a No gage-height record; discharge computed on basis of records for stations on nearby streams.
f Computed on basis of partly estimated gage-height record.

Taro patch feeder ditch at Keanae

Location.- Parshall flume, lat. 20°51'40", long. 156°09'00", 500 feet northwest of highway bridge over Piinaau Stream at Keanae, 4¼ miles northwest of Nahiku, and 4⅝ miles southeast of Kailua.

Records available.- September 1934 to June 1941.

Extremes.- Maximum discharge during year, 19.0 million gallons a day (29.4 second-feet) Aug. 12 (gage height, 2.82 feet), from rating curve computed from 5 to 18 million gallons a day by Parshall flume formula and extended above; minimum, 0.17 million gallons a day (0.26 second-foot) Aug. 13.
1934-41: Maximum discharge, 19.4 million gallons a day (30.0 second-feet) Feb. 25, 1935 (gage height, 2.86 feet), from rating curve computed from 5 to 18 million gallons a day by Parshall flume formula and extended above; minimum, 0.05 million gallons a day (0.08 second-foot) Feb. 28, 1935, Apr. 7, 8, 1938, Mar. 5, 6, 1939.

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

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.0	2.4	3.5	3.1	2.65	2.1	5.7	2.1	2.15	3.0	2.65	3.2
2	2.0	2.1	3.2	2.85	3.15	2.1	4.5	2.1	2.05	3.2	2.65	3.15
3	2.0	2.1	2.75	2.85	2.75	2.05	3.3	2.1	2.15	4.0	2.6	3.0
4	2.1	2.25	2.85	2.6	2.9	2.05	2.25	2.1	2.55	3.6	2.65	2.95
5	2.0	2.25	2.75	2.55	3.05	2.05	2.1	2.1	2.2	3.25	2.6	2.85
6	2.0	2.2	2.75	2.5	2.7	2.05	1.96	2.1	2.1	3.1	2.65	2.8
7	2.0	2.25	2.85	2.5	2.65	3.2	2.15	2.15	2.1	4.2	2.7	2.8
8	2.05	2.35	2.65	2.4	2.75	2.35	2.35	2.2	2.1	3.6	3.2	2.75
9	2.35	2.35	2.6	2.35	2.65	2.0	2.4	2.15	2.05	3.15	3.3	2.75
10	2.1	2.2	2.6	2.25	2.65	2.0	4.8	2.15	2.1	3.0	2.6	2.75
11	2.05	2.8	2.55	2.25	2.9	2.75	3.0	2.15	2.1	2.95	2.55	2.75
12	2.0	3.45	2.5	2.9	3.0	2.4	2.4	2.15	2.15	3.3	4.2	2.7
13	2.0	1.88	2.5	2.45	2.75	2.1	2.4	2.15	2.1	3.65	4.7	2.7
14	2.0	2.45	2.4	2.4	2.7	2.1	2.4	2.2	3.05	3.0	3.9	2.75
15	2.0	2.5	2.5	2.35	4.0	2.1	2.35	2.2	7.3	3.0	3.5	2.75
16	2.0	2.75	2.4	2.3	2.75	2.1	2.35	2.25	6.7	2.9	4.7	2.75
17	2.0	2.85	2.4	2.25	2.65	2.1	2.3	2.25	5.3	2.8	3.3	2.7
18	2.0	2.55	2.3	2.45	2.25	2.1	2.25	2.25	4.6	2.75	3.7	2.7
19	2.0	2.35	2.3	2.95	2.2	2.15	2.25	2.25	3.3	2.7	3.95	3.25
20	2.0	2.25	2.25	2.6	2.5	2.15	2.25	2.2	2.85	2.65	3.4	3.2
21	3.55	2.25	2.25	3.15	2.25	2.15	2.25	2.15	2.8	2.65	3.3	3.4
22	2.35	2.25	2.25	2.7	2.15	2.15	2.25	2.15	2.7	2.65	3.25	3.5
23	2.1	2.3	2.2	2.4	2.15	2.15	2.25	2.15	2.85	2.7	3.2	3.55
24	2.1	4.2	2.3	2.3	2.15	2.55	2.25	2.15	3.2	2.7	3.85	4.2
25	2.05	5.0	a2.9	2.25	2.15	2.45	2.25	2.25	3.2	2.7	5.3	6.3
26	2.05	3.5	a2.4	2.15	2.1	2.5	2.25	2.3	2.85	2.7	4.0	3.5
27	2.05	2.5	a2.4	2.2	2.1	2.2	2.25	2.15	3.4	2.7	3.6	3.45
28	2.0	2.75	a2.6	2.25	2.1	2.15	2.2	2.15	4.4	2.65	3.6	3.2
29	2.05	3.75	a2.5	3.45	2.1	2.15	2.2	-	4.0	2.65	3.45	4.9
30	2.1	3.25	2.8	2.3	2.1	4.3	2.7	-	3.3	2.65	3.65	7.9
31	2.1	2.75	-	3.8	-	2.95	2.3	-	3.0	-	3.25	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	3.55	2.0	2.10	3.25	65.2	200
August	5.0	1.88	2.67	4.13	82.8	254
September	3.5	2.2	2.57	3.98	77.2	237
October	3.8	2.15	2.57	3.98	79.8	245
November	4.0	2.1	2.57	3.98	77.2	237
December	4.3	2.0	2.31	3.57	71.7	220
Calendar year 1940	5.0	1.88	2.38	3.68	860	2,640
January	5.7	1.96	2.60	4.02	80.6	247
February	2.3	2.1	2.17	3.36	60.8	186
March	7.3	2.05	3.12	4.83	96.7	297
April	4.2	2.65	3.02	4.67	90.6	278
May	5.3	2.55	3.42	5.29	106	325
June	7.9	2.7	3.37	5.21	101	310
Fiscal year 1940-41	7.9	1.88	2.71	4.19	990	3,040

a No gage-height record; discharge computed on basis of records for West Wailuanui Stream.

Koolau ditch near Keanae

Location.- Concrete dam control, lat. 20°49'55", long. 156°10'30", on west side of Keanae Valley, 2¾ miles southwest of Keanae post office and 5.1 miles southeast of Kailua.

Records available.- January 1910 to December 1912 (staff gage), November 1917 to June 1941.

Average discharge.- 23 years (1918-41), 66.7 million gallons a day (103 second-feet).

Extremes.- Maximum discharge during year, 168 million gallons a day (260 second-feet). Aug. 12; maximum gage height, 5.95 feet, June 30; minimum, 17.4 million gallons a day (26.9 second-feet) Mar. 2, 3.
1910-12, 1917-41: Maximum discharge, 175 million gallons a day (271 second-feet) Jan. 4, 1922 (gage height, 6.36 feet); no flow occasionally, when water was shut out of ditch.

Remarks.- Records excellent except those for period of no gage-height record, which are good. Flow regulated by gates and spillways. Ditch diverts water at altitude 1,200 feet from nearly all streams from the Makapipi west to the Alo for power and irrigation in central Maui. No diversions above station except from several spillways.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	28	109	161	97	118	37	131	31	18.7	87	36.5	64
2	23	48	161	68	136	35	134	28	18.7	123	31	57
3	21.5	41	148	72	125	33	140	26	21.5	140	30.5	53
4	28	86	153	57	135	31	107	31	78	137	73	51
5	24.5	79	129	53	126	31	101	39	37.5	108	31	46
6	86	83	115	57	83	31	76	28	24.5	97	69	44
7	134	90	135	48	68	110	64	38.5	21.5	132	91	51
8	133	124	118	44	69	91	55	35	20	138	72	39
9	144	107	97	39	53	44	48	26	20	94	118	37
10	106	68	87	39	56	37	80	24.5	56	76	83	35
11	64	125	79	39	79	101	110	24.5	73	64	90	35
12	46	116	85	74	83	82	89	23	105	84	132	37
13	23	76	98	48	64	48	55	23	35	124	138	33
14	84	97	90	37	76	41	49	26	70	76	139	31
15	71	128	106	33	122	37	44	23	122	64	125	31
16	44	153	86	33	76	37	39	21.5	122	57	138	29.5
17	82	153	88	31	68	33	37	21.5	134	51	140	28
18	64	133	84	52	57	31	35	20	134	48	137	38
19	41	97	77	86	51	29.5	33	20	118	48	127	92
20	37	76	69	71	86	31	33	18.7	90	41	108	126
21	116	68	62	109	101	29.5	33	18.7	76	39	79	125
22	130	57	62	117	83	28	31	18.7	62	37	64	138
23	64	57	55	62	a68	37	29.5	17.4	86	37	55	117
24	48	156	69	51	a57	67	28	17.4	92	37	92	126
25	24.5	157	148	51	a52	83	28	87	100	33	138	134
26	39	148	116	64	46	112	27.5	32.5	76	31	140	139
27	35	133	76	73	41	55	31	21.5	118	31	133	123
28	33	137	84	65	39	44	26	20	136	29.5	116	90
29	31	161	69	118	37	37	24.5	-	138	28	113	128
30	58	157	82	67	35	121	64	-	136	38	112	122
31	116	148	-	139	-	127	57	-	101	-	76	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	144	21.5	62.8	97.2	1,950	5,980
August	161	41	109	169	3,370	10,340
September	161	55	98.9	153	2,970	9,100
October	139	31	64.3	99.5	1,990	6,120
November	136	35	75.9	117	2,280	6,990
December	127	28	54.5	84.3	1,690	5,190
Calendar year 1940	161	16.2	60.0	92.8	21,950	67,390
January	140	24.5	59.3	93.3	1,840	5,640
February	87	17.4	27.2	42.1	761	2,340
March	138	18.7	78.7	122	2,440	7,490
April	140	28	71.0	110	2,130	6,540
May	140	30.5	97.6	151	3,030	9,290
June	139	28	73.3	113	2,200	6,750
Fiscal year 1940-41	161	17.4	73.0	113	26,650	81,770

a No gage-height record; discharge computed on basis of records for stations at Nahiku and Haipuaena, and Wailoa ditch at Honopou.

Honomanu Stream near Keanae

Location.- Columbus type control, lat. 20°50'10", long. 156°11'20", 500 feet upstream from Spreckels ditch intake and trail bridge and 3 miles by trail northwest of Keanae.

Drainage area.- 3.3 square miles.

Records available.- November 1913 to June 1941.

Average discharge.- 25 years (1916-41), 15.6 million gallons a day (24.1 second-feet).

Extremes.- Maximum discharge during year, 1,770 million gallons a day (2,740 second-feet) Aug. 12 (gage height, 8.37 feet), from rating curve extended above 300 million gallons a day; minimum, 0.36 million gallons a day (0.56 second-foot) Feb. 23.
1913-41: Maximum discharge, that of Aug. 12, 1940; minimum, 0.08 million gallons a day (0.12 second-foot) Mar. 24, 1928.

Remarks.- Records excellent except those for periods of no gage-height record, which are fair. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 gage height, in feet, and discharge, in million gallons a day)

0.6	0.32	1.2	3.95	2.3	70
.7	.53	1.4	7.9	2.6	104
.8	.86	1.5	15.0	3.0	162
.9	1.35	1.8	26	3.5	260
1.0	2.0	2.0	41	4.0	375

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.15	26.5	110	10	12.6	1.35	166	1.49	0.63	4.6	8.1	3.85
2	1.61	3.4	50	4.0	47	1.30	88	1.01	.53	16.5	2.1	3.05
3	1.30	2.4	22	3.3	16.9	1.10	22.5	f.83	.79	45	1.70	2.7
4	1.55	8.S	28	2.8	17.4	1.01	6.0	f1.09	29	45	7.8	2.9
5	1.78	5.9	13	2.5	19.4	1.01	5.4	f3.75	6.0	12.8	3.2	3.45
6	12.7	5.6	6.0	2.8	4.8	.96	3.05	1.74	2.05	8.1	6.3	2.8
7	23.5	10.2	15	f2.3	3.4	71	2.5	f10.6	1.25	31.5	9.9	2.25
8	26	9.4	8.0	1.94	2.7	12.0	2.1	6.8	.96	18.0	43	2.7
9	29	9.1	6.0	1.74	2.3	2.7	1.80	1.61	.83	6.8	30	3.0
10	9.2	3.95	5.0	1.61	2.1	1.60	5.4	1.10	7.7	4.4	8.1	2.0
11	4.3	58	4.0	2.1	3.2	24	20	1.01	5.5	3.4	10.0	2.1
12	2.8	193	4.5	7.3	5.9	9.0	13.6	.91	6.9	22.5	54	2.05
13	2.25	23.5	5.0	2.5	4.1	2.55	2.8	1.01	2.15	25.5	72	1.74
14	4.8	6.2	3.5	2.0	10.4	1.87	2.25	1.25	35	4.8	42	1.48
15	7.4	16.9	9.0	1.74	44	1.54	1.87	1.67	223	5.5	21.5	1.54
16	2.7	38.5	4.5	1.54	4.4	1.61	1.61	1.06	193	3.8	98	1.42
17	4.5	36	3.5	1.35	3.15	1.30	1.48	.76	103	2.7	19.0	1.20
18	3.2	14.9	18	4.4	2.5	1.10	1.35	.63	64	2.4	22	2.0
19	2.3	f5.6	6.0	15.5	2.15	1.06	1.25	.53	14.2	2.25	49	25
20	2.0	4.3	4.0	5.3	12.8	1.01	1.20	.47	5.6	2.3	10.8	19.1
21	32	3.7	3.0	50	7.6	.91	1.10	.42	5.4	2.0	4.8	27.5
22	18.0	3.2	3.2	9.6	4.4	.83	1.06	.40	4.0	1.80	3.5	24.5
23	4.7	3.5	2.8	3.65	3.0	1.58	.96	.38	3.75	7.6	2.9	16.6
24	2.8	230	7.0	2.6	2.25	9.2	.91	.42	3.75	3.35	47	56
25	2.5	250	110	2.65	1.94	8.4	.83	8.8	8.2	1.80	98	190
26	2.3	80	20	2.65	1.68	21.5	.79	3.15	5.8	1.48	32.5	18.4
27	1.87	9.0	5.0	4.7	1.54	3.3	.77	1.20	28.5	1.35	16.7	12.6
28	1.61	35	5.4	16.2	1.42	2.0	.73	.79	67	1.25	19.2	5.4
29	1.48	140	3.0	53	1.30	1.68	.70	-	61	1.10	17.4	126
30	10.9	100	16	4.8	1.25	44	f11.8	-	29.5	3.2	18.4	371
31	24	20	-	58	-	12.7	4.8	-	7.6	-	6.6	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	32	1.30	7.97	12.5	247	759
August	250	2.4	43.8	67.8	1,360	4,160
September	110	2.8	16.7	25.8	500	1,540
October	58	1.35	9.18	14.2	285	873
November	47	1.25	8.25	12.8	248	760
December	71	.83	7.92	12.3	245	753
Calendar year 1940	250	.38	11.8	18.3	4,330	13,280
January	166	.70	12.1	18.7	375	1,150
February	10.6	.38	1.96	3.03	54.9	168
March	223	.53	29.9	46.3	927	2,840
April	45	1.10	9.76	15.1	293	899
May	98	1.70	25.3	39.1	786	2,410
June	371	1.20	31.1	48.1	934	2,870
Fiscal year 1940-41	371	.38	17.1	26.5	6,250	19,180

f Computed on basis of partly estimated gage-height record.
Note.- No gage-height record Aug. 20 to Oct. 5; discharge computed on basis of records for stations on nearby streams.

Haipuaena Stream near Huelo

Location.- Lat. 20°51'05", long. 156°11'30", 200 feet upstream from inflow of Spreckels ditch, 3.3 miles southeast of Kailua, and 4.7 miles southeast of Huelo. Datum of gage is 1,512.22 feet above mean sea level (levels by East Maui Irrigation Co.).

Drainage area.- 1.1 square miles.

Records available.- October 1913 to June 1941.

Average discharge.- 25 years (1916-41), 10.1 million gallons a day (15.6 second-feet).

Extremes.- Maximum discharge during year, 6,100 million gallons a day (9,440 second-feet) Aug. 12 (gage height, 6.91 feet), from rating curve extended above 150 million gallons a day; minimum, 0.11 million gallons a day (0.17 second-foot) Feb. 23.
1913-41: Maximum discharge, that of Aug. 12, 1940; minimum, 0.10 million gallons a day (0.16 second-feet) June 18, 1940.

Remarks.- Records good. No diversions. Water used for irrigation in central Maui.

Rating tables, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Aug. 12				Aug. 13 to June 30					
0.1	0.10	1.3	10.8	-0.3	0.05	0.4	2.2	2.0	40
.2	.20	1.6	17.9	-.2	.12	.6	3.55	2.4	77
.3	.40	2.0	32	-.1	.25	.8	5.3	2.8	135
.4	.72	2.5	63	0	.48	1.0	7.8	3.2	225
.5	1.22	3.0	114	.1	.78	1.3	13.0	3.5	330
.6	1.90	3.5	175	.2	1.23	1.6	21		
.8	3.8	4.0	242						
1.0	6.2								

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.59	17.2	49	5.2	5.7	0.60	99	0.32	0.17	3.15	2.0	2.05
2	.28	1.76	27.5	2.35	16.8	.63	49	.16	.17	7.9	.87	1.61
3	.17	.97	10.0	1.90	7.3	.46	14.4	.13	.21	22	.34	1.28
4	.36	5.3	15.6	1.56	9.2	.36	4.0	.23	10.9	18.1	5.1	1.14
5	.31	3.9	6.6	1.46	9.5	.39	3.7	1.42	2.85	6.8	1.56	1.23
6	6.2	3.4	4.1	1.65	3.35	.46	2.1	.37	.92	4.6	3.7	.75
7	12.5	5.8	8.2	1.23	2.2	29.5	1.61	4.1	.34	18.6	6.3	1.00
8	17.1	7.6	4.6	.96	1.70	6.2	1.23	3.75	.21	10.3	20	.68
9	19.0	7.9	3.45	.75	1.42	1.42	1.00	.43	.20	4.6	15.8	1.00
10	6.3	2.85	2.6	.63	1.23	.78	2.55	.20	3.25	3.2	4.7	.43
11	2.65	32.5	2.0	1.38	2.2	17.5	10.4	.16	2.8	2.3	5.8	.39
12	1.56	225	2.15	6.8	2.85	6.2	4.2	.16	6.4	9.4	27	.46
13	.97	10.8	2.25	1.46	2.25	1.65	1.46	.18	1.33	14.8	37.5	.27
14	1.80	4.1	1.90	1.00	3.45	1.14	1.00	.22	12.1	3.15	17.7	.20
15	4.2	9.1	4.6	.72	29.5	.78	.78	.85	119	2.95	10.4	.21
16	1.20	18.2	2.65	.63	2.9	.96	.66	.18	103	2.1	40	.18
17	5.4	20.5	1.95	.54	1.95	.66	.60	.15	54	1.51	10.0	.18
18	3.45	8.9	8.6	2.45	1.42	.54	.48	.12	34.5	1.23	18.8	.55
19	1.36	4.4	2.95	7.6	1.18	.48	.36	.12	8.1	1.37	24.5	13.2
20	.87	3.2	1.70	3.6	3.2	.43	.32	.11	3.7	1.14	6.7	8.7
21	22.5	2.5	1.56	20.5	3.2	.39	.25	.11	3.4	.78	3.9	11.9
22	12.0	2.15	1.65	5.0	2.8	.34	.22	.11	2.8	.69	2.45	12.8
23	3.0	2.6	1.45	2.25	1.85	.77	.20	.11	3.25	2.25	1.85	11.0
24	1.56	140	3.35	1.56	1.28	5.1	.17	.11	4.7	1.42	18.9	34
25	1.07	165	47	1.61	.96	4.5	.16	4.9	4.3	.63	50	98
26	.77	56	6.8	2.0	.78	7.9	.15	1.60	3.7	.43	15.0	9.8
27	.46	5.5	3.0	2.55	.72	1.68	.15	.27	11.5	.39	8.4	6.9
28	.30	19.4	3.2	3.25	.63	.96	.15	.17	34	.32	8.7	3.7
29	.28	65	2.0	35.5	.54	.72	.15	-	23.5	.30	6.7	58
30	5.0	38.5	7.3	2.65	.51	32	5.1	-	10.9	1.42	7.8	284
31	12.5	10.8	-	32.5	-	6.1	2.4	-	4.0	-	3.2	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	22.5	0.17	4.70	7.27	146	447
August	225	.97	29.1	45.0	901	2,760
September	49	1.45	7.99	12.4	240	736
October	35.5	.54	4.94	7.64	153	470
November	29.5	.51	4.09	6.33	123	376
December	32	.54	4.25	6.58	132	404
Calendar year 1940	225	.12	6.61	10.2	2,420	7,420
January	99	.15	6.71	10.4	208	638
February	4.9	.11	.741	1.15	20.7	64
March	119	.17	15.2	23.5	470	1,440
April	22	.30	4.93	7.63	148	454
May	50	.54	12.4	19.2	386	1,180
June	284	.18	18.9	29.2	566	1,740
Fiscal year 1940-41	284	.11	9.67	14.8	3,490	10,710

Haipuaena diversion ditch at Kolea Gulch, near Keanae

Location.- Parshall flume, lat. 20°50'50", long. 156°11'40", on Haipuaena diversion ditch, 15 feet downstream from end of tunnel in Kolea Gulch, 3.1 miles southwest of Keanae, and 3.7 miles southeast of Kailua. Altitude of gage, about 1,800 feet (from topographic map).

Records available.- March 1938 to June 1941.

Extremes.- Maximum discharge during year, 25.1 million gallons a day (38.8 second-feet) Aug. 12 (gage height, 2.43 feet); minimum, 0.02 million gallons a day (0.03 second-foot) Apr. 29.
1938-41: Maximum discharge, that of Aug. 12, 1940; minimum, that of Apr. 29, 1941.

Remarks.- Records excellent. Ditch diverts water from Haipuaena Stream for East Maui Irrigation Co.'s hydroelectric plant about 1 mile downstream.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.72	3.4	4.1	2.05	2.2	1.19	4.9	1.07	0.80	2.05	2.05	2.1
2	1.51	1.98	3.6	1.58	.32	1.13	4.6	.95	.75	2.7	1.72	1.98
3	1.01	1.85	2.6	1.45	2.35	1.07	3.0	.85	.92	4.0	1.65	1.85
4	1.45	2.5	2.9	1.38	2.65	1.01	2.05	1.05	3.0	3.7	2.5	1.92
5	1.51	2.4	2.3	1.38	2.6	.95	1.92	1.65	1.92	2.6	1.98	1.85
6	2.65	2.35	1.98	1.45	1.92	1.01	1.65	1.13	1.51	2.35	2.3	1.72
7	3.25	2.6	2.4	1.31	1.65	3.35	1.51	1.86	1.19	3.7	2.65	1.72
8	3.55	2.8	2.05	1.25	1.58	2.05	1.45	1.99	1.07	3.05	3.35	1.72
9	3.9	2.8	1.85	1.19	1.45	1.38	1.38	1.19	1.01	2.35	3.5	1.72
10	2.65	2.3	1.72	1.13	1.45	1.19	1.76	1,01	2.0	2.15	2.5	1.58
11	2.1	4.3	1.58	1.29	1.58	2.45	2.5	1.01	1.92	1.98	2.6	1.58
12	1.92	4.9	1.58	2.15	1.85	1.98	2.1	.95	2.3	2.75	4.4	1.58
13	1.78	1.72	1.65	1.38	1.72	1.45	1.64	1.01	1.58	3.3	5.2	1.45
14	1.98	1.31	1.51	1.25	1.84	1.31	1.51	1.13	2.6	2.2	3.85	1.31
15	2.4	1.51	1.92	1.19	3.45	1.25	1.45	1.31	6.9	2.1	3.1	1.38
16	1.92	1.98	1.72	1.19	1.85	1.31	1.38	.95	7.0	1.92	5.2	1.25
17	2.5	2.05	1.51	1.13	1.65	1.19	1.25	.75	5.3	1.78	3.1	1.13
18	2.3	1.58	2.4	1.54	1.45	1.13	1.25	.75	4.5	1.72	3.7	1.43
19	1.92	1.31	1.72	2.45	1.45	1.07	1.26	.70	2.65	1.65	3.65	3.15
20	1.72	1.19	1.51	1.85	1.76	1.07	1.13	.65	2.1	1.65	2.7	2.9
21	3.6	1.07	1.45	3.05	1.85	1.01	1.13	.65	1.98	1.51	2.35	3.15
22	3.35	1.07	1.45	2.05	1.72	1.01	1.01	.65	1.92	1.45	2.1	3.2
23	2.3	1.08	1.39	1.72	1.51	1.19	1.01	.60	1.92	1.87	2.05	3.05
24	1.92	4.5	1.72	1.51	1.38	1.79	.95	.65	2.05	1.72	3.35	3.6
25	1.85	6.3	4.0	1.51	1.31	1.94	.95	1.94	2.2	1.45	5.5	6.7
26	1.72	3.8	2.4	1.51	1.25	2.4	.90	1.54	1.98	1.31	3.45	3.05
27	1.65	2.2	1.78	1.65	1.19	1.51	.90	1.07	3.0	1.25	2.9	2.65
28	1.58	2.95	1.85	1.91	1.13	1.31	.85	.90	4.4	1.25	3.0	2.3
29	1.51	4.5	1.58	2.55	1.13	1.19	.85	-	4.1	1.19	2.8	4.2
30	2.3	3.5	2.15	1.72	1.13	3.35	1.71	-	3.1	1,80	2.8	6.4
31	3.3	2.65	-	3.5	-	2.05	1.65	-	2.2	-	2.3	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	3.9	1.01	2.22	3.43	68.8	211
August	6.3	1.07	2.60	4.02	80.4	247
September	4.1	1.39	2.08	3.22	62.4	191
October	3.5	1.13	1.69	2.61	52.3	160
November	3.45	1.13	1.78	2.75	53.2	163
December	3.35	.95	1.53	2.37	47.3	145
Calendar year 1940	7.6	.45	1.89	2.92	692	2,120
January	4.9	.85	1.66	2.57	51.6	158
February	1.99	.60	1.07	1.66	30.0	92
March	7.0	.75	2.58	3.99	79.9	245
April	4.0	1.19	2.15	3.33	64.5	198
May	5.5	1.65	3.04	4.70	94.3	289
June	6.7	1.13	2.45	3.79	73.6	226
Fiscal year 1940-41	7.0	.60	2.08	3.22	758	2,320

Spreckels ditch at Haipuaena weir, near Huelo

Location.- Sharp-crested weir, lat. 20°51'20", long. 156°11'25", on Spreckels ditch trail between Haipuaena and Puohokamoa Streams, 3½ miles southeast of Kailua, and 5.1 miles southeast of Huelo. Datum of gage is 1,490.96 feet above mean sea level (levels by East Maui Irrigation Co.

Records available.- April 1922 to June 1941. February 1930 to October 1935 at site 100 feet upstream.

Average discharge.- 18 years (1922-29, 1930-41), 14.6 million gallons a day (22.6 second-feet).

Extremes.- Maximum discharge during year, 78 million gallons a day (121 second-feet) Aug. 29 (gage height, 2.14 feet); minimum, 0.12 million gallons a day (0.19 second-foot) Feb. 21-23.
1922-41: Maximum discharge, 139 million gallons a day (215 second-feet) Mar. 5, 1933 (gage height, 5.03 feet); no flow at times, when water was turned out of ditch.

Remarks.- Records excellent. Regulated by gates and spillways. Spreckels ditch diverts water from all streams between Nuaailua and Kailua, above Koolau ditch east of the Puohokamoa and below Koolau ditch west of the Puohokamoa. About 4 million gallons a day is diverted from Spreckels ditch to East Maui Irrigation Co.'s hydroelectric plant at Kolea Gulch. Water is used for irrigation in central Maui.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.6	29.5	62	17.6	18	1.49	49	0.75	0.15	12.8	8.9	8.8
2	1.25	8.2	51	10.0	38	1.22	48	.16	.15	22.5	3.6	6.7
3	.47	4.8	27	7.6	23	.43	53	.15	.64	42	1.46	5.6
4	2.05	17.0	35.5	5.6	28	.31	16.4	1.24	26.5	38.5	16.7	5.2
5	2.3	16.8	22.5	5.4	26	.31	14.9	6.5	11.3	22	5.7	5.8
6	16.7	15.6	16.0	6.9	12.3	.76	8.8	.88	3.9	18.4	14.2	3.45
7	27	19.1	23.5	4.1	8.8	41	6.2	11.7	.55	37	21	4.6
8	30.5	23.5	18.0	2.8	6.7	16.4	4.7	10.6	.23	26	23.5	3.95
9	37	23.5	13.5	2.0	5.0	5.4	3.45	1.06	.16	17.2	31	4.8
10	21	11.7	10.2	1.58	4.3	2.35	10.0	.23	12.0	12.4	17.6	1.91
11	11.4	35.5	6.9	4.9	11.9	30	23.5	.16	13.2	.92	19.6	2.0
12	7.1	25	7.8	19.1	15.6	15.8	15.7	.16	21	19.5	45	2.35
13	4.7	11.1	9.5	5.6	9.8	6.2	5.6	.19	4.9	32	54	1.11
14	8.1	8.0	7.3	3.6	16.3	3.6	3.9	.53	14.3	11.4	34	.43
15	15.0	18.0	16.1	2.45	34.5	2.15	8.95	1.40	71	11.1	25	.43
16	6.5	25	10.2	1.47	11.7	3.6	1.91	.16	68	8.2	52	.27
17	17.8	25	8.2	.97	8.2	1.58	1.58	.14	55	5.6	25	.16
18	13.5	17.6	21.5	9.0	5.2	.83	1.18	.14	48	4.1	35.5	3.2
19	6.2	14.8	12.3	23.5	3.9	.51	.76	.14	22.5	4.7	28	27.5
20	4.1	9.5	5.8	13.7	10.2	.39	.47	.14	13.2	3.45	18.0	23.5
21	31	7.3	5.6	32.5	13.7	.31	.35	.14	12.3	2.15	13.5	27.5
22	28.5	5.6	6.2	20	13.9	.23	.27	.12	9.2	1.25	9.2	29
23	12.7	7.1	5.2	9.1	9.0	3.7	.19	.12	13.6	6.7	7.3	26.5
24	6.9	36	11.5	6.5	5.4	13.2	.16	.14	15.8	5.2	25	34.5
25	5.4	24	48	6.8	3.75	15.4	.16	17.7	16.0	1.18	57	61
26	4.5	20	18.3	9.9	2.5	22	.15	6.2	12.9	.47	30	25
27	2.35	18.8	11.8	12.7	1.91	7.3	.14	.43	26.5	.39	23	21.5
28	1.58	34	13.5	13.9	1.25	3.75	.14	.16	48	.31	23.5	13.5
29	1.25	65	7.6	35	.90	2.0	.14	-	41	.23	20.5	37
30	11.6	48	21.5	1.02	.83	41	11.6	-	27	5.3	22	33.5
31	26.5	27.5	-	42	-	18.8	8.2	-	16.0	-	12.6	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	37	0.47	11.9	18.4	369	1,130
August	65	4.8	21.0	32.5	652	2,000
September	62	5.2	17.8	27.5	534	1,640
October	42	.97	10.9	16.9	337	1,040
November	38	.83	11.7	18.1	351	1,080
December	41	.23	8.45	13.1	262	804
Calendar year 1940	65	.12	10.4	16.1	3,810	11,710
January	49	.14	8.82	13.6	274	839
February	17.7	.12	2.19	3.39	61.4	189
March	71	.15	20.2	31.3	625	1,920
April	42	.23	12.4	19.2	373	1,140
May	57	1.46	25.3	36.1	725	2,220
June	61	.16	14.0	21.7	421	1,290
Fiscal year 1940-41	71	.12	13.6	21.0	4,980	15,290

Koolau ditch at Kaipuaena, near Huelo

Location.- Parshall flume, lat. 20°51'15", long. 156°11'15", 1,000 feet upstream from intake from Puohokamoa Stream, 3½ miles southeast of Kailua, and 4.7 miles southeast of Huelo.

Records available.- April 1932 to June 1941.

Extremes.- Maximum discharge during year, unknown due to missing gage-height record; minimum, 19.4 million gallons a day (30.0 second-feet) Mar. 2, 3.
1932-41: Maximum discharge, 203 million gallons a day (314 second-feet) Apr. 5, 1939 (gage height, 4.98 feet); no flow when water was shut out of ditch.

Remarks.- Records excellent except those for periods of no gage-height record, which are good. Flow regulated by flood gates. No diversions. Water used for domestic supply and irrigation in central Maui.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	34	125	183	111	131	45	164	37	20.5	89	47	67
2	29.5	55	183	72	162	41	183	32.5	20.6	132	39	63
3	28	46	162	76	137	38	154	31	23.5	183	35.5	59
4	32.5	98	176	63	155	35.5	112	34.5	100	176	88	55
5	31	85	149	59	149	35.5	108	46	47	122	39	52
6	99	89	119	63	89	35.5	85	32.5	31	103	75	50
7	151	90	149	52	72	139	67	52	26.5	162	110	55
8	162	134	131	50	63	104	59	46	23.5	155	86	46
9	176	119	103	46	59	50	55	31	23.5	99	142	44
10	118	72	89	44	59	42	84	29.5	63	82	89	41
11	68	148	85	50	80	118	132	28	70	67	99	41
12	52	130	85	94	65	98	94	26.5	123	98	174	42
13	46	82	99	52	67	52	59	28	42	147	181	39
14	59	120	94	44	82	46	52	31	83	80	176	35.5
15	80	140	116	41	155	42	50	28	178	72	144	35.5
16	50	170	94	39	80	42	46	26.5	178	63	176	34
17	90	170	89	37	72	39	44	23.5	176	55	162	32.5
18	74	150	114	61	63	35.5	41	23.5	176	52	169	37.5
19	48	110	85	109	55	35.5	39	22	133	52	149	115
20	42	80	67	80	87	35.5	37	22	94	48	123	131
21	131	70	63	137	108	34	37	20.5	80	46	85	149
22	157	64	67	130	89	31	35.5	20.5	67	44	72	162
23	72	64	58	67	72	41	34	19.4	94	48	63	135
24	55	175	76	59	63	e78	32.5	19.4	101	44	103	149
25	50	175	176	59	59	e94	31	93	104	39	183	183
26	44	170	132	67	52	130	31	41	80	37	169	155
27	41	150	85	79	48	59	35.6	26.5	133	35.5	149	137
28	39	160	89	71	46	48	29.5	23.5	176	34	135	94
29	37	170	67	f149	44	42	28	-	176	32.5	119	144
30	72	183	103	72	f42	f149	f74	-	155	45	127	175
31	134	162	-	171	-	143	69	-	103	-	80	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	176	28	74.3	115	2,300	7,060
August	183	46	121	187	3,760	11,530
September	183	58	110	170	3,290	10,090
October	171	37	74.3	115	2,300	7,070
November	162	42	84.2	130	2,520	7,750
December	149	31	63.2	97.8	1,960	6,010
Calendar year 1940	183	16.8	68.4	106	25,050	76,860
January	183	28	67.8	105	2,100	6,450
February	93	19.4	32.0	49.5	895	2,750
March	178	20.5	93.6	145	2,900	8,900
April	183	32.5	81.4	126	2,440	7,490
May	183	35.5	116	179	3,590	11,010
June	183	32.5	85.3	132	2,560	7,860
Fiscal year 1940-41	183	19.4	83.9	130	30,620	93,960

f Computed on basis of partly estimated gage-height record.
Note.- No gage-height record Aug. 12-29, Dec. 1-3; discharge computed on basis of records for station at Keanae.

Puohokamoa Stream near Huelo

Location.- Masonry dam control, lat. 20°51'20", long. 156°11'25", just upstream from Spreckels ditch inflow and trail crossing, 3 miles southeast of Kailua, and 4.4 miles southeast of Huelo. Datum of gage is 1,322.04 feet above mean sea level (levels by East Maui Irrigation Co.).
Drainage area.- 2.6 square miles.
Records available.- December 1910 to June 1941.
Average discharge.- 24 years (1917-41), 21.8 million gallons a day (33.7 second-feet).
Extremes.- Maximum discharge during year, 1,600 million gallons a day (2,480 second-feet) Aug. 12 (gage height, 7.81 feet), from rating curve extended above 400 million gallons a day; minimum, 1.9 million gallons a day (2.9 second-feet) Jan. 30.
1910-41: Maximum discharge, that of Aug. 12, 1940; minimum, 0.1 million gallons a day (0.2 second-foot) Nov. 17, 1929, site then in use.
Remarks.- Records good except those for periods of no gage-height record and those when control leaked, which are fair. Kula pipe line diverts small amount of water above station, at altitude 4,300 feet, for domestic supply.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.7	1.5	1.2	15.5	2.5	165
.8	2.6	1.5	36	3.0	252
.9	4.6	1.8	63	3.5	340
1.0	7.5	2.1	100	4.0	440

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	4.6	34.5	122	14.8	18.6	3.8	204	2.8	2.4	12.0	8.8	10.0
2	3.6	7.9	74	7.9	45	3.8	120	2.4	2.3	26	5.5	8.6
3	3.2	6.0	30.5	6.9	23	3.0	43	2.2	2.8	59	4.3	7.2
4	4.0	16.1	44	5.8	30	2.8	15.5	3.25	32.5	47	19.2	6.9
5	3.8	13.5	21	5.5	30	2.8	13.7	7.4	11.6	21.5	7.0	6.6
6	19.5	12.4	14.6	6.3	12.0	3.0	9.3	3.0	5.4	16.6	12.7	5.8
7	31.5	17.5	24	4.9	8.9	68	7.5	17.5	3.6	56	19.2	5.8
8	38.5	22.5	15.1	4.2	7.2	17.8	6.3	10.3	3.0	32.5	45	4.9
9	48	23.5	11.1	4.0	6.0	6.0	5.8	3.2	2.8	16.6	38	5.2
10	20	10.7	9.3	3.7	5.5	4.4	11.4	2.5	13.3	12.4	16.4	4.4
11	10.4	62	8.2	5.2	9.3	49	27.5	a2.2	11.4	10.3	19.2	4.4
12	7.5	219	8.6	21	10.7	21	14.4	a2.0	22.5	29	71	4.4
13	6.0	32	8.6	6.0	8.2	6.9	6.6	a2.2	6.0	43	88	3.8
14	9.0	15.1	7.2	4.4	13.8	5.2	5.5	a2.7	39.5	12.9	50	3.6
16	14.5	31	16.0	3.8	78	4.4	4.6	a3.5	229	12.2	31	3.4
16	6.8	53	9.7	3.6	12.0	4.6	4.2	a2.8	208	9.3	87	3.4
17	17.8	54	7.5	3.2	8.9	3.8	4.0	a2.5	120	1.5	32	3.0
18	11.3	28.5	24	9.7	6.9	3.4	3.6	a2.3	101	6.6	53	4.7
19	6.9	15.1	10.7	26	6.0	3.0	3.4	a2.1	25.5	6.6	59	38
20	5.5	11.5	6.6	11.8	9.3	2.8	3.2	2.0	14.2	5.8	23	26.5
21	55	9.7	6.0	55	10.6	2.6	3.0	2.2	12.4	5.2	16.6	33
22	30.5	8.2	6.3	16.8	11.1	2.5	2.8	2.0	10.0	4.6	11.5	36
23	10.7	9.1	5.5	8.2	7.5	4.4	2.6	2.0	12.0	12.7	9.3	31
24	7.5	232	9.8	6.3	5.8	20	2.5	2.3	15.4	6.6	46	77
25	6.3	312	116	6.3	4.9	16.8	2.4	19.9	15.5	4.4	110	198
26	5.5	128	25.5	7.2	4.6	22.5	2.3	7.1	12.0	4.0	40	28
27	4.4	21	10.7	9.0	4.2	7.1	2.2	3.2	34	3.8	26.5	20.5
28	4.0	51	12.0	10.1	3.9	4.6	2.2	2.6	75	3.8	29	13.3
29	3.8	155	8.2	88	3.6	3.8	2.0	-	59	3.2	22	103
30	14.9	100	22.5	9.7	3.6	76	21.5	-	29	7.7	24.5	414
31	37	36	-	80	-	18.5	8.2	-	14.6	-	12.9	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	55	3.2	14.6	22.6	452	1,390
August	312	6.0	56.4	87.3	1,750	5,370
September	122	5.6	23.2	35.9	695	2,130
October	88	3.2	14.7	22.7	455	1,400
November	78	3.6	13.6	21.0	409	1,260
December	76	2.6	12.8	19.8	397	1,220
Calendar year 1940	...2	1.8	16.8	26.0	6,160	18,910
January	204	2.0	18.2	28.2	565	1,730
February	19.9	2.0	4.29	6.64	120	369
March	229	2.3	37.0	57.2	1,150	3,520
April	59	3.2	16.6	25.7	499	1,530
May	110	4.3	33.5	51.8	1,040	3,180
June	414	3.0	37.1	57.4	1,110	3,420
Fiscal year 1940-41	414	2.0	23.7	36.7	8,640	26,520

a No gage-height record; discharge computed on basis of records for stations on nearby streams.
Note.- Discharge for periods of leaky control, Nov. 15 to Feb. 10, Feb. 20 to Mar. 14, computed on the basis of five discharge measurements and records for stations on nearby streams.

Manuel Luis ditch at Puohokamoa Gulch, near Huelo

Location.- Sharp-crested weir, lat. 20°51'50", long. 156°11'00", in Puohokamoa Gulch at lower portal of tunnel between Haipuaena and Puohokamoa Streams, 3 miles southeast of Kailua and 4.4 miles southeast of Huelo.

Records available.- December 1917 to June 1941.

Average discharge.- 22 years (1918-24, 1925-41), 5.98 million gallons a day (9.25 second-feet).

Extremes.- Maximum discharge during year, 92 million gallons a day (142 second-feet) Aug. 12 (gage height, 3.64 feet), from rating curve extended above 62 million gallons a day by weir and submerged orifice formulas; minimum, 0.17 million gallons a day (0.26 second-foot) Feb. 22-24.

1917-41: Maximum discharge, 116 million gallons a day (179 second-feet) Jan. 14, 1923 (gage height, 4.93 feet), from rating curve extended above 10 million gallons a day by weir and submerged orifice formulas; no flow Jan. 8, 1937, Oct. 2-5, 1939.

Remarks.- Records excellent. Ditch is extension of Center ditch and picks up water at altitude of 500 feet from streams between the Kolea and the Waiakamoi. Flow regulated by gates. Water used for irrigation in central Maui.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.51	14.4	45	4.6	3.75	0.56	47	0.34	0.25	1.70	0.74	1.00
2	.39	.93	36	1.31	17.3	.56	46	.25	.22	3.0	.45	.93
3	.39	.85	6.4	1.31	4.7	.51	25	.25	.34	20.5	.45	.79
4	.62	3.5	16.7	.93	9.3	.45	5.6	.39	e.0	18.7	2.05	.74
5	.51	2.55	4.6	.85	7.3	.45	4.0	.62	1.17	4.7	.51	.68
6	1.20	2.35	2.9	.85	2.65	.63	2.15	.28	.45	3.3	2.25	.74
7	3.6	2.7	4.6	.79	1.89	27.5	1.61	2.25	.34	18.4	5.0	1.31
8	8.0	4.0	2.25	.68	1.53	2.95	1.38	1.27	.28	3.2	13.2	.79
9	14.6	6.4	1.61	.68	1.31	.56	1.15	.34	.28	2.1	12.6	.62
10	2.75	2.55	1.38	.56	1.23	.45	2.5	.28	1.32	1.46	2.1	.56
11	1.00	25	1.08	2.25	3.1	20.5	3.9	.25	2.05	1.31	2.65	.51
12	.79	25	1.00	9.2	2.25	3.15	1.61	.25	7.2	6.8	22.5	.51
13	.68	21.5	1.00	1.00	1.38	.93	.85	.25	.93	14.6	30.5	.45
14	.74	4.2	.85	.79	4.3	.79	.79	.25	10.0	1.61	15.3	.39
15	1.28	5.5	2.1	.85	24	.68	.74	.25	68	1.46	7.3	.45
16	.62	9.7	1.16	.74	1.89	.79	.68	.22	64	1.08	37	.39
17	4.1	15.7	.74	.79	1.53	.62	.62	.20	40	.93	5.0	.39
18	1.85	3.95	3.8	3.35	1.15	.56	.62	.28	31	.79	21	.46
19	.68	2.1	1.08	8.4	1.00	.56	.51	.20	5.3	1.08	12.7	10.3
20	.56	1.89	.68	3.9	1.38	.51	.45	.20	2.75	.79	3.45	1.80
21	20	1.80	.62	5.9	1.61	.45	.45	.20	2.25	.74	2.65	2.9
22	7.1	1.46	.74	6.6	2.55	.45	.45	.20	1.53	.62	1.61	4.2
23	1.08	2.25	.51	2.15	1.48	.85	.39	.17	3.0	.86	1.31	7.1
24	.79	60	.79	1.70	1.23	10.9	.39	.20	5.8	.62	15.3	17.3
25	.68	68	31	1.46	.85	2.75	.34	5.4	2.25	.45	44	47
26	.62	48	3.4	1.61	.74	4.0	.34	.90	1.89	.45	10.4	3.9
27	.56	6.2	.85	2.35	.68	1.00	.28	.39	7.8	.45	3.65	2.65
28	.51	12.5	1.46	2.3	.62	.79	.28	.25	25	.45	4.1	1.70
29	.56	83	.68	22.5	.56	.68	.28	-	17.9	.39	2.65	23.5
30	1.87	32	10.4	1.70	.56	29	5.1	-	3.2	.56	2.35	68
31	7.9	5.6	-	29	-	3.75	1.07	-	2.15	-	1.38	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	20	0.39	2.79	4.32	86.5	266
August	68	.85	14.7	22.7	456	1,400
September	45	.51	6.18	9.56	185	569
October	29	.56	4.23	6.54	131	402
November	24	.56	3.46	5.35	104	319
December	29	.45	3.82	5.91	118	363
Calendar year 1940	68	.26	4.41	6.82	1,620	4,960
January	47	.28	5.05	7.81	157	480
February	5.4	.17	.580	.897	16.2	50
March	68	.22	10.2	15.8	317	972
April	20.6	.39	3.77	5.83	113	347
May	44	.45	9.23	14.3	286	878
June	68	.39	6.74	10.4	202	620
Fiscal year 1940-41	68	.17	5.96	9.21	2,170	6,670

Waiakamoi Stream above Wailoa ditch, near Huelo

Location.- Lat. 20°51'45", long. 156°11'55", 500 feet upstream from intake of Wailoa ditch, a quarter of a mile upstream from Spreckels ditch trail, and 3.8 miles southeast of Huelo. Datum of gage is 1,293.59 feet above mean sea level.
Drainage area.- 4.4 square miles.
Records available.- January 1922 to June 1941.
Average discharge.- 19 years (1922-41), 16.4 million gallons a day (25.4 second-feet).
Extremes.- Maximum discharge during year, 3,550 million gallons a day (5,490 second-feet) Aug. 12 (gage height, 8.65 feet), from rating curve extended above 370 million gallons a day by logarithmic plotting; minimum, 0.38 million gallons a day (0.59 second-foot) Feb. 23.
1922-41: Maximum discharge, 4,660 million gallons a day (7,210 second-feet) Oct. 16, 1924 (gage height, 10.45 feet), from rating curve extended above 370 million gallons a day; minimum, 0.32 million gallons a day (0.50 second-foot) Feb. 3, 4, 1940.
Remarks.- Records excellent. Haleakala Ranch and Kula pipe lines divert small quantities of water above station. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.7	0.28	1.1	1.45	2.0	23	3.5	177
.8	.49	1.3	2.9	2.3	39	4.0	277
.9	.76	1.5	6.1	2.6	61	4.5	410
1.0	1.07	1.7	11.2	3.0	102	5.0	590

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.5	30	102	11.2	15.5	1.57	181	1.62	0.68	6.8	4.2	4.8
2	1.63	4.6	64	4.7	43	1.75	85	.98	.57	15.0	2.55	3.75
3	1.30	2.9	25	3.45	21.5	1.26	22	.82	.75	48	1.93	3.3
4	1.69	6.5	34	2.8	19.7	1.04	7.7	1.13	17.8	45	9.1	2.9
5	1.75	7.9	16.8	2.65	24	1.04	5.7	5.2	6.9	18.1	3.65	2.9
6	7.9	6.8	8.2	3.05	7.9	1.15	4.2	2.0	2.95	10.4	5.8	2.55
7	17.5	9.6	16.4	2.65	5.0	57	3.3	14.2	1.52	30	9.8	2.75
8	19.3	12.2	10.0	2.05	3.9	16.0	2.75	10.2	1.11	22	30	2.2
9	27.5	12.6	5.9	1.81	3.3	3.95	2.4	2.1	.98	10.3	34	2.3
10	12.1	5.7	4.7	1.63	2.9	2.3	5.0	1.30	6.2	6.3	10.0	1.81
11	5.7	45	3.9	2.1	4.5	26	17.3	1.04	5.8	5.0	12.7	1.75
12	3.9	310	3.9	10.6	4.8	14.5	11.0	1.01	10.3	16.6	46	1.75
13	2.8	27.5	3.9	3.85	4.3	4.0	4.3	1.11	3.1	32.5	65	1.45
14	3.5	9.0	3.3	2.4	4.9	2.65	2.75	1.30	23	7.2	37	1.18
15	8.5	13.9	6.3	1.87	51	2.05	2.3	1.86	230	5.7	20	1.18
16	3.45	35	4.9	1.63	6.1	2.2	1.93	1.18	189	4.5	80	1.15
17	6.9	47	3.3	1.45	4.0	1.75	1.81	.82	99	3.45	21.5	.98
18	5.8	19.1	19.5	3.4	3.05	1.41	1.63	.68	65	2.9	27.5	1.53
19	3.45	9.0	9.4	12.1	2.65	1.34	1.37	.60	16.4	3.05	27	24
20	2.55	5.9	3.8	8.1	2.95	1.18	1.26	.54	7.9	2.75	12.6	15.5
21	23	4.8	2.8	44	5.7	1.07	1.18	.49	7.9	2.3	8.0	24.5
22	16.4	4.0	2.9	14.8	4.7	1.01	1.07	.45	6.3	2.05	5.4	19.2
23	5.8	4.3	2.3	7.3	3.6	1.88	.98	.43	5.6	6.9	4.3	17.5
24	3.6	275	3.05	3.6	2.55	9.5	.88	.52	7.2	4.0	27	48
25	2.9	469	92	3.3	2.15	13.3	.85	9.0	8.2	2.15	91	218
26	2.3	162	19.7	3.75	1.87	16.8	.76	5.0	6.8	1.69	26	18.0
27	2.05	14.5	6.2	4.0	1.69	4.9	.73	1.50	28.5	1.57	14.8	12.3
28	1.75	48	5.7	5.6	1.45	2.65	.71	.88	66	1.37	17.5	6.6
29	1.69	151	3.75	78	1.34	1.99	.68	-	55	1.22	13.5	127
30	7.8	84	10.0	6.6	1.34	31.5	10.9	-	30	2.05	16.6	580
31	17.1	20.5	-	60	-	10.1	7.2	-	10.4	-	7.7	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	27.5	1.30	7.23	11.2	224	688
August	469	2.9	60.0	92.8	1,860	5,710
September	102	2.3	16.6	25.7	498	1,530
October	78	1.45	10.1	15.6	314	965
November	51	1.34	8.71	13.5	261	802
December	57	1.01	7.70	11.9	239	735
Calendar year 1940	469	.34	15.0	20.1	4,760	14,600
January	181	.68	12.6	19.6	391	1,200
February	14.2	.43	2.43	3.76	68.0	209
March	230	.57	29.7	46.0	921	2,830
April	48	1.22	10.7	16.6	321	985
May	91	1.93	22.3	34.5	692	2,130
June	580	.98	38.4	59.4	1,150	3,530
Fiscal year 1940-41	580	.43	19.0	29.4	8,940	21,300

Alo Stream near Huelo

Location.- Lat. 20°51'50", long. 156°11'45", just upstream from Spreckels ditch inflow and trail crossing and 3.8 miles southeast of Huelo. Datum of gage is 1,248.38 feet above mean sea level.

Drainage area.- 0.2 square mile.

Records available.- December 1910 to June 1941.

Average discharge.- 30 years (1911-41), 5.05 million gallons a day (7.81 second-feet).

Extremes.- Maximum discharge during year, 644 million gallons a day (996 second-feet) Aug. 12 (gage height, 4.47 feet), from rating curve extended above 50 million gallons a day; minimum, 0.34 million gallons a day (0.53 second-foot) Feb. 23.
1910-41: Maximum discharge, 1,600 million gallons a day (2,480 second-feet) Nov. 18, 1930 (gage height, 6.90 feet), from rating curve extended above 15 million gallons a day; minimum, 0.2 million gallons a day (0.3 second-foot) Nov. 22, 23, 1932.

Remarks.- Records good. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.5	0.35	1.0	3.5	1.6	24
.6	.60	1.2	7.4	1.9	46
.8	1.55	1.4	13.8	2.2	76

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.96	8.0	25	3.4	3.85	0.76	70	0.52	0.45	2.65	1.04	1.55
2	.80	1.55	17.3	1.85	10.1	.80	38	.48	.42	4.9	.92	1.33
3	.72	1.28	6.0	1.62	5.4	.64	17.7	.45	.78	17.4	.71	1.16
4	1.12	6.8	13.6	1.28	12.0	.60	4.6	1.20	6.5	18.4	7.6	1.06
5	.84	4.5	5.0	1.33	8.3	.60	3.8	1.40	1.56	6.2	.90	.94
6	3.15	3.75	3.4	1.44	3.0	.94	2.2	.52	.85	4.5	5.1	.92
7	6.7	5.2	4.5	1.06	2.2	9.7	1.78	5.9	.64	14.2	10.3	1.65
8	10.1	7.1	2.9	.92	1.78	3.05	1.38	1.63	.58	8.0	12.0	.88
9	15.1	9.9	2.05	.84	1.50	1.02	1.28	.68	.55	3.65	7.7	.76
10	5.1	3.15	1.62	.80	1.39	.84	4.2	.55	2.55	2.9	3.6	.68
11	2.55	10.6	1.44	3.5	5.0	19.7	5.1	.52	3.75	2.4	6.1	.68
12	1.78	62	1.61	11.1	3.8	4.3	1.50	.50	12.3	2.75	15.1	.72
13	1.38	6.0	1.45	1.33	1.90	1.50	1.16	.52	1.55	15.4	18.4	.58
14	1.47	3.15	1.22	1.06	8.4	1.16	1.00	.61	3.3	3.25	10.3	.52
15	2.5	6.8	5.1	.92	17.9	.96	.92	.58	39	2.2	7.1	.55
16	1.25	15.4	1.85	.84	2.45	1.20	.84	.48	36.5	1.78	13.1	.50
17	10.0	15.6	1.26	.80	2.0	.88	.80	.42	26	1.44	6.3	.48
18	5.6	8.1	5.5	5.2	1.44	.76	.76	.42	23.5	1.28	23.5	1.03
19	1.78	4.0	1.68	8.8	1.22	.72	.68	.40	5.5	1.54	12.7	10.1
20	1.33	2.8	1.11	4.4	1.93	.68	.64	.38	2.9	1.61	5.3	4.1
21	13.6	2.15	1.21	8.9	2.15	.60	.59	.38	2.95	1.00	4.7	5.0
22	9.6	1.78	1.36	6.5	3.9	.68	.55	.35	2.05	.92	2.8	7.7
23	2.55	3.65	1.05	2.0	2.35	1.61	.55	.35	5.3	.84	2.1	6.8
24	1.78	55	2.05	1.62	1.64	11.3	.52	.38	9.8	.80	7.6	24.5
25	1.44	52	15.8	1.44	1.11	3.1	.50	8.6	3.95	.64	19.5	29
26	1.14	15.4	3.6	3.4	1.00	4.9	.50	1.15	2.9	.68	9.4	5.2
27	.96	4.0	2.35	3.4	.92	1.33	.45	.55	6.2	.55	5.5	3.3
28	.84	4.2	3.6	4.0	.84	1.11	.45	.50	18.6	.52	5.0	2.2
29	.84	29	1.60	17.9	.80	.88	.42	-	10.9	.50	3.85	6.3
30	2.8	20.5	12.0	2.55	.72	26	4.7	-	4.3	1.01	2.95	60
31	8.8	5.6	-	26.5	-	3.65	1.25	-	2.9	-	1.92	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	15.1	0.72	3.85	5.95	119	364
August	62	1.28	12.2	18.9	379	1,160
September	25	1.05	4.93	7.63	148	454
October	26.5	.80	4.22	6.53	131	401
November	17.9	.72	3.70	5.72	111	341
December	25	.58	3.38	5.23	105	322
Calendar year 1940	62	.30	3.92	6.07	1,440	4,400
January	70	.42	5.45	8.43	169	518
February	8.6	.35	1.09	1.69	30.4	93
March	39	.42	7.78	12.0	241	740
April	18.4	.50	4.13	6.39	124	380
May	23.5	.71	7.49	11.6	232	712
June	60	.48	6.07	9.39	182	559
Fiscal year 1940-41	70	.35	5.40	8.36	1,970	6,040

Kaaiea Stream near Huelo

Location.- Concrete weir control, lat. 20°52'05", long. 156°12'15", 700 feet upstream from Hamakua ditch trail crossing, 2 miles southeast of Kailua, and 3¼ miles southeast of Huelo.
Drainage area.- 0.5 square mile.
Records available.- December 1921 to June 1941.
Average discharge.- 19 years (1922-41), 4.86 million gallons a day (7.52 second-feet)
Extremes.- Maximum discharge during year, 460 million gallons a day (712 second-feet) Aug. 12 (gage height, 4.10 feet), from rating curve extended above 130 million gallons a day on basis of weir formula; minimum, 0.33 million gallons a day (0.51 second-foot) Feb. 23.
1921-41: Maximum discharge, 2,300 million gallons a day (3,560 second-feet) Nov. 18, 1930 (gage height, 7.93 feet, site and datum then in use), from rating curve extended above 50 million gallons a day; minimum, 0.26 million gallons a day (0.40 second-foot) Feb. 4.
Remarks.- Records good. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.2	0.26	0.6	4.0	1.0	15.2
.3	.60	.7	6.1	1.3	30.5
.4	1.30	.8	8.7	1.6	49
.5	2.4	.9	11.5	1.9	71

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.04	8.7	24.5	3.1	4.0	0.75	58	0.60	0.48	2.0	1.61	1.39
2	.81	1.68	15.3	1.68	10.0	.81	26	.52	.44	5.2	1.12	1.30
3	.70	1.30	5.3	1.47	5.1	.65	11.0	.48	.68	14.6	.88	1.20
4	1.04	5.8	11.9	1.20	11.1	.60	3.65	1.13	8.9	14.5	7.0	1.12
5	.81	4.5	4.6	1.20	8.1	.60	2.8	1.63	1.58	5.0	1.12	.95
6	3.45	3.5	3.0	1.39	2.8	.81	1.91	.60	1.12	3.65	4.9	.88
7	6.3	4.7	4.1	.95	2.0	10.5	1.47	5.9	.65	15.0	8.8	1.39
8	9.5	7.8	2.8	.88	1.58	3.3	1.20	1.79	.60	6.4	11.5	.95
9	14.7	9.0	1.91	.75	1.30	1.12	1.04	.75	.56	2.8	7.6	.81
10	5.4	3.0	1.68	.70	1.30	.88	3.95	.60	2.45	2.15	3.65	.70
11	2.3	11.2	1.39	2.9	4.3	18.4	4.5	.56	2.95	1.80	4.8	.70
12	1.47	54	1.39	9.4	3.65	4.3	1.47	.52	10.7	3.75	16.6	.81
13	1.20	6.5	1.47	1.30	2.0	1.58	1.12	.56	1.58	12.1	18.2	.65
14	1.12	2.8	1.30	.95	5.6	1.20	.88	.65	3.3	2.4	9.2	.60
15	2.5	7.9	5.3	.88	18.7	.95	.88	.75	38.5	1.80	6.2	.60
16	1.12	12.5	1.91	.75	2.55	1.12	.75	.52	32	1.47	13.7	.56
17	8.3	15.0	1.30	.70	2.0	.88	.75	.44	24	1.20	6.3	.56
18	5.4	8.0	4.2	4.0	1.47	.70	.75	.44	22.5	1.04	24	1.60
19	1.68	3.3	1.68	7.1	1.20	.70	.65	.44	5.0	1.30	9.9	10.2
20	1.30	2.15	1.20	3.85	1.30	.65	.60	.40	2.3	.95	5.0	5.2
21	14.0	1.80	1.12	10.2	1.68	.60	.60	.40	2.0	.88	4.4	5.6
22	6.6	1.39	1.39	5.8	3.3	.60	.56	.37	1.58	.81	2.4	8.9
23	2.45	3.0	.95	2.15	1.91	1.56	.52	.37	3.7	.81	1.80	6.9
24	1.68	62	2.2	1.68	1.47	10.2	.52	.40	7.6	.81	7.6	29.5
25	1.39	51	17.2	1.58	1.12	2.85	.48	8.8	3.35	.70	20.	25
26	1.12	15.9	4.1	3.25	.95	4.6	.48	1.44	2.3	.65	7.9	5.3
27	.95	3.15	2.3	3.3	.88	1.47	.44	.65	5.3	.60	5.1	3.3
28	.81	3.4	3.55	2.2	.88	1.20	.44	.56	16.3	.60	5.2	2.3
29	.81	27.5	1.58	20 .	.75	.95	.40	-	9.8	.56	3.65	12.1
30	3.05	21.5	9.3	2.55	.75	23	5.4	-	3.8	1.12	3.0	64
31	7.8	5.3	-	24.5	-	3.3	1.46	-	2.3	-	1.80	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	14.7	0.70	3.64	5.63	113	346
August	54	1.30	11.6	17.9	359	1,100
September	24.5	.95	4.66	7.21	140	429
October	24.5	.70	3.95	6.11	122	376
November	18.7	.75	3.46	5.35	104	318
December	23	.60	3.25	5.03	101	309
Calendar year 1940	54	.28	3.75	5.80	1,370	4,210
January	58	.40	4.41	6.82	137	419
February	8.8	.37	1.15	1.78	32.3	99
March	38.5	.44	7.04	10.9	218	670
April	15.0	.56	3.56	5.51	107	328
May	24	.88	7.28	11.2	225	690
June	64	.56	6.50	10.1	195	599
Fiscal year 1940-41	64	.37	5.08	7.86	1,850	5,680

Oopuola Stream near Huelo

Location.- Concrete weir control, lat. 20°52'15", long. 156°12'30", between Kaaiea and Naililihaele Streams, 100 feet upstream from Wailoa ditch intake, 300 feet upstream from ditch trail, and 4 miles southeast of Huelo.
Drainage area.- 0.2 square mile.
Records available.- August 1930 to June 1941. December 1910 to June 1915, at site half a mile downstream; records not equivalent.
Average discharge.- 10 years (1931-41), 1.83 million gallons a day (2.83 second-feet)
Extremes.- Maximum discharge during year, 313 million gallons a day (484 second-feet) Aug. 12 (gage height, 4.91 feet), from rating curve extended above 20 million gallons a day by tests on model of station site; minimum, 0.14 million gallons a day (0.22 second-foot) Feb. 21-25.
1930-41: Maximum discharge, 324 million gallons a day (501 second-feet) Jan. 18, 1932 (gage height, 5.12 feet), from rating curve extended above 20 million gallons a day by tests on model of station site; minimum, 0.09 million gallons a day (0.14 second-foot) Feb. 18, 19, 1936.
Remarks.- Records excellent. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.6	0.05	2.0	2.35	2.6	18.8
1.7	.23	2.1	3.75	2.8	30
1.8	.65	2.2	5.7		
1.9	1.32	2.4	11.2		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.28	3.4	8.2	1.35	1.61	0.36	18.9	0.21	0.19	0.75	0.32	0.55
2	.21	.55	5.1	.75	3.8	.36	14.5	.19	.19	1.88	.32	.45
3	.19	.45	1.80	.70	2.1	.32	6.8	.18	.33	6.3	.37	.40
4	.25	2.15	4.9	.55	5.0	.28	1.61	.59	3.0	7.2	2.1	.40
5	.25	1.77	1.80	.50	3.75	.28	1.32	.54	.65	2.4	.36	.36
6	.65	1.42	1.18	.60	1.18	.36	.75	.21	.45	1.47	1.99	.36
7	1.92	1.67	2.05	.50	.81	3.1	.65	2.9	.32	4.8	3.8	.84
8	3.05	2.65	.94	.36	.65	1.17	.50	.70	.25	1.56	4.6	.40
9	5.1	4.5	.65	.32	.55	.45	.45	.28	.23	.94	2.65	.36
10	1.90	1.25	.50	.32	.55	.36	1.58	.23	.89	.75	1.20	.32
11	.75	3.3	.45	1.36	1.97	7.8	1.74	.21	1.50	.70	1.80	.28
12	.55	30	.40	2.55	1.18	1.70	.55	.19	5.1	1.51	4.4	.28
13	.40	2.5	.40	.55	.70	.70	.45	.19	.75	6.0	5.6	.28
14	.40	1.18	.36	.45	3.0	.50	.40	.21	1.30	1.10	4.0	.25
15	.86	2.75	1.08	.36	5.9	.40	.32	.23	14.9	.81	2.75	.25
16	.36	4.8	.61	.32	1.02	.50	.28	.19	14.5	.65	4.3	.21
17	1.98	6.7	.40	.32	.81	.36	.28	.18	10.2	.60	2.55	.21
18	1.89	3.4	1.03	1.86	.60	.32	.28	.18	7.9	.50	6.1	.54
19	.50	1.51	.55	3.8	.55	.32	.25	.16	2.1	.85	3.15	7.2
20	.36	.94	.36	2.05	.55	.28	.25	.16	1.02	.55	1.76	1.33
21	3.2	.75	.32	3.3	.70	.28	.25	.16	.81	.40	1.52	1.80
22	2.85	.60	.50	3.15	1.55	.25	.23	.14	.70	.32	.81	2.1
23	.75	1.44	.32	.94	1.10	.79	.23	.14	1.77	.32	.65	2.05
24	.55	18.4	.61	.75	.86	4.9	.21	.14	3.35	.32	2.15	9.0
25	.40	16.7	4.8	.65	.55	1.41	.21	4.6	1.18	.28	4.9	11.1
26	.36	4.4	1.26	1.31	.50	1.19	.19	.55	.87	.25	2.7	1.80
27	.28	1.18	.75	1.51	.40	.55	.19	.28	1.76	.23	1.92	1.10
28	.28	1.19	1.30	1.27	.40	.45	.19	.21	7.1	.23	1.49	.70
29	.28	10.2	.55	6.0	.36	.36	.18	-	3.0	.23	1.02	1.85
30	.82	5.5	5.1	1.35	.36	5.1	1.33	-	1.18	.25	1.20	21
31	2.1	1.70	-	11.3	-	1.17	.50	-	.81	-	.65	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	5.1	0.19	1.09	1.69	33.7	103
August	30	.45	4.48	6.93	139	426
September	8.2	.32	1.61	2.49	48.3	148
October	11.3	.32	1.65	2.55	51.1	157
November	5.9	.36	1.44	2.23	43.1	132
December	7.8	.25	1.17	1.81	36.4	112
Calendar year 1940	30	.12	1.46	2.26	533	1,640
January	18.9	.18	1.79	2.77	55.6	171
February	4.6	.14	.505	.781	14.2	43
March	14.9	.19	2.85	4.41	88.3	271
April	7.2	.23	1.47	2.27	44.2	135
May	6.1	.32	2.36	3.65	73.1	224
June	21	.21	2.26	3.50	67.8	209
Fiscal year 1940-41	30	.14	1.90	2.94	695	2,130

Naililihaele Stream near Huelo

Location.- Masonry dam control, lat. 20°52'30", long. 156°13'05", 200 feet upstream from Wailoa ditch intake, 700 feet upstream from New Hamakua ditch trail, 1½ miles south of Kailua, and 2⅔ miles southeast of Huelo.
Drainage area.- 2.8 square miles.
Records available.- December 1910 to June 1918 and August 1919 to June 1941.
Average discharge.- 20 years (1920-24, 1925-41), 23.6 million gallons a day (36.5 second-feet).
Extremes.- Maximum discharge during year, 4,750 million gallons a day (7,350 second-feet) Aug. 12 (gage height, 8.64 feet), from rating curve extended above 130 million gallons a day; minimum, 2.7 million gallons a day (4.2 second-feet) Feb. 22, 23.
1910-18, 1919-41: Maximum discharge, that of Aug. 12, 1940; minimum, 0.45 million gallons a day (0.70 second-foot) July 14, 1920.
Remarks.- Records excellent except those above 200 million gallons a day, which are poor. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.8	1.70	2.4	20.5	3.6	179
1.9	3.1	2.7	41	4.0	290
2.0	5.2	3.0	73	4.5	470
2.2	11.4	3.3	119	5.0	710

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	7.2	62	173	19.5	19.5	5.8	378	5.0	3.5	15.0	11.0	12.2
2	6.0	10.0	81	11.1	52	6.0	139	4.2	3.1	28	8.0	10.7
3	5.2	8.7	34	10.0	27	5.0	48	3.75	3.75	78	7.0	10.0
4	6.3	24	57	9.0	50	4.6	17.4	6.9	40	69	31.5	9.4
5	5.8	19.4	26	8.7	41	4.6	15.0	10.9	11.8	26.5	9.0	8.7
6	18.7	15.9	19.5	9.7	16.4	5.0	11.4	5.2	8.0	21	18.9	8.0
7	32.5	25	28	8.0	13.0	53	10.0	32	5.2	83	32	9.4
8	51	34.5	19.0	7.2	11.1	21	9.7	12.7	4.6	39	68	7.7
9	71	37.5	14.6	6.6	10.0	8.0	9.0	6.0	4.2	21	38	7.2
10	26	14.6	12.6	6.3	9.4	6.0	16.8	4.6	13.0	16.4	19.3	6.6
11	13.4	69	11.4	9.2	20.5	86	30.5	4.4	14.0	14.2	25	6.3
12	10.7	471	11.1	47	16.4	26	11.4	4.2	43	30	90	6.3
13	9.4	34	10.7	9.4	11.8	9.4	9.0	4.2	9.7	67	99	5.8
14	10.1	17.4	9.7	7.5	35.5	7.4	8.0	4.6	30.5	15.9	51	6.2
15	17.7	42	21.5	6.6	112	6.6	7.4	4.8	317	14.6	34	6.2
16	9.4	63	12.8	6.0	13.4	7.2	6.9	3.95	252	11.8	80	5.0
17	35.5	79	10.0	5.8	11.4	6.0	6.6	3.5	172	10.0	37.5	4.8
18	23	37.5	18.2	16.7	9.7	5.2	6.0	3.3	171	9.4	121	7.3
19	10.7	19.5	11.1	33	8.7	5.0	5.5	3.1	30	10.4	45	59
20	8.7	15.0	8.7	17.6	8.7	4.8	5.2	3.1	17.4	8.7	27.5	31
21	86	12.6	8.3	90	9.7	4.6	5.2	2.95	14.6	7.8	25	33.5
22	35	11.4	8.7	26	14.6	4.4	5.0	2.8	12.2	7.4	15.9	45
23	13.2	14.4	7.2	11.8	11.1	8.1	4.6	2.8	16.6	10.8	13.4	39
24	10.4	374	11.3	10.0	8.7	48	4.4	2.95	28.5	8.3	51	138
25	9.0	462	125	9.7	7.2	20.5	4.2	37.5	18.4	6.6	112	229
26	8.0	117	25	13.8	6.6	21	4.2	9.4	15.0	6.0	38	30
27	7.2	22.5	12.6	14.2	6.3	9.0	3.95	4.8	31	5.8	29	22.5
28	6.6	32.5	16.6	16.5	5.8	7.2	3.75	3.95	95	5.2	33	15.4
29	6.3	196	10.4	137	5.5	6.0	3.75	-	60	5.0	23	90
30	21.5	154	46	14.3	5.8	97	25.5	-	26	7.3	23	540
31	39.5	41	-	140	-	15.9	10.9	-	15.9	-	14.2	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	86	5.2	20.0	30.9	621	1,910
August	471	8.7	81.8	127	2,540	7,780
September	173	7.2	28.7	44.4	861	2,640
October	140	5.8	23.8	36.8	738	2,270
November	112	5.5	19.3	29.9	579	1,780
December	97	4.4	16.9	26.1	524	1,610
Calendar year 1940	471	2.7	23.6	36.4	8,590	26,350
January	378	3.75	26.7	41.3	826	2,540
February	37.5	2.8	7.06	10.9	198	606
March	317	3.1	48.0	74.3	1,490	4,580
April	83	5.0	22.0	34.0	659	2,020
May	121	7.0	39.6	61.3	1,230	3,770
June	540	4.8	46.9	72.5	1,410	4,320
Fiscal year 1940-41	540	2.8	32.0	49.5	11,680	35,810

Kailua Stream near Huelo

Location.- Lat. 20°52'35", long. 156°13'25", just upstream from Wailoa ditch intake, 1¼ miles southwest of Kailua, and 2⅓ miles south of Huelo. Datum of gage is 1,252.99 feet above mean sea level.
Drainage area.-3.0 square miles.
Records available.- December 1910 to June 1918, July 1919 to June 1941.
Average discharge.- 22 years (1919-41), 18.8 million gallons a day (29.1 second-feet).
Extremes.- Maximum discharge during year, 4,000 million gallons a day (6,190 second-feet) June 30 (gage height, 8.81 feet), from rating curve extended above 150 million gallons a day; minimum, 1.53 million gallons a day (2.37 second-feet) Feb. 23, 24.
1910-18, 1919-41: Maximum discharge, 4,580 million gallons a day (7,090 second-feet) Apr. 7, 1938 (gage height, 9.10 feet), from rating curve extended above 150 million gallons a day; minimum, 0.07 million gallons a day (0.11 second-foot) June 27, 1921.
Remarks.- Records good. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.7	1.34	2.2	9.6	3.3	74	5.0	370
1.8	2.3	2.4	15.2	3.6	109	5.5	525
1.9	3.6	2.7	27.5	4.0	163	6.0	750
2.0	5.2	3.0	47	4.5	253	6.5	1,120

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	3.6	37.5	122	12.3	16.7	3.1	274	3.2	2.0	9.1	4.6	6.3
2	2.8	5.8	69	5.8	47	3.35	104	2.55	1.92	16.5	3.6	5.4
3	2.45	4.1	28	5.6	24	2.95	25.5	2.2	2.0	62	2.95	4.9
4	2.55	8.1	37.5	4.7	27	2.7	10.4	2.85	20	53	11.9	4.6
5	2.45	8.2	18.1	4.2	29.5	2.55	8.1	7.7	7.6	20.5	4.4	4.2
6	7.4	6.9	10.7	4.6	10.2	2.55	6.3	3.6	4.7	12.3	6.2	3.9
7	15.6	10.5	14.7	3.75	7.6	53	5.2	28	3.1	52	11.0	3.9
8	19.9	17.6	10.8	3.45	6.3	18.5	4.7	11.3	2.55	24	26.5	3.6
9	35.5	15.2	7.6	3.2	5.6	5.6	4.2	4.2	2.3	12.4	36.5	3.2
10	13.9	6.7	6.5	3.2	5.0	3.9	6.7	3.1	6.0	8.8	10.9	2.95
11	6.2	45	5.6	3.5	7.6	35	22	2.55	6.2	7.1	12.8	2.95
12	4.9	f160	5.2	19.6	6.9	20	8.7	2.45	14.9	24	58	2.8
13	3.9	39.5	5.0	f4.9	6.0	5.6	5.4	2.3	4.6	43	75	2.55
14	3.85	10.7	4.7	f3.6	9.3	4.2	4.6	2.45	34	9.4	38	2.45
15	9.6	19.7	6.5	3.2	66	3.75	4.1	2.55	309	7.8	23	2.3
16	4.4	35.5	5.6	2.95	8.6	3.75	3.6	2.45	224	6.2	78	2.2
17	8.0	53	4.6	2.8	6.5	3.35	3.35	2.1	125	5.2	28	2.1
18	9.4	20	7.8	5.0	5.2	2.95	3.2	2.0	102	4.7	46	2.65
19	4.6	9.9	7.3	16.4	4.7	2.8	3.1	1.92	23	4.7	15.2	29
20	3.7	7.6	4.4	8.8	4.9	2.7	2.8	f1.72	11.2	4.1	11.7	20.5
21	28	6.2	4.1	61	6.5	2.55	2.7	a1.63	9.4	3.75	13.7	27
22	15.2	5.2	3.9	18.2	6.9	2.45	2.7	a1.63	7.4	3.45	7.4	48
23	6.2	5.8	3.35	8.0	5.6	3.35	2.55	a1.53	6.9	6.2	6.2	22.5
24	4.4	319	4.1	5.4	4.6	21.5	2.45	f1.53	9.2	4.4	34.5	97
25	3.9	487	115	5.0	4.1	17.9	2.3	14.5	9.2	3.2	91	271
26	3.45	158	23	5.0	3.75	18.4	2.2	6.5	8.1	2.95	36	22.5
27	3.2	17.0	7.1	5.2	3.45	6.5	2.2	2.95	28.5	2.8	15.4	14.6
28	2.8	43	7.1	5.4	3.35	4.4	2.1	2.3	85	2.55	22.5	8.4
29	2.8	185	5.2	106	3.0	3.6	2.1	-	64	2.3	13.2	245
30	13.9	116	18.2	8.4	3.1	45	12.3	-	30.5	2.7	15.5	836
31	20.5	17.7	-	74	-	11.5	7.9	-	23	-	7.8	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	35.5	2.45	8.71	13.5	270	829
August	487	4.1	60.7	93.9	1,880	5,770
September	122	3.35	19.1	29.6	573	1,760
October	106	2.8	13.6	21.0	423	1,300
November	66	3.0	11.6	17.9	349	1,070
December	53	2.45	10.3	15.9	319	980
Calendar year 1940	487	1.27	15.0	23.2	5,480	16,810
January	274	2.1	17.8	27.5	551	1,690
February	28	1.53	4.42	6.84	124	380
March	309	1.92	38.3	59.3	1,190	3,540
April	62	2.3	14.0	21.7	421	1,290
May	91	2.95	24.8	38.4	767	2,360
June	836	2.1	56.8	87.9	1,700	5,230
Fiscal year 1940-41	836	1.53	23.5	36.4	8,670	26,300

a No gage-height record; discharge computed on basis of records for stations on all nearby streams.
f Computed on basis of partly estimated gage-height record.

Kolawalilili Stream near Huelo

Location.- Concrete weir control, lat. 20°53'15", long. 156°14'35", just upstream from Wailoa ditch intake, 2 miles west of Kailua, and 2 miles southwest of Huelo.
Records available.- April 1911 to June 1941.
Average discharge.- 29 years (1911-15, 1916-41), 5.06 million gallons a day (7.83 second-feet).
Extremes.- Maximum discharge during year, 379 million gallons a day (586 second-feet) Aug. 25 (gage height, 4.47 feet), from rating curve extended above 220 million gallons a day; minimum, 1.31 million gallons a day (2.03 second-feet) Feb. 16-24.
1911-41: Maximum discharge, 787 million gallons a day (1,220 second-feet) Feb. 7, 1939 (gage height, 5.42 feet), from rating curve extended above 220 million gallons a day; minimum, 0.2 million gallons a day (0.3 second-foot) June 6, 1926.
Remarks.- Records excellent except those for periods of no gage-height record, which are fair. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.3	0.75	1.8	8.7	2.6	50
1.4	1.50	2.0	15.2	3.0	88
1.5	2.7	2.2	24.5		
1.6	4.2	2.4	36.5		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.62	3.95	19.9	3.6	5.6	2.1	33.5	1.62	1.40	3.75	1.86	3.15
2	1.50	2.35	12.8	2.85	7.6	2.1	23	1.50	1.40	4.4	1.74	2.85
3	1.50	2.1	8.2	2.7	5.6	1.98	10.6	1.50	1.50	10.7	1.74	2.7
4	1.62	3.1	9.9	2.45	9.0	1.86	6.2	2.1	2.7	13.6	2.7	2.6
5	1.50	3.0	6.7	2.45	9.0	1.86	4.8	1.86	1.86	7.0	1.86	2.45
6	1.74	2.85	5.4	2.7	5.2	1.86	4.2	1.50	1.62	5.8	2.35	2.35
7	2.45	3.0	6.2	2.2	4.4	3.75	3.6	3.95	1.40	10.3	5.1	2.6
8	3.5	3.9	4.6	2.2	3.9	3.0	3.3	2.35	1.40	6.4	7.9	2.35
9	6.0	4.6	3.9	2.1	3.6	2.2	3.15	1.74	1.40	5.0	6.2	2.1
10	3.75	3.15	3.75	1.98	3.15	2.1	3.75	1.62	1.74	4.4	3.45	1.98
11	2.6	a5.0	3.3	2.1	3.9	7.9	4.0	1.50	1.86	3.9	3.6	1.86
12	2.45	a25	3.15	6.9	3.3	4.0	3.0	1.50	5.4	4.8	3.6	1.86
13	2.1	a7.0	3.0	2.35	a2.8	2.85	2.85	1.50	2.2	11.3	10.6	1.74
14	2.35	a4.5	2.7	2.2	a5.6	2.6	2.6	1.50	4.4	4.8	6.7	1.74
15	2.2	a6.0	3.15	2.1	a15	2.45	2.45	1.50	24.5	4.0	5.8	1.74
16	2.1	a8.0	2.6	1.98	a3.9	2.6	2.35	1.40	28	3.6	10.1	1.62
17	3.25	a12	2.45	2.1	a3.5	2.35	2.35	1.31	26.5	3.3	7.4	1.62
18	3.25	a7.0	2.45	3.15	a3.3	2.1	2.2	1.31	20.5	3.15	18.0	1.86
19	2.35	a4.5	2.35	5.8	a3.0	2.1	2.1	1.31	8.7	3.15	9.5	4.2
20	2.2	a4.0	2.2	3.9	3.15	2.1	2.1	1.31	6.0	2.7	6.4	3.15
21	3.9	a3.5	2.1	8.4	3.0	1.98	1.98	1.31	4.8	2.6	5.6	3.3
22	3.9	a3.2	2.1	6.5	3.3	1.86	1.98	1.31	4.0	2.45	4.2	3.9
23	2.6	a3.2	1.98	3.9	3.15	2.45	1.86	1.31	3.9	2.45	3.9	4.4
24	2.45	a70	1.98	3.6	2.85	6.8	1.74	1.31	5.2	2.2	5.2	13.7
25	2.35	a80	6.0	3.15	2.6	3.65	1.74	3.6	3.75	2.1	10.9	24
26	2.2	a25	3.3	3.75	2.45	2.85	1.74	1.98	3.3	2.1	6.4	6.0
27	2.1	8.0	2.6	3.3	2.35	2.45	1.74	1.62	3.75	1.98	5.2	4.8
28	1.98	6.7	2.85	3.15	2.35	2.35	1.74	1.50	11.2	1.86	4.8	3.9
29	1.98	20	2.45	10.3	2.2	2.2	1.62	-	6.7	1.86	4.0	5.0
30	2.45	18.3	5.9	3.75	2.1	6.0	2.2	-	4.8	1.86	3.75	51
31	3.1	8.4	-	20.5	-	3.15	1.86	-	4.0	-	3.3	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	6.0	1.50	2.55	3.95	79.0	243
August	80	2.1	11.7	18.1	361	1,110
September	19.9	1.98	4.67	7.23	140	430
October	20.5	1.98	4.13	6.39	128	393
November	15	2.1	4.36	6.75	131	402
December	7.9	1.86	2.89	4.47	89.5	275
Calendar year 1940	80	1.08	3.75	5.80	1,370	4,220
January	33.5	1.62	4.59	7.10	142	437
February	3.95	1.31	1.71	2.65	47.8	147
March	28	1.40	6.45	9.98	200	613
April	13.6	1.86	4.58	7.09	138	422
May	18.0	1.74	5.77	8.93	179	549
June	51	1.62	5.55	8.59	167	511
Fiscal year 1940-41	80	1.31	4.94	7.64	1,800	5,530

a No gage-height record; discharge computed on basis of records for stations on all nearby streams

Hoolawanui Stream near Huelo

Location.- Concrete weir control, lat. 20°53'15", long. 156°14'55", just upstream from intake of Wailoa ditch, 2 miles west of Kailua, and 2 miles southwest of Huelo. Datum of gage is 1,219.42 feet above mean sea level (levels by East Maui Irrigation Co.).
Records available.- December 1910 to June 1941.
Average discharge.- 29 years (1911-15, 1916-41), 8.06 million gallons a day (12.5 second-feet).
Extremes.- Maximum discharge during year, 2,080 million gallons a day (3,220 second-feet) June 30 (gage height, 5.07 feet), from rating curve based on weir rating between 100 and 375 million gallons a day and extended above; minimum, 0.90 million gallons a day (1.39 second-feet) Mar. 3.
1910-41: Maximum discharge, 2,980 million gallons a day (4,610 second-feet) Feb. 7, 1939 (gage height, 5.72 feet), from rating curve based on weir rating between 100 and 375 million gallons a day and extended above; minimum, 0.15 million gallons a day (0.23 second-foot) Oct. 25, 1917.
Remarks.- Records good except those for period of no gage-height record, which are fair. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.3	0.48	0.6	3.6	1.2	28.5	2.0	131
.4	1.13	.8	8.5	1.4	45	2.5	260
.5	2.15	1.0	16.6	1.7	80	3.0	440

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.48	9.2	53	5.2	7.3	2.55	98	1.58	0.97	6.2	2.4	5.2
2	1.22	2.8	27	3.8	13.3	2.55	43	1.38	.97	7.4	2.25	4.8
3	1.13	2.4	16.6	3.6	9.2	2.15	13.4	1.38	1.09	18.0	2.15	4.4
4	1.28	3.75	17.7	3.1	13.8	2.0	8.5	2.15	4.0	18.7	4.4	4.0
5	1.13	3.6	11.7	3.1	12.6	2.0	6.8	2.35	1.97	10.3	2.4	3.8
6	1.68	3.25	9.6	3.1	7.6	1.90	5.6	1.48	1.38	8.9	3.1	3.45
7	2.95	4.3	10.8	2.65	6.5	8.4	4.8	6.7	1.22	21	6.2	3.6
8	4.9	6.2	8.2	2.65	5.6	4.8	4.4	3.3	1.13	13.0	10.4	3.1
9	9.1	5.9	7.0	2.4	4.0	2.8	4.0	1.79	1.05	9.2	9.7	2.96
10	4.7	3.8	6.2	2.4	4.8	2.4	5.1	1.58	1.68	7.6	5.0	2.8
11	2.8	10.8	5.6	2.6	5.4	13.4	6.8	1.38	1.68	6.5	5.4	2.65
12	2.4	66	5.2	8.7	4.8	6.2	4.0	1.38	5.8	9.1	18.0	2.56
13	2.15	12.3	5.0	2.95	4.2	3.45	3.45	1.38	2.0	16.9	21.5	2.4
14	2.15	7.9	4.6	2.65	7.4	3.1	3.25	1.38	6.8	7.0	11.6	2.25
15	2.8	10.0	5.0	2.4	21.5	2.8	2.95	1.28	67	6.5	9.8	2.15
16	2.15	13.7	4.2	2.25	5.4	3.1	2.8	1.22	62	5.4	22	2.0
17	3.75	19.0	4.0	2.4	4.8	2.55	a2.7	1.13	49	5.0	13.4	1.90
18	4.2	11.4	4.0	3.9	4.4	2.4	a2.6	1.13	50	4.6	32.5	2.2
19	2.55	7.9	3.45	6.7	4.0	2.25	a2.5	1.05	14.4	4.4	13.1	7.9
20	2.15	6.5	3.1	4.2	4.0	2.15	a2.4	1.05	9.2	3.8	9.9	5.9
21	6.5	5.9	2.95	13.3	4.0	2.0	a2.2	.97	7.3	3.6	9.2	6.2
22	5.4	5.2	2.95	7.9	4.6	1.90	a2.1	.97	5.9	3.25	6.8	8.4
23	3.25	5.2	2.65	4.4	4.0	2.65	a2.0	.97	5.4	3.56	5.9	8.8
24	2.65	107	2.8	3.8	3.46	9.7	a1.9	.97	6.4	3.1	10.9	25.5
25	2.55	137	23.5	3.6	3.25	5.1	1.79	4.3	5.2	2.8	25.5	87
26	2.25	51	7.0	4.2	2.95	4.2	1.68	1.79	4.6	2.65	12.1	12.6
27	2.15	16.2	4.4	3.6	2.8	2.95	1.58	1.22	6.9	2.55	9.2	8.9
28	2.0	14.4	4.2	3.85	2.65	2.65	1.68	1.05	19.7	2.4	10.2	6.8
29	2.0	56	3.45	33.5	2.55	2.4	1.48	-	16.3	2.25	7.9	18.5
30	3.15	53	8.4	5.2	2.55	12.1	3.45	-	9.2	2.25	7.3	310
31	4.3	19.7	-	31	-	4.2	2.4	-	7.0	-	5.6	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	9.1	1.13	3.00	4.64	92.9	285
August	137	2.4	22.0	34.0	681	2,090
September	63	2.65	9.14	14.1	274	842
October	33.5	2.25	5.97	9.24	185	568
November	21.5	2.55	6.15	9.52	184	566
December	13.4	1.90	3.96	6.13	123	377
Calendar year 1940	137	.90	5.85	9.05	2,140	6,570
January	98	1.48	8.04	12.4	249	765
February	6.7	.97	1.73	2.68	48.3	148
March	67	.97	12.2	18.9	377	1,160
April	21	2.25	7.26	11.2	218	669
May	32.5	2.15	10.2	15.8	316	969
June	310	1.90	1.88	2.91	563	1,730
Fiscal year 1940-41	310	.97	9.07	14.0	3,310	10,170

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

Honopou Stream near Huelo

Location.- Concrete masonry and weir dam, lat. 20°53'20", long. 156°15'05", just upstream from Wailoa ditch intake, 2½ miles southwest of Huelo, and 2½ miles west of Kailua. Altitude of gage, about 1,250 feet.
Drainage area.- 1.0 square mile.
Records available.- December 1910 to June 1941.
Average discharge.- 28 years (1911-14, 1916-41), 3.18 million gallons a day (4.92 second-feet).
Extremes.- Maximum discharge during year, 279 million gallons a day (432 second-feet) June 30 (gage height, 3.97 feet), from rating curve extended above 70 million gallons a day; minimum, 0.40 million gallons a day (0.62 second-foot) July 3, 4, Feb. 22, 23.
1910-41: Maximum discharge, 1,220 million gallons a day (1,890 second-feet) Nov. 18, 1930 (gage height, 7.28 feet), from rating curves extended above 70 million gallons a day; minimum, 0.01 million gallons a day (0.02 second-foot) several days in 1933 and 1934.
Remarks.- Records excellent except those for periods of no gage-height record, which are fair. No diversions. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.4	0.09	0.9	5.3	2.0	37
.5	.56	1.0	7.1	2.3	54
.6	1.33	1.2	11.5	2.6	80
.7	2.4	1.4	16.5		
.8	3.7	1.7	25		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.50	2.2	18.3	2.1	3.3	0.98	a20	0.63	0.45	2.65	0.91	2.2
2	.45	.70	f12.0	1.33	5.2	.98	a9.0	.56	.45	3.4	.84	2.1
3	.40	.63	a6.0	1.44	3.55	.91	a6.0	.50	.45	7.8	.84	1.86
4	.45	1.28	a7.0	1.24	6.6	.91	4.2	1.00	1.44	9.9	1.62	1.76
5	.45	1.24	f5.1	1.15	6.7	.84	3.45	.88	.77	4.7	.84	1.65
6	.70	1.06	4.5	1.33	3.45	.84	2.9	.56	.56	4.2	1.25	1.54
7	1.06	1.15	5.1	1.06	2.9	3.2	2.55	2.7	.50	8.2	4.1	1.54
8	2.15	1.76	3.55	.98	2.4	1.70	2.2	1.15	.45	4.8	6.1	1.33
9	3.5	2.1	3.05	.91	2.1	.98	1.97	.63	.45	4.0	8.9	1.15
10	1.56	1.15	2.8	.91	1.86	.84	2.65	.56	.70	3.55	1.65	1.15
11	.84	2.65	2.4	.98	2.65	6.1	2.7	.56	.77	3.2	1.99	1.06
12	.70	20	2.2	4.7	2.1	2.25	1.76	.56	4.1	4.4	6.5	1.06
13	.63	5.3	1.97	1.15	1.86	a2.0	1.65	.50	.77	8.5	7.7	.91
14	.63	3.2	1.86	.98	4.2	a1.8	1.44	.50	3.05	3.2	4.8	.91
15	.70	4.6	2.1	.91	8.1	a1.6	1.33	.50	22.5	2.9	3.7	.84
16	.56	6.4	1.65	.84	2.3	a1.9	1.24	.50	25	2.55	7.2	.77
17	1.57	8.2	1.44	1.00	2.1	a1.6	1.15	.45	20.5	2.3	5.2	.77
18	1.45	4.8	1.44	2.4	1.86	a1.3	1.15	.45	18.3	2.1	15.5	.86
19	.63	3.3	1.24	4.2	1.65	a1.0	1.06	.45	8.0	2.1	8.1	3.15
20	.56	2.8	1.15	1.99	1.76	a.9	.98	.45	5.3	f1.76	5.0	2.0
21	1.72	2.55	1.06	4.2	1.65	a.8	.98	.45	4.0	a1.65	4.2	1.99
22	1.75	2.2	1.06	3.5	2.3	a.7	.91	.45	3.3	f1.54	3.45	2.3
23	.77	2.2	.98	1.65	1.65	a1.0	.91	.45	2.95	1.54	2.9	2.8
24	.70	31	.91	1.44	1.54	a4.5	.84	.45	3.8	1.33	4.1	10.1
25	.70	38.5	4.4	1.33	1.33	a2.5	.77	2.6	2.8	1.24	9.0	18.2
26	.63	16.2	1.82	2.05	1.24	a1.6	.77	.77	2.3	1.15	4.5	4.5
27	.63	8.4	1.24	1.65	1.15	a1.2	.77	.50	2.8	1.06	3.7	3.3
28	.56	5.8	1.44	1.33	1.06	a1.0	.70	.45	8.8	.98	3.45	2.8
29	.56	18.3	1.06	7.1	.98	a.9	.70	-	4.3	.91	3.05	3.7
30	.91	15.6	4.1	1.76	.98	a3.0	1.06	-	3.3	.91	2.9	67
31	1.39	8.4	-	13.0	-	a1.6	.77	-	2.8	-	2.4	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	3.5	0.40	0.962	1.49	29.8	91
August	38.5	.63	7.24	11.2	224	689
September	18.3	.91	3.43	5.31	103	316
October	13.0	.84	2.28	3.53	70.6	217
November	8.1	.98	2.68	4.15	80.5	247
December	6.1	.7	1.66	2.57	51.4	158
Calendar year 1940	38.5	.30	2.18	3.37	796	2,440
January	20	.70	2.53	3.91	78.6	241
February	2.7	.45	.722	1.12	20.2	62
March	25	.45	5.02	7.77	156	478
April	9.9	.91	3.28	5.07	98.5	302
May	15.5	.84	4.40	6.81	136	419
June	67	.77	4.84	7.49	145	446
Fiscal year 1940-41	67	.40	3.27	5.06	1,190	3,670

a No gage-height record; discharge computed on basis of records for stations on nearby streams.
f Computed on basis of partly estimated gage-height record.

Honopou Stream at Lowrie ditch siphon, near Huelo

Location.- Concrete weir control, lat. 20°54'50", long. 156°15'10", half a mile upstream from Government Road and 1.7 miles west of Huelo. Datum of gage is 556.95 feet above mean sea level.

Drainage area.- 2.0 square miles.

Records available.- July 1932 to June 1941. Records at same site collected by East Maui Irrigation Co. April 1930 to June 1932.

Extremes.- Maximum discharge during year, 502 million gallons a day (777 second-feet) Aug. 12 (gage height, 3.94 feet), from rating curve extended above 80 million gallons a day by logarithmic plotting; minimum, 0.03 million gallons a day (0.05 second-foot) Dec. 7.

1932-41: Maximum discharge, 766 million gallons a day (1,190 second-feet) Feb. 7, 1939 (gage height, 4.69 feet), from rating curve extended above 80 million gallons a day by logarithmic plotting; minimum, that of Dec. 7, 1940.

Remarks.- Records good. Wailoa, New Hamakua, and Old Hamakua ditches divert most of flow above this station. Water used for irrigation in central Maui.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.1	0.02	0.6	3.75	1.2	24.5
.2	.16	.7	5.8	1.4	36
.3	.51	.8	8.6	1.6	50
.4	1.15	.9	11.6	1.8	67
.5	2.2	1.0	15.2	2.0	88

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.08	0.10	10.4	0.20	0.37	0.08	10.5	0.08	0.12	0.12	0.10	0.20
2	.08	.10	2.2	.14	.64	.12	16.6	.07	.12	.10	.10	.12
3	.08	.10	.64	.12	.34	.08	11.8	.08	.10	2.35	.10	.10
4	.08	.10	1.60	.12	.35	.08	7.0	.08	.08	4.5	.12	.10
5	.08	.08	.51	.12	1.20	.08	2.5	.10	.10	.30	.10	.10
6	.08	.08	.40	.12	.26	.07	.48	.10	.10	.23	.08	.12
7	.08	.08	.30	.10	.26	.03	.20	.08	.10	.84	.22	.12
8	.08	.08	.26	.10	.26	.08	.16	.10	.08	.23	1.38	.12
9	.08	.12	.20	.08	.26	.10	.16	.10	.08	.20	.59	.10
10	.10	.12	.16	.08	.23	.08	.16	.08	.07	.23	.16	.10
11	.08	.10	.20	.10	.32	.08	.20	.08	.07	.23	.14	.10
12	.08	46	.20	.50	.20	.12	.14	.08	.07	.23	.12	.12
13	.08	1.19	.16	.12	.16	.12	.12	.08	.07	1.95	1.23	.12
14	.08	.23	.14	.10	.17	.10	.12	.08	.07	.16	.16	.12
15	.08	.16	.14	.10	4.2	.12	.12	.08	20.5	.16	.20	.12
16	.08	.33	.14	.10	.26	.08	.12	.08	19.8	.14	.16	.10
17	.08	4.3	.14	.10	.16	.08	.12	.08	16.1	.14	.26	.10
18	.08	.53	.14	.16	.14	.26	.12	.07	8.2	.16	4.6	.08
19	.10	.14	.12	.69	.12	.34	.12	.07	.37	.16	.16	.10
20	.10	.14	.12	.20	.12	.30	.10	.07	.20	.16	.16	.10
21	.08	.14	.10	1.58	.12	.20	.10	.08	.16	.14	.14	.10
22	.10	.14	.07	1.05	.12	.10	.10	.08	.16	.14	.14	.10
23	.10	.14	.10	.16	.14	.10	.10	.08	.14	.14	.14	.12
24	.10	31	.10	.16	.12	1.69	.10	.08	.20	.14	.16	6.5
25	.10	39.5	.49	.14	.12	.36	.08	.14	.16	.12	.82	21
26	.10	7.6	.20	.12	.10	.16	.10	.12	.12	.12	.32	.14
27	.10	.26	.16	.14	.10	.16	.10	.12	.12	.12	.16	.12
28	.10	.23	.16	.12	.10	.14	.08	.12	3.35	.10	.16	.12
29	.08	9.9	.16	3.8	.10	.12	.08	-	.16	.10	.16	.08
30	.10	12.4	.20	.26	.10	.12	.07	-	.12	.12	.16	71
31	.10	.44	-	18.4	-	.12	.07	-	.12	-	.16	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	0.10	0.08	0.088	0.136	2.72	8.3
August	46	.08	5.03	7.78	156	478
September	10.4	.07	.664	1.03	19.9	61
October	18.4	.08	.945	1.46	29.3	90
November	4.2	.10	.371	.574	11.1	34
December	1.69	.03	.183	.283	5.67	17
Calendar year 1940	46	.03	.773	1.20	283	868
January	16.6	.07	1.67	2.58	51.8	159
February	.14	.07	.088	.136	2.46	7.6
March	20.5	.07	2.30	3.56	71.2	219
April	4.5	.10	.461	.713	13.8	42
May	4.6	.08	.408	.631	12.7	39
June	71	.08	3.38	5.23	102	312
Fiscal year 1940-41	71	.03	1.31	2.03	479	1,470

Honopou Stream above Haiku ditch, near Huelo

Location.- Concrete weir control, lat. 20°55'05", long. 156°14'55", 110 feet upstream from new Government Road, 1½ miles west of Huelo, and 5.0 miles east of Haiku. Datum of gage is 440.76 feet above mean sea level. Prior to Mar. 3, 1941, at site 120 feet downstream at different datum.

Drainage area.- 2.2 square miles.

Records available.- July 1932 to June 1941. Records at same site collected by East Maui Irrigation Co. November 1926 to June 1932.

Extremes.- Maximum discharge during year, 161 million gallons a day (249 second-feet) June 30 (gage height, 3.06 feet), from rating curve extended above 15 million gallons a day by logarithmic plotting; minimum, 0.15 million gallons a day (0.23 second-foot) Mar. 16.

1932-41: Maximum discharge, 250 million gallons a day (387 second-feet) Dec. 29, 1936 (gage height, 2.76 feet), from rating curve extended above 15 million gallons a day by logarithmic plotting; minimum, 0.08 million gallons a day (0.12 second-foot) Dec. 1, 2, 1938.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Wailoa, New Hamakua, and Old Hamakua ditches divert most of flow above this station. Water used for irrigation in central Maui.

Rating tables, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Mar. 2						Mar. 3 to June 30					
0.2	0.20	0.5	2.4	1.0	16.3	0.3	0.18	0.7	2.3	1.4	21.5
.3	.59	.6	4.0	1.2	27	.4	.40	.8	3.6	1.6	31
.4	1.29	.8	8.8	1.4	40	.5	.75	1.0	7.5	1.8	44
						.6	1.36	1.2	13.7	2.0	59

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.23	0.44	11.0	0.95	0.88		9.0		0.25	0.45	0.32	0.40
2	.23	.29	4.3	.49	1.31		12			.48	.32	.37
3	.23	.26	2.4	.44	.88	0.35	7.0		.24	3.4	.30	.34
4	.23	.36	3.6	.40	.98		4.0		.26	5.5	.37	.32
5	.23	.29	1.98	.54	2.45		2.0		.26	1.08	.32	.32
6	.23	.29	1.49	.40	.81		.60	0.25	.24	.70	.34	.32
7	.26	.29	1.39	.32	.75		.50		.24	1.49	.52	.32
8	.32	.36	.95	.32	.64		.45		.22	.80	1.21	.34
9	.32	.54	.81	.32	.64		.45		.22	.66	1.10	.30
10	.40	.40	.75	.32	.59		.45		.22	.58	.37	.30
11	.36	.40	.69	.32	.77	.30	.54		.24	.55	.37	.32
12	.32	22	.69	1.08	.59		.40		.32	.55	.40	.30
13	.29	1.74	.64	.36	.54				.28	2.45	1.98	.28
14	.26	.59	.59	.32	.59				.34	.55	.66	.28
15	.26	.54	.59	.32	4.5		.35		13.5	.51	.70	.28
16	.26	1.05	.59	.32	.59			.23	11.3	.48	.70	.26
17	.29	5.9	.59	.32	.54				8.3	.45	.86	.26
18	.29	1.68	.54	.36	.54	.50			7.9	.42	5.0	.28
19	.26	.81	.54	1.04	.49	.70			1.08	.49	.80	.37
20	.23	.75	.49	.49	.49	.60			.63	.42	.62	.37
21	.26	.64	.49	2.3	.49	.50			.55	.40	.55	.40
22	.36	.59	.44	2.0	.49	.40			.48	.37	.48	.45
23	.29	.59	.40	.59	.44	.40	.30		.48	.40	.42	.52
24	.26	26	.40	.49	.40	2.3			.64	.37	.44	8.6
25	.26	31	1.07	.44		.90		.25	.42	.34	1.42	16.8
26	.26	7.8	.59	.40		.56			.40	.34	.77	.75
27	.26	1.20	.44	.44	.35	.56			.44	.34	.55	.66
28	.26	.95	.44	.40		.50			7.7	.32	.51	.55
29	.26	11.3	.40	4.8		.45	.25	-	4.4	.32	.51	.51
30	.32	12.5	.56	.54		.45		-	2.0	34	.48	46
31	.29	1.89	-	15.3	-	.45		-	.51	-	.42	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	0.40	0.23	0.277	0.429	8.58	26
August	31	.26	4.30	6.65	133	410
September	11.0	.40	1.33	2.08	39.8	122
October	15.3	.32	1.19	1.84	36.9	113
November	4.5	-	.783	1.21	23.5	72
December	2.3	-	.472	.730	14.6	45
Calendar year 1940	31	-	1.02	1.58	369	1,140
January	12	-	1.39	2.15	43.2	133
February	-	-	.239	.370	6.70	21
March	13.5	.22	2.07	3.20	64.3	197
April	5.5	.32	.852	1.32	25.6	78
May	5.0	.30	.768	1.19	23.8	73
June	46	.26	2.72	4.21	81.6	250
Fiscal year 1940-41	46	-	1.38	2.14	.502	1,540

Note.- No gage-height record Sept. 7, 8, Oct. 5, 6, Nov. 25 to Mar. 2; discharge computed on basis of records for stations below Haiku ditch and at Lowrie ditch siphon.

Honopou Stream below Haiku ditch, near Huelo

Location.- Concrete weir control, lat. 20°55'05", long. 156°14'50", an eighth of a mile downstream from Government Road and 1½ miles west of Huelo. Datum of gage is 383.41 feet above mean sea level.

Drainage area.- 2.3 square miles.

Records available.- July 1932 to June 1941. Records at same site collected by East Maui Irrigation Co. November 1926 to June 1932.

Extremes.- Maximum discharge during year, 1,040 million gallons a day (1,610 second-feet) Aug. 12 (gage height, 5.06 feet), from rating curve extended above 39 million gallons a day by logarithmic plotting; minimum, 0.06 million gallons a day (0.09 second-foot) May 21.

1932-41: Maximum discharge recorded, 2,200 million gallons a day (3,400 second-feet) Feb. 7, 1939 (gage height, 6.50 feet), from rating curve extended above 39 million gallons a day by logarithmic plotting; minimum discharge, 0.02 million gallons a day (0.03 second-foot) Nov. 27, 1933.

Remarks.- Records good except those for period of no gage-height record, which are fair. Wailoa, New Hamakua, Old Jamakua, and Haiku ditches divert most of flow above this station. Water used for irrigation in central Maui

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.1	0.02	0.6	4.1	1.5	40
.2	.22	.7	6.1	2.0	80
.3	.67	.8	8.6	2.5	138
.4	1.41	.9	11.6		
.5	2.55	1.0	15.1		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.67	7.2	29	2.1	3.05	0.86	20.5	0.80	0.73	0.67	0.56	0.46
2	.67	1.03	12.5	.67	12.1	.86	29	.80	.73	.73	.56	.46
3	.67	.80	3.4	.61	4.5	.86	36	.73	.67	22.5	.56	.41
4	.67	.95	20.5	.61	4.7	.86	21	.73	1.42	27	.73	.41
5	.67	.86	2.8	.61	13.7	.86	21.5	.73	.92	1.81	.61	.41
6	.67	.80	.16	.61	.67	.86	1.27	.73	.80	.86	.56	.41
7	1.06	.80	1.01	.56	.61	8.5	.92	3.0	.73	14.2	3.7	.41
8	1.15	1.51	.16	.56	.56	6.3	.86	2.25	.67	9.2	3.6	.41
9	10.7	1.84	.10	.56	.51	.86	.80	.80	.67	.99	12.0	.41
10	1.83	.99	.10	.56	.51	.86	.80	.73	.67	.86	.56	.41
11	.73	6.3	.10	.56	.51	7.7	5.0	.73	.67	.73	.56	.51
12	.61	67	.10	4.6	.51	8.6	.73	.73	2.8	.67	12.7	.67
13	.61	3.25	.08	.56	.51	.86	.73	.73	.92	14.8	21	.67
14	.56	.41	.08	.51	.51	.86	.73	.73	.94	.73	10.4	.67
15	.61	.94	.28	.51	23	.80	.73	.67	48	.67	9.1	.67
16	.61	8.1	.73	a.51	.37	.80	.73	.67	43	.67	17.0	.67
17	.67	22.5	.67	a.56	.33	.80	.80	.67	41	.67	11.4	.67
18	1.21	7.1	.73	a.80	.33	.80	.80	.67	31	.61	18.6	.67
19	.80	.46	.67	a2.9	.49	.80	.80	.67	6.2	.61	4.8	5.5
20	.61	.46	.61	a1.1	.86	.86	.80	.67	.86	.61	2.7	1.26
21	1.23	.41	.61	11.3	.92	.80	.80	.67	.73	.61	2.8	1.23
22	1.97	.41	.61	4.1	.92	.80	.80	.67	.67	.61	.86	1.38
23	1.07	.60	.56	a.33	.86	.80	.80	.67	.67	.61	.86	7.1
24	.80	58	.56	a.33	.86	9.2	.80	.67	4.0	.61	3.55	11.5
25	.73	61	10.3	a.33	.86	9.2	.80	1.64	.73	.56	34.5	53
26	.73	18.6	2.3	a.61	.86	1.59	.80	.92	.67	.56	14.4	4.0
27	.73	1.86	.39	a.80	.86	.86	.73	.80	2.5	.56	4.1	.41
28	.67	3.25	.86	.80	.86	.80	.73	.73	19.5	.56	3.85	.73
29	.67	42	.80	16.5	.86	.73	.73	-	13.7	.56	.67	4.1
30	.86	26.5	3.2	.92	.92	7.7	.93	-	6.7	.56	.80	108
31	1.18	.74	-	51	-	2.7	1.62	-	.69	-	.56	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	10.7	0.56	1.17	1.81	36.4	112
August	67	.41	11.2	17.3	347	1,060
September	29	.08	3.13	4.64	94.0	288
October	51	.33	3.45	5.34	107	329
November	23	.33	2.57	3.98	77.1	237
December	9.2	.73	2.57	3.98	79.7	245
Calendar year 1940	67	.08	3.01	4.66	1,100	3,380
January	36	.73	4.97	7.69	154	473
February	3.0	.67	.893	1.38	25.0	77
March	45	.67	7.55	11.7	234	718
April	27	.56	3.51	5.43	105	323
May	34.5	.56	6.41	9.92	199	610
June	108	.41	6.92	10.7	208	637
Fiscal year 1940-41	108	.08	4.56	7.06	1,670	5,110

a No gage-height record; discharge computed on basis of records for stations above Haiku ditch and at Lowrie ditch siphon.

Wailoa ditch at Honopou, near Huelo

Location.- Lat. 20°53'20", long. 156°15'05", 100 feet downstream from intake at Honopou Stream half a mile west of Lupi, and 2.2 miles southwest of Huelo.

Records available.- November 1922 to June 1941.

Average discharge.- 18 years (1923-41), 116 million gallons a day (179 second-feet).

Extremes.- Maximum discharge during year, 188 million gallons a day (291 second-feet) June 25 (gage height, 6.06 feet); minimum, 31.5 million gallons a day (48.7 second-feet) Feb. 23.
1922-41: Maximum discharge, that of June 25, 1941; minimum, 11 million gallons a day (17 second-feet) Feb. 12, 1932.

Remarks.- Records excellent. Wailoa ditch receives the water from Koolau ditch at Alo Stream and from all streams from the Alo west to the Halehaku at altitude of about 1,200 feet. Water used for irrigation in central Maui.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	68	163	182	170	170	72	178	61	36.5	166	101	138
2	64	112	182	134	178	71	158	50	35	174	75	122
3	47	87	182	130	174	61	158	47	37	178	61	a110
4	59	141	182	110	178	57	170	59	159	178	142	a100
5	54	154	172	102	178	57	170	99	112	174	86	a94
6	130	154	170	114	166	61	150	56	66	170	116	90
7	170	162	174	94	150	141	122	98	47	178	162	106
8	174	170	170	83	130	156	110	116	41	178	134	87
9	178	170	166	75	114	96	98	57	41	170	158	83
10	170	150	158	72	110	75	121	47	112	166	162	72
11	140	170	142	83	159	159	174	47	124	146	162	72
12	106	174	142	158	166	162	159	44	166	158	166	75
13	87	170	154	102	138	106	110	47	86	178	170	64
14	96	170	142	83	126	87	94	50	105	162	174	61
15	142	174	149	72	178	75	87	50	182	154	174	61
16	92	178	148	68	158	83	79	44	178	130	174	57
17	146	182	135	66	142	68	75	38	178	114	178	54
18	142	178	160	108	118	64	72	36.5	178	102	178	63
19	94	170	144	162	102	61	64	36.5	178	110	178	170
20	79	166	110	148	119	57	61	35	170	94	178	165
21	163	146	103	157	158	57	61	33.5	166	87	178	174
22	174	130	112	174	166	54	57	32	142	79	166	178
23	138	125	93	140	134	81	54	32	156	103	142	178
24	102	182	119	114	114	111	50	32	162	90	138	174
25	90	178	178	112	98	152	50	132	158	72	154	186
26	83	178	170	136	87	163	47	96	158	64	166	182
27	72	178	148	141	83	116	54	47	163	64	178	178
28	68	174	153	133	75	67	47	38	178	61	178	170
29	64	178	118	174	72	75	44	-	178	57	174	174
30	116	182	162	146	68	158	79	-	174	66	174	186
31	170	182	-	178	-	170	117	-	170	-	162	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	178	47	112	173	3,470	10,640
August	182	87	162	251	5,030	15,430
September	182	93	151	234	4,520	13,870
October	178	66	121	187	3,740	11,470
November	178	68	134	207	4,010	12,300
December	170	54	96.5	149	2,990	9,190
Calendar year 1940	182	26	106	164	38,800	119,100
January	178	44	99.0	153	3,070	9,420
February	132	32	55.7	86.2	1,560	4,790
March	182	35	130	201	4,040	12,390
April	178	57	127	196	3,820	11,730
May	178	61	153	237	4,740	14,540
June	186	54	121	187	3,620	11,120
Fiscal year 1940-41	186	32	122	189	44,610	136,900

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

New Hamakua ditch at Honopou, near Huelo

Location.- Concrete control, lat. 20°53'30", long. 156°15'10", 15 feet upstream from tunnel portal, 600 feet downstream from Honopou Stream crossing, and 2.1 miles southwest of Huelo.

Records available.- January 1918 to June 1941.

Average discharge.- 23 years (1918-41), 29.0 million gallons a day (44.9 second-feet).

Extremes.- Maximum discharge during year, 116 million gallons a day (179 second-feet) June 30 (gage height, 5.65 feet); minimum, 0.08 million gallons a day (0.12 second-foot) Feb. 3.
1918-41: Maximum discharge, 143 million gallons a day (221 second-feet) Feb. 27, 1932 (gage height, 5.90 feet); no flow at times, when water was shut out of ditch.

Remarks.- Records excellent. Ditch diverts water from streams between the Waiakamoi and the Halehaku above Center and Lowrie ditches. Flow regulated by gates and spillways. Water used for irrigation in central Maui.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.51	76	104	57	76	0.58	75	0.51	0.32	7.6	3.0	1.38
2	.36	3.1	104	2.3	80	.55	23	.43	.28	56	.51	1.18
3	.28	.71	102	.97	84	.66	8.5	.36	.28	102	.51	1.13
4	.36	43	102	.71	97	.58	9.0	.47	43	102	41	.97
5	.36	295	96	.62	95	.58	8.9	.97	13.8	93	.87	.92
6	30.5	18.0	59	.71	24	.58	2.25	.39	.51	50	23.5	.82
7	70	19.6	76	.55	2.35	54	1.72	28.5	.36	101	63	1.31
8	91	84	71	.47	1.93	47	1.58	24	.32	101	21.5	1.02
9	99	73	21	.43	1.72	.76	1.38	.55	.28	55	88	.76
10	70	5.2	5.1	.39	1.65	.55	17.3	.39	13.6	11.5	24	.66
11	2.0	57	2.1	.51	17.5	68	72	.36	6.3	2.4	56	.62
12	.82	86	1.78	52	9.1	48	19.2	.28	76	19.0	96	.58
13	.66	61	7.3	.82	2.5	.92	1.18	.32	1.18	98	102	.55
14	.90	34	1.52	.55	13.5	1.40	1.02	.36	18.4	16.5	101	.47
15	24.5	64	29	.47	96	.58	.92	.32	106	4.0	93	.47
16	.71	101	17.7	.43	8.7	.66	.82	.26	106	1.93	101	.51
17	15.2	102	2.7	.51	1.93	.55	.71	.26	104	1.72	101	.43
18	33	97	34	18.2	1.58	.51	.66	.26	104	1.45	102	.43
19	.76	46	18.0	61	1.31	.47	.58	.26	93	1.72	93	61
20	.62	8.4	.76	39.5	9.8	.47	.58	.26	30	1.52	82	62
21	47	2.95	.66	60	25	.43	.58	.26	8.8	1.18	46	91
22	91	2.55	.62	83	12.0	.43	.58	.26	2.35	1.02	3.1	97
23	8.3	2.05	.55	7.2	1.72	.87	.55	.26	25.5	2.35	1.93	78
24	.71	101	2.0	1.85	1.85	24.5	.51	.26	45	1.13	27	80
25	.66	106	92	1.58	.97	46	.51	57	35.5	.87	102	104
26	.62	104	72	3.1	.87	50	.51	6.6	9.8	.76	99	101
27	.58	97	3.4	11.0	.82	1.63	.43	.43	55	.71	89	81
28	.55	85	22	3.4	.71	1.66	.43	.36	101	.66	81	17.5
29	.55	104	.62	87	.66	.58	.39	-	101	.55	54	56
30	14.6	104	24	5.0	.62	72	13.9	-	95	.55	70	104
31	58	102	-	94	-	64	26	-	36.5	-	7.2	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	99	0.28	21.4	33.1	664	2,040
August	106	.71	58.6	90.7	1,820	5,580
September	104	.55	35.8	55.4	1,070	3,290
October	94	.39	19.2	29.7	595	1,830
November	97	.62	22.4	34.7	671	2,060
December	72	.43	15.8	24.4	490	1,500
Calendar year 1940	106	.26	20.5	31.7	7,500	23,010
January	75	.39	9.38	14.5	291	892
February	57	.26	4.46	6.90	125	385
March	106	.28	39.8	61.6	1,230	3,780
April	102	.55	27.9	43.2	837	2,570
May	102	.51	57.2	88.5	1,770	5,440
June	104	.43	31.6	48.9	947	2,910
Fiscal year 1940-41	106	.26	28.8	44.6	10,510	32,280

Old Hamakua ditch at Honopou, near Huelo

Location.- Parshall flume, lat. 20°53'30", long. 156°15'05", in Honopou Gulch, 400 feet downstream from Honopou Stream and Wailoa ditch trail crossing, 2.0 miles southwest of Huelo, and 5.0 miles east of Haiku.

Records available.- January 1918 to June 1922, November 1936 to June 1941.

Extremes.- Maximum discharge during year, 45 million gallons a day (70 second-feet) Oct. 31 (gage height, 3.06 feet); no flow July 2-6, Mar. 7-11.
1918-22, 1936-41: Maximum discharge, 58 million gallons a day (90 second-feet) Jan. 16, 1921 and Feb. 7, 1939 (gage heights, 3.25 and 3.55 feet, respectively, different sites); no flow for short periods.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Wailoa and New Hamakua ditches divert most of flow above this station. Water used for irrigation in central Maui.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.01	4.0	30.5	0.94	1.17	0.02	12.4	0.01	0.01	0.04	0.01	0.04
2	0	.03	24.5	.04	7.8	.01	2.6	.01	.01	.65	.01	.03
3	0	.02	9.0	.03	1.91	.01	2.4	.01	.01	16.2	.01	.02
4	0	.05	12.8	.02	3.0	.01	2.4	.01	.04	17.0	.04	.02
5	0	.05	2.3	.02	7.5	.01	1.73	.01	.05	3.55	.02	.02
6	.01	.04	.13	.02	.10	.01	.04	.01	.01	.12	.02	.02
7	.16	.04	1.39	.01	.05	1.42	.03	1.73	0	15.7	3.25	.02
8	.60	.3	.23	.01	.04	.90	.03	3.0	0	5.9	4.4	.02
9	2.2	3.0	.05	.01	.04	.02	.03	.02	0	.27	5.7	.02
10	.51	.05	.04	.01	.04	.02	.04	.01	0	.05	.04	.02
11	.04	1.0	.04	.01	.12	6.1	.82	.01	.01	.04	.05	.01
12	.02	4.0	.04	4.4	.05	2.15	.03	.01	2.7	1.70	10.6	.01
13	.01	1.5	.03	.02	.04	.02	.02	.01	.04	13.8	14.9	.01
14	.01	.1	.03	.01	1.37	.01	.02	.01	.91	.07	5.2	.01
15	.02	1.14	.03	.01	12.8	.01	f.01	.01	26.5	.04	3.1	.01
16	.02	7.0	.05	.01	.07	.01	.01	.01	26.5	.03	15.4	.01
17	.02	11.0	.04	.01	.04	.01	.01	.01	23	.03	6.9	.01
18	.32	2.0	.04	.04	.04	.01	.01	.01	f24.5	.03	18.0	.01
19	.02	.13	.05	1.84	.04	.01	.01	.01	7.4	.03	5.4	3.25
20	.01	.06	.04	.30	.04	.01	f.01	.01	f.13	.03	.90	.81
21	.83	.05	.03	7.3	.05	.01	.01	.01	f.08	.03	.06	1.11
22	.55	.04	.03	3.35	.05	.01	.01	.01	.04	.02	.04	1.94
23	.04	.04	.02	.05	.05	.01	.01	.01	.04	.02	.04	3.75
24	.02	25.5	.02	.04	.05	4.2	.01	.01	1.35	.02	2.55	4.3
25	.01	32.5	9.4	.03	.04	1.12	.01	.06	.05	.02	17.2	24
26	.01	23.5	1.19	.03	.03	.09	.01	.03	.04	.02	4.6	4.6
27	.01	4.0	.04	.02	.02	.03	.01	.01	1.39	.02	.70	.51
28	.01	2.4	.03	.03	.02	.01	.01	.01	13.2	.01	2.0	.05
29	.01	32.5	.02	10.3	.02	.01	.01	-	9.0	.01	.07	4.5
30	.01	28	3.15	.05	.02	5.3	.01	-	2.7	.01	.22	28.5
31	.06	11.8	-	13.1	-	.26	.04	-	.07	-	.04	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	2.2	0	0.179	0.277	5.54	17
August	32.5	.02	6.32	9.78	196	601
September	30.5	.02	3.18	4.92	95.3	292
October	13.1	.01	1.36	2.10	42.1	129
November	12.8	.02	1.37	2.12	41.0	126
December	6.1	.01	.704	1.09	21.8	67
Calendar year 1940	32.5	0	1.42	2.20	519	1,590
January	12.4	.01	.735	1.14	22.8	70
February	3.0	.01	.181	.280	5.07	16
March	26.5	0	4.51	5.98	140	429
April	17.0	.01	2.52	3.90	75.5	232
May	18.0	.01	3.92	6.07	121	373
June	28.5	.01	2.59	4.01	77.6	238
Fiscal year 1940-41	32.5	0	2.51	3.57	844	2,590

f Computed on basis of partly estimated gage-height record.
Note.- No gage-height record, Aug. 8-14, 16-18, Jan. 16-19, Feb. 14 to Mar. 4; discharge computed on basis of records for stations on nearby ditches.

Lowrie ditch at Honopou Gulch, near Huelo

Location.- Concrete control, lat. 20°54'55", long. 156°15'05", a quarter of a mile downstream from siphon across Honopou Stream and 1.6 miles west of Huelo.

Records available.- February 1930 to June 1941. January 1910 to March 1927 at site 1½ miles downstream.

Average discharge.- 27 years (1910-26, 1930-41), 33.3 million gallons a day (51.5 second-feet).

Extremes.- Maximum discharge during year, 76 million gallons a day (118 second-feet) Aug. 12 (gage height, 5.25 feet); minimum, 3.25 million gallons a day (5.03 second-feet) Jan. 2.

1930-41: Maximum discharge, 88 million gallons a day (136 second-feet) Mar. 21, 1937 (gage height, 5.44 feet); no flow at times.

Remarks.- Records excellent. Lowrie ditch diverts water at altitude of 500 feet from all streams between the Kailua and the Halehaku. Flow regulated by gates. Water used for irrigation in central Maui.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	5.2	50	58	50	50	8.2	42	6.1	8.7	28	7.1	12.0
2	4.5	30	58	26.5	50	8.7	14.4	5.5	8.4	38	6.4	10.8
3	4.2	6.9	56	11.2	53	7.7	46	5.2	5.4	56	6.1	10.0
4	5.4	28.5	58	8.9	53	7.3	38	6.2	21	56	24	9.6
5	4.8	22	56	8.4	56	8.2	28	7.3	35.5	53	7.5	8.9
6	8.5	18.0	53	8.9	43	8.2	33	5.4	12.2	38	16.4	8.2
7	32	18.0	53	7.8	43	29	24	15.8	4.8	53	42	10.8
8	46	47	40	7.1	25.5	37.5	18.0	26	4.4	53	19.0	9.6
9	48	48	35.5	6.8	18.0	35.5	15.5	6.1	4.2	30	46	7.8
10	48	35	20.5	6.6	18.0	10.3	22	5.4	6.5	18.0	33	7.1
11	28.5	34	18.0	7.8	30.5	32.5	44	4.9	7.9	25.5	30.5	6.8
12	7.3	50	16.8	44	20.5	46	16.8	4.6	44	38	40	6.8
13	6.2	33	15.5	9.9	16.8	29	19.2	4.8	25	53	53	6.1
14	6.2	40	14.8	7.8	17.2	8.7	11.8	5.0	10.7	30.5	53	5.8
15	11.1	35.5	21.5	7.1	56	7.7	10.5	4.6	56	28	50	5.8
16	6.1	53	27	6.8	38	8.4	10.3	4.4	56	25.5	50	5.5
17	7.8	56	12.2	7.0	38	7.1	9.6	4.2	56	13.0	53	5.2
18	40	53	24.5	19.2	23	6.6	9.4	4.1	56	11.8	53	5.4
19	9.2	43	25	43	15.0	6.4	8.7	4.0	53	13.2	48	36.5
20	5.6	33	10.0	48	15.2	6.2	8.2	4.0	40	11.0	48	43
21	19.0	29	9.4	48	19.2	6.0	8.0	3.85	38	9.8	48	43
22	48	19.2	9.1	53	19.2	5.8	7.7	3.75	32	9.1	27	48
23	33	18.0	8.2	43	13.8	8.2	7.3	3.75	25.5	9.1	15.5	48
24	9.9	54	8.0	24	14.5	20.5	6.9	3.85	40	8.4	23	48
25	6.0	58	45	14.8	11.0	34.5	6.8	27	33	7.7	53	56
26	5.5	58	48	14.8	10.0	41	6.4	16.0	20.5	7.3	53	53
27	5.2	55	33	15.5	13.5	23	6.2	9.6	33	7.1	46	48
28	4.9	48	13.2	13.8	9.4	8.9	6.1	9.1	53	6.8	48	35.5
29	5.2	58	8.0	49	8.9	7.8	6.0	-	53	6.4	48	38
30	12.2	58	18.2	38	8.9	37	11.4	-	53	6.6	46	58
31	28	56	-	56	-	40	26	-	43	-	17.9	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	48	4.2	16.5	25.5	512	1,570
August	58	6.9	40.2	62.2	1,250	3,820
September	58	8.0	29.1	45.0	873	2,680
October	56	6.6	23.0	35.6	713	2,190
November	56	8.9	26.9	41.6	808	2,480
December	46	5.8	17.8	27.5	552	1,690
Calendar year 1940	58	1.94	19.9	30.8	7,270	22,290
January	46	6.0	17.0	26.3	528	1,620
February	27	3.75	7.52	11.6	210	646
March	56	4.2	30.3	46.9	940	2,880
April	56	6.4	25.0	38.7	751	2,300
May	53	6.1	35.9	55.5	1,110	3,410
June	58	5.2	23.2	35.9	697	2,140
Fiscal year 1940-41	58	3.75	24.5	37.9	8,940	27,430

Haiku ditch at Honopou Gulch, near Kailua

Location (revised).- Concrete restriction in ditch, lat. 20°55'05", long. 156°14'55", on right side of Haiku ditch and west side of Honopou Gulch, 160 feet below new Government Road, 2.5 miles northeast of Kailua, and 5 miles east of Haiku. Datum of gage is 421.54 feet above mean sea level.

Records available.- February 1940 to June 1941. January 1910 to October 1914, at site at Peahi weir on old Haiku ditch. October 1914 to December 1928, at site in Manawai Gulch, 2.9 miles downstream. February 1930 to February 1940. at site in Kapalalaea Gulch, 0.9 mile downstream.

Average discharge.- 29 years (1910-28, 1930-41), 25.9 million gallons a day (40.1 second-feet).

Extremes.- Maximum discharge during year, 114 million gallons a day (176 second-feet) Aug. 12 (gage height, 4.81 feet); minimum, 0.12 million gallons a day (0.19 second-foot) July 20.
1910-28, 1930-41: Maximum discharge, 195 million gallons a day (302 second-feet) Mar. 23, 1937 (gage height, 5.80 feet, site and datum then in use); no flow occasionally.

Remarks.- Records excellent except those for periods of no gage-height record and plugged intake, which are poor. Haiku ditch diverts water at elevation 250 feet from all streams between the Kailua Stream and the Maliko Gulch. Flow regulated by gates. Water used for irrigation in central Maui.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	f0.44	41	89	19.2	32	1.46	18.0	0.77	0.30	2.35	1.07	1.53
2	.40	3.1	84	2.2	46	1.46	12.6	.62	.28	7.2	1.01	1.39
3	f.28	.55	70	1.74	44	1.25	4.8	.54	.40	74	.95	1.39
4	.40	3.0	76	1.53	47	1.19	13.8	.85	14.7	74	4.3	1.32
5	.34	1.13	50	1.67	64	1.39	7.6	.77	1.76	35	1.13	1.25
6	.40	.83	14.0	1.53	6.9	1.13	4.2	.58	.51	4.9	1.19	1.19
7	10.1	.83	32.5	1.32	5.3	31	4.5	14.6	.30	46	28.5	1.46
8	12.3	16.5	13.7	1.19	4.5	24.5	4.3	8.5	.28	52	8.9	1.53
9	64	27.5	5.7	1.19	4.3	1.67	2.2	.65	.28	10.7	4.7	1.25
10	21	3.85	5.2	1.13	4.1	1.25	3.4	.54	.28	6.2	2.05	1.13
11	1.86	31	4.7	1.46	5.0	19.9	33.5	.48	.34	2.75	2.55	.83
12	.77	37.5	4.3	20	3.7	26	2.35	.44	26.5	3.2	54	.65
13	.62	18.1	4.1	2.0	3.2	1.67	2.05	.44	1.24	58	74	.58
14	.54	4.5	3.8	1.2	7.5	1.13	1.81	.54	2.5	3.25	59	.58
15	.62	9.4	4.7	1.1	71	.95	1.67	.44	76	2.5	41	.54
16	.40	44	4.1	1.1	4.8	1.07	1.53	.44	74	2.25	61	.51
17	.44	75	2.75	1.1	3.95	.89	1.32	.40	74	2.1	61	.51
18	8.7	54	3.7	2.5	3.4	.83	1.25	.37	74	1.88	48	.54
19	.28	5.3	3.45	20	2.95	.77	1.19	.37	48	2.2	32	24.5
20	.14	4.3	2.2	10	2.65	.77	1.13	.34	4.8	1.81	24	17.6
21	15.3	3.6	2.1	20	2.5	.77	1.07	.30	2.95	1.74	3.55	17.5
22	36	3.15	1.88	25	2.95	.71	1.01	.30	2.45	1.60	1.74	19.7
23	4.0	2.65	1.67	5.0	2.35	1.07	.95	.30	2.7	1.53	1.45	40
24	.9	76	1.67	3.5	2.1	14.7	.95	.37	22.5	1.32	11.2	13.5
25	.5	92	42	2.5	1.88	22	.89	18.6	2.45	1.19	74	76
26	.5	84	33.5	2.0	1.81	17.3	.83	1.36	2.05	1.19	51	41
27	.4	31.5	2.35	2.0	1.74	1.74	.83	.48	24.5	1.13	29.5	5.4
28	.4	23	1.60	2.0	1.53	1.13	.77	.34	60	1.07	24.5	2.45
29	.5	81	1.25	40	1.46	1.01	.71	-	6e	1.01	3.95	18.1
30	2.0	81	14.0	20	1.67	40	8.0	-	50	1.13	10.2	82
31	5.4	53	-	60	-	15.5	8.9	-	3.05	-	1.81	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	64	0.14	6.13	9.48	190	583
August	92	.55	29.5	45.6	914	2,810
September	89	1.25	19.3	29.9	580	1,780
October	60	1.1	8.88	13.7	275	844
November	71	1.46	12.9	20.0	386	1,190
December	40	.71	7.62	11.8	236	725
Calendar year 1940	-	-	-	-	-	-
January	33.5	.71	4.78	7.40	148	455
February	18.6	.30	1.96	3.03	54.9	169
March	76	.28	20.7	32.0	641	1,970
April	74	1.01	13.5	20.9	405	1,240
May	74	.95	23.3	36.1	723	2,220
June	82	.51	12.5	19.3	376	1,150
Fiscal year 1940-41	92	.14	13.5	20.9	4,930	15,140

f Computed on basis of partly estimated gage-height record.
Note.- No gage-height record July 2, Oct. 12-31, and July 23-30; discharge computed on basis of records for stations on nearby ditches.

MISCELLANEOUS DISCHARGE MEASUREMENTS

Measurements of streams on the island of Maui at other than regular gaging stations are listed below:

Miscellaneous discharge measurements on Maui during fiscal year July 1940 to June 1941

Date	Stream	Tributary to	Locality	Discharge	
				Second-feet	Million gallons a day
Dec. 18	Piinaau Stream..	Pacific Ocean...	15 feet below dam, at Keanae.....	0.507	0.328
18	....do.....	....do.....	200 feet above dam, at Keanae.....	2.85	1.84
18	....do.....	....do.....	....do.....	2.92	1.89

Waiakea Stream at middle flume house, near Mountain View

Location.- Parshall flume and concrete dam control, lat. 19°38'25", long. 155°10'35", at middle flume house, 800 feet upstream from Olaa Sugar Co.'s main flume and 7⅛ miles northwest of Mountain View.
Records available.- September 1930 to June 1941.
Extremes.- Maximum discharge during year, 46 million gallons a day (71 second-feet) Aug. 12 (gage height, 3.15 feet), from rating curve based on weir formulas; minimum, 0.04 million gallons a day (0.06 second-foot) Feb. 7-14.
1930-41: Maximum discharge, 149 million gallons a day (231 second-feet) July 21, 1931 (gage height, 4.70 feet), from rating curve based on weir formulas; no flow at times, when tunnels and stream cease flowing during very dry periods.
Remarks.- Records good except those for periods of no gage-height record, which are poor. No diversions. Large part of flow comes from three tunnels. Water is used for fluming sugarcane.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0	0	0.5	1.70	1.6	9.9
.1	.18	.6	2.25	2.0	14.6
.2	.42	.7	2.85	2.5	23.5
.3	.78	.9	4.1		
.4	1.21	1.2	6.4		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	2.85	10.3		5.3	9.4	6.4	0.30	0.16	0.18	6.8	2.35	14.0
2	2.75	9.0		5.0	9.4	5.6	5.1	.14	.18	6.8	2.3	11.5
3	2.65	8.6		12	9.0	5.1	2.25	.13	.18	6.8	2.35	10.4
4	2.55	8.1		13.3	9.9	4.5	2.65	.09	.20	7.2	2.75	9.0
5	3.1	8.1	19	12.1	10.4	4.1	2.55	.07	.25	6.8	2.75	8.1
6	4.3	7.6		11.5	9.9	3.8	2.15	.05	.18	6.4	2.6	7.2
7	3.8	8.7		10.4	9.9	3.5	1.86	.04	.18	6.4	2.5	6.8
8	4.5	9.0		9.9	9.9	3.35	1.65	.04	.18	6.4	2.35	6.0
9	6.4	9.4		9.0	9.4	3.1	1.50	.04	.18	6.0	2.45	5.6
10	6.8	8.6	17	8.6	9.0	2.85	1.41	.04	.18	6.0	2.35	5.0
11	7.2	16	14.0	7.6	8.1	2.6	1.26	.04	.37	5.6	2.55	4.7
12	7.2	18	11.5	6.8	7.6	2.45	1.17	.04	.46	5.2	3.9	4.2
13	6.8	16	10.4	6.4	6.8	2.25	1.17	.04	.30	4.9	6.0	3.9
14	6.8	16	9.0	5.6	8.6	2.15	1.08	.04	.25	4.8	6.4	3.65
15	6.4	16	8.1	5.0	10.4	1.98	1.00	.05	.23	5.4	6.0	3.4
16	6.8	16	7.2	4.6	9.9	1.76	.95	.09	.32	4.9	6.4	3.15
17	7.2	16	6.8	4.2	9.9	1.60	.87	.07	2.85	4.4	6.4	2.9
18	6.8	16	6.0	3.85	9.9	1.46	.78	.07	2.2	4.2	7.2	2.8
19	6.8	15.3	5.3	3.65	10.4	1.26	.74	.07	3.35	4.1	8.6	2.95
20	6.4	13.3	4.7	3.85	11.5	1.17	.67	.07	2.75	3.95	9.9	2.9
21	8.6	12.1	4.2	f11.5	f13.7	1.04	.60	.07	2.8	3.8	10.4	2.95
22	8.1	10.4	3.9	8.6	12.1	.95	.60	.09	2.75	3.5	10.9	4.2
23	8.1	9.9	3.65	7.6	12.7	.87	.53	.09	2.85	3.5	11.5	4.3
24	7.6	15	3.45	6.8	12.7	.82	.46	.09	3.45	3.45	10.9	12.4
25	7.6		6.1	6.4	12.7	.71	.42	.09	6.3	3.15	22.5	11
26	7.6		6.4	6.0	11.5	.60	.37	.14	6.0	2.95	21	10
27	7.2	19	5.4	6.4	10.4	.53	.35	.18	5.4	2.85	20	9
28	6.8		5.6	6.0	9.0	.42	.30	.18	5.6	2.65	18	9
29	6.4		5.4	6.0	8.1	.40	.25	-	6.4	2.5	18	10
30	7.6		5.4	5.6	7.2	.35	.20	-	6.4	2.35	18	18
31	9.1		-	8.7	-	.30	.16	-	6.8	-	17	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	9.1	2.55	6.22	9.62	193	592
August	-	7.6	13.8	21.4	426	1,310
September	-	3.45	10.7	16.6	320	984
October	13.3	3.65	7.36	11.4	228	700
November	13.7	6.8	9.98	15.4	299	919
December	6.4	.30	2.19	3.39	68.0	209
Calendar year 1940	-	.11	4.70	7.27	1,720	5,280
January	5.1	.18	1.14	1.76	35.4	109
February	.18	.04	.082	.127	2.31	7.1
March	6.8	.18	2.25	3.48	69.7	214
April	7.2	2.35	4.79	7.41	144	441
May	22.5	2.3	8.59	13.3	266	817
June	18	2.8	6.97	10.8	209	641
Fiscal year 1940-41	22.5	.04	6.20	9.59	2,260	6,940

f Computed on basis of partly estimated gage-height record.
Note.- No gage-height record Aug. 11-18, Aug. 24 to Sept. 10, Oct. 3, May 26-31, June 25-30; discharge computed on basis of records for station on Wailuku River.

Wailuku River above Hilo Boarding School ditch intake, near Hilo

Location.- Lat. 19°42'55", long. 155°09'10", 1,000 feet upstream from intake of Hilo Boarding School ditch, three-quarters of a mile west of reservoir 1, and 4 miles west of Hilo. Altitude of gage, 1,060 feet (by barometer).
Drainage area.- 124.5 square miles.
Records available.- July 1928 to June 1941. Station was not in operation for three months owing to destruction of recorder shelter by flood of August 1940.
Average discharge.- 11 years (1929-40) 184 million gallons a day (285 second-feet).
Extremes.- Maximum discharge during year, 41,000 million gallons a day (63,400 second-feet) Aug. 11 (gage height, 28.6 feet, from floodmarks), from rating curve extended above 3,400 million gallons a day by logarithmic plotting; minimum recorded, 0.16 million gallons a day (0.25 second-foot) Mar. 9.
1928-41: Maximum discharge, that of Aug. 11, 1940; minimum, that of Mar. 9, 1941.
Remarks.- Records good except those for periods of faulty gage-height record, which are fair. Hilo Water Works diverts about 1 million gallons a day above station for domestic supply, and water passing station is used for power by Hilo Electric Light Co.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

1.2	0.27	2.1	12.8	5.0	233	12.0	2,690
1.3	.64	2.3	19.4	6.0	370	13.0	3,510
1.4	1.20	2.5	27	7.0	534	14.0	4,460
1.5	1.90	2.7	36.5	8.0	774	15.0	5,560
1.6	2.85	3.0	53	9.0	1,110	16.0	6,840
1.7	4.0	3.5	88	10.0	1,490		
1.9	7.5	4.0	130	11.0	2,020		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	16.7			-	495	59	e5.8	4.5	0.92	44	16.0	66
2	12.8			-	233	39	108	5.6	.70	39	15.7	62
3	10.8			-	210	31.5	85	5.8	.64	66	15.0	78
4	10.6			-	334	28	87	5.3	.57	132	29	108
5	10.0			-	233	25.5	63	4.3	2.1	73	29.5	92
6	67			-	149	24	36.5	3.55	2.1	53	22	70
7	50			-	112	23.5	27	3.55	1.25	81	18.4	59
8	111			-	116	56	22	3.3	.87	104	15.4	47
9	159			-	371	31	19.4	2.85	.57	66	16.7	50
10	130			-	184	23	17.4	2.65	.64	47	15.4	36.5
11	80			-	112	21	14.4	1.90	1.14	39	18.0	31.5
12	84			-	84	19.1	13.4	1.90	3.4	31.5	65	30
13	-			53	76	17.7	15.0	2.1	3.75	30.5	88	28.5
14	-			44	192	16.7	21.5	1.83	2.3	30.5	76	23
15	-			42	664	15.7	17.7	2.2	.98	66	53	21
16	-			36.5	306	14.7	13.8	2.95	.99	47	53	19.4
17	-			30	234	14.1	12.0	2.55	181	31.5	53	17.4
18	-			26	159	13.4	10.6	1.83	178	26	133	16.0
19	-			23	130	12.0	9.0	1.78	207	27	221	35
20	-			26	214	10.8	9.2	1.34	109	34	221	34
21	-			1,100	595	10.0	9.0	1.09	139	26	159	26
22	-			341	444	9.5	e8.2	1.09	104	20.5	88	62
23	-			221	221	8.8	e7.3	1.09	88	23.5	62	42
24	-			121	159	8.8	e6.7	1.03	106	36.5	54	1,900
25	-			100	130	e8.2	6.0	.92	372	24.5	1,800	3,120
26	-			70	93	e8.2	5.6	.92	159	19.4	986	541
27	-			59	76	e7.5	5.6	.86	84	17.4	416	385
28	-			66	59	e7.1	5.3	.81	80	17.0	271	245
29	-			53	50	e6.7	5.3	-	130	15.7	169	413
30	-			47	52	e6.6	5.1	-	96	14.1	116	6,090
31	-			722	-	e6.0	4.8	-	59	-	84	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July 1-12	159	10.0	61.8	95.6	742	2,280
August	-	-	-	-	-	-
September	-	-	-	-	-	-
October 13-31	1,100	23	167	258	3,180	9,760
November	664	50	216	334	6,490	19,910
December	59	6.0	18.8	29.1	583	1,790
Calendar year	-	-	-	-	-	-
January	108	4.8	21.8	33.7	677	2,080
February	5.8	.61	2.48	3.84	69.6	214
March	372	.57	68.2	106	2,110	6,490
April	132	14.1	42.8	66.2	1,280	3,940
May	1,800	15.0	174	269	5,380	16,510
June	6,090	16.0	458	709	13,750	42,190
Fiscal year	-	-	-	-	-	-

Peak discharge.- Aug. 11, 41,000 m.g.d. (63,400 sec.-ft.); Oct. 21 (7:30 a.m.) 3,930 m.g.d. (6,080 sec.-ft.); June 24 (10 p.m.) 10,900 m.g.d. (16,900 sec.-ft.); June 26 (12.45 a.m.) 12,100 m.g.d. (18,700 sec.-ft.); June 30 (3:45 a.m.) 8,760 m.g.d. (13,500 sec.-ft.); June 30 (4:15 p.m.) 10,300 m.g.d. (15,900 sec.-ft.).
e Faulty gage-height record; discharge computed on basis of estimated gage heights.
Note:- Discharge for July 13 to Oct. 12 not computed because of insufficient data.

Kapehu ditch near Hilo

Location.- Soil Conservation Service type H (De Fabritis) flume, 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.

Extremes.- Maximum discharge during year, 13.4 million gallons a day (20.7 second-feet) Aug. 11 (gage height, 2.54 feet); minimum, 0.01 million gallons a day (0.02 second-foot) May 11.

1938-41: Maximum discharge, 28 million gallons a day (43 second-feet) Jan. 31, 1939 (gage height, 3.51 feet); minimum, 0.01 million gallons a day (0.02 second-foot) Mar. 30, 1938, May 29 to June 2, Dec. 20, 21, 1939, May 11, 1941.

Remarks.- Records excellent except those for period of no gage-height record, which are poor. Water used to supplement the municipal supply of Hilo during dry periods.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.39	2.6	1.16	1.60	1.17	1.19	1.39	1.10	0.79	0.01	0.01	0.01
2	1.39	2.55	.77	1.56	.99	1.04	2.15	1.19	.77	.01	.02	.01
3	1.36	2.5	.66	1.59	.93	.98	1.92	1.22	.77	.01	.02	.02
4	1.32	2.55	.80	.64	.91	.51	1.76	1.13	.86	.01	.01	.01
5	1.29	2.55	1.38	.57	.86	1.85	1.68	.40	1.13	.01	.01	.01
6	1.36	2.5	.88	.57	.86	2.6	1.60	.57	1.02	.01	.01	.01
7	1.29	2.65	.64	.55	.84	2.6	1.56	1.08	.82	.01	.01	.01
8	1.32	2.65	.48	.55	.82	2.9	1.72	1.08	.77	.01	.01	.01
9	1.32	2.45	.28	.55	.98	2.7	1.72	1.05	.78	.01	.01	.01
10	1.32	2.05	.14	.53	.72	2.65	1.60	1.05	.72	.01	.01	.01
11	1.25	3.45	1.09	.51	.70	2.4	1.46	1.05	.82	.01	.01	.01
12	1.39	2.15	2.4	.51	.70	2.3	1.42	1.05	1.41	.01	.01	.01
13	1.69	1.39	2.4	.51	.70	2.35	1.60	1.05	.46	.02	.01	.01
14	2.2	.62	2.4	1.38	.75	2.3	1.80	1.02	.01	.02	.01	.01
15	2.2	.38	2.4	2.0	.84	2.25	1.46	1.08	.55	.02	.01	.01
16	2.2	.18	2.35	2.1	.77	2.2	1.36	1.13	.94	.01	.01	.01
17	2.2	.05	2.35	2.5	.75	2.15	1.29	1.16	1.86	.01	.01	.01
18	2.2	.03	2.3	2.55	.72	2.05	1.25	1.08	.07	.01	.01	.01
19	2.2	.02	2.25	2.55	.70	2.0	1.25	1.02	.03	.02	.01	.01
20	2.2	.01	2.25	2.66	.73	1.96	1.25	.96	.02	.02	.01	.01
21	2.3	1.08	2.2	2.85	.80	1.92	1.22	.93	.02	.01	.02	.01
22	2.3	2.4	2.2	2.2	.60	1.88	1.22	.88	.02	.02	.02	.01
23	2.25	2.35	2.2	2.1	.60	1.84	1.29	.86	.01	.01	.02	.01
24	2.2	2.1	2.15	2.05	f.60	1.76	1.32	.86	.01	.01	.02	.04
25	2.2	1.56	2.25	1.62	a.60	1.66	1.29	.86	.01	.01	.03	.01
26	2.2	1.44	2.2	1.39	a1.00	1.68	1.25	.86	.01	.01	.01	.01
27	2.2	.64	2.05	1.39	f1.16	1.60	1.22	.82	.01	.02	.01	.01
28	2.2	.53	1.96	1.39	1.16	1.56	1.19	.82	.01	.01	.01	.01
29	2.2	.69	1.92	1.32	1.16	1.53	1.16	-	.01	.01	.01	.01
30	2.25	.87	1.92	.82	1.16	1.49	1.13	-	.01	.01	.01	.10
31	2.5	.57	-	.98	-	1.46	1.10	-	.01	-	.01	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	2.5	1.25	1.87	2.89	57.9	178
August	3.46	.01	1.53	2.37	47.4	145
September	2.4	.14	1.68	2.60	50.4	155
October	2.85	.51	1.42	2.20	44.1	135
November	1.17	.60	.843	1.30	25.3	78
December	2.9	.51	1.92	2.97	59.4	182
Calendar year 1940	3.46	.01	1.42	2.20	521	1,600
January	2.15	1.10	1.44	2.23	44.6	137
February	1.22	.40	.977	1.51	27.4	84
March	1.86	.01	.473	.732	14.7	45
April	.02	.01	.012	.019	.37	1.1
May	.03	.01	.013	.020	.39	1.2
June	.04	.01	.014	.022	.42	1.3
Fiscal year 1940-41	3.46	.01	1.02	1.58	372	1,140

a No gage-height record; discharge computed on basis of records for station on Wailuku River.
f Computed on basis of partly estimated gage-height record.

Waimanu11111 Stream near Waimanu

Location.- Lat. 20°07'40", long. 155°39'55", 30 feet upstream from Waimanu trail bridge, 1.7 mile upstream from confluence with Waimanu Stream, 1.9 miles southeast of the head of Awini ditch, and 2.2 miles southwest of Waimanu. Altitude of gage, 2,740 feet (by barometer).

Drainage area.- 0.4 square mile.

Records available.- March 1939 to June 1941.

Extremes.- Maximum discharge during year, 410 million gallons a day (634 second-feet) June 30 (gage height, 4.54 feet), from rating curve extended above 4.2 million gallons a day by test on model of station site; minimum, 0.23 million gallons a day (0.36 second-foot) Dec. 23.

1939-41: Maximum discharge, that of June 30, 1941; minimum, 0.19 million gallons a day (0.29 second-foot) Feb. 4, 1940.

Remarks.- Records fair. No diversions above station.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.3	0.10	0.7	2.1	1.4	16.S	2.6	S7
.4	.30	.8	3.2	1.7	30	3.0	120
.5	.69	1.0	6.3	2.0	47	3.4	164
.6	1.28	1.2	10.7	2.3	66		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.35	26	41	2.2	11.2	0.52	44	1.47	0.65	11.6	10.7	1.50
2	.85	2.9	7.9	1.72	3.0	.48	70	.69	.91	19.5	8.8	1.28
3	1.04	1.58	6.4	.96	4.1	.41	17.0	.52	.74	55	9.6	1.21
4	13.3	23.5	9.7	.69	2.65	.37	3.0	.73	23.5	31.5	12.4	1.28
5	2.75	3.6	13.0	.60	5.2	.33	1.80	5.6	12.0	6.9	3.4	13.7
6	5.9	6.7	3.3	1.30	1.68	.37	12.5	1.42	6.5	11.8	2.3	30
7	4.6	39.5	1.93	1.08	.96	16.8	3.6	4.3	1.35	46	4.8	6.2
8	29	15.6	1.66	.80	.69	10.7	1.50	7.6	1.28	16.5	3.4	9.8
9	24.5	20.5	1.35	.60	.60	1.43	1.02	1.15	8.0	9.5	34.5	7.4
10	22	10.7	1.21	.48	.56	.80	11.0	.69	15.0	9.0	18.1	4.0
11	6.4	47	1.08	4.4	2.35	.60	23	11.3	17.6	4.9	10.8	2.55
12	10.4	39	1.02	2.05	5.6	.52	12.9	2.1	8.1	19.9	26.5	6.2
13	3.8	16.2	2.45	2.25	2.9	.44	9.2	2.5	2.1	20.5	26	8.9
14	4.8	4.1	1.50	1.30	31	.37	4.7	1.43	1.15	5.5	12.2	2.3
15	6.5	15.5	1.15	1.02	29.5	.33	1.58	1.08	.91	3.2	4.4	1.75
16	20	14.9	.96	.60	3.15	.37	1.08	.74	12.9	2.45	21	2.3
17	9.0	10.2	.85	.44	2.0	.30	.85	.65	42	1.66	6.5	2.45
18	4.4	4.4	.74	.37	1.35	.28	.69	.52	36.5	1.70	19.0	1.87
19	5.6	4.9	.65	.52	1.08	.25	.60	.41	12.7	7.0	42	5.4
20	5.0	3.1	.60	8.8	3.4	.28	.56	.33	3.65	5.4	5.9	10.3
21	21	16.5	.52	10.8	3.4	.25	.52	.30	1.93	4.0	2.45	18.1
22	14.1	5.7	.52	1.21	8.3	.25	.44	.28	1.75	5.3	1.66	31.5
23	3.05	8.1	.28	.74	3.6	.78	.44	.25	3.95	5.0	3.65	13.4
24	1.58	50	3.6	7.2	2.0	13.4	.37	.25	3.6	2.3	12.8	49
25	1.43	114	9.5	4.5	1.35	11.2	.33	2.7	16.1	1.50	93	60
26	1.35	39	2.65	1.75	1.21	18.6	.30	2.6	2.55	1.47	25.5	5.5
27	1.02	4.0	4.7	3.1	.80	3.9	.50	.80	6.3	5.3	9.0	10.2
28	.96	5.2	12.3	3.95	.64	3.75	.30	.96	33	2.65	10.0	7.3
29	1.30	28.5	7.2	2.25	.69	2.0	.28	-	12.2	1.50	2.85	34
30	20.5	14.3	4.1	1.20	.65	.91	12.5	-	9.7	1.28	2.0	145
31	9.4	12.0	-	38.5	-	.74	9.7	-	5.2	-	1.75	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	29	0.85	8.29	12.8	257	788
August	114	1.58	19.6	30.3	607	1,860
September	41	.28	4.76	7.36	143	438
October	38.5	.37	3.46	5.35	107	330
November	31	.56	4.52	6.99	136	416
December	18.6	.25	2.96	4.58	91.7	282
Calendar year 1940	114	.21	5.65	8.74	2,070	6,340
January	70	.28	7.94	12.3	246	755
February	11.3	.25	1.91	2.96	53.4	164
March	42	.65	9.80	15.2	304	932
April	55	1.28	10.7	16.6	320	981
May	93	1.66	14.4	22.3	447	1,370
June	145	1.21	16.5	25.5	494	1,520
Fiscal year 1940-41	145	.25	8.78	13.6	3,210	9,840

Kaimu Stream near Waimanu

Location.- Lat. 20°08'30", long. 155°39'40", 300 feet upstream from Waimanu trail, 1.3 miles southeast from head of Awini ditch, 1.4 miles upstream from mouth, and 1.5 miles west of Waimanu. Altitude of gage, 1,980 feet (by barometer).
Drainage area.- 0.5 square mile.
Records available.- March 1939 to June 1941.
Extremes.- Maximum discharge during year, 1,850 million gallons a day (2,860 second-feet) June 30 (gage height, 9.6 feet, from floodmarks), from rating curve extended above 7 million gallons a day by test on model of station site; minimum, 0.29 million gallons a day (0.45 second-foot) Dec. 22.
1939-41: Maximum discharge, that of June 30, 1941; minimum, 0.21 million gallons a day (0.32 second-foot) Feb. 5, 1940.
Remarks.- Records good except those for periods of no gage-height record, which are fair. No diversions.

Rating tables, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Aug. 25, Nov. 1 to Jan. 1						Aug. 26 to Oct. 31, Jan. 2 to June 30					
0.3	0.26	1.0	5.5	2.3	69	0.2	0.10	0.8	4.5	2.3	69
.4	.54	1.2	8.8	2.4	100	.3	.31	1.0	7.3	2.4	100
.5	.95	1.4	13.5	2.5	150	.4	.70	1.2	12.0	2.5	150
.6	1.50	1.6	20	2.7	181	.5	1.28	1.4	17.8	2.7	181
.7	2.2	1.9	35			.6	2.15	1.7	28.5	2.9	212
.8	3.15	2.1	48			.7	3.25	2.0	43	3.0	240

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	1.06	14.1	29	2.35	7.9	0.62	49	2.0	0.65	8.5	7.0	1.96
2	.70	2.15	7.3	2.05	1.85	.54	65	.80	.68	14.2	6.3	1.68
3	.62	1.44	6.2	1.09	3.1	.51	20	.65	.64	38.5	7.8	1.52
4	6.2	13.3	7.8	.85	1.78	.48	3.5	1.5	16	23	8.5	1.44
5	1.96	2.6	11.5	.75	3.25	.46	2.0	5.6	10	6.9	3.25	9.1
6	3.0	4.8	4.2	1.26	1.42	.48	9.0	1.4	5.0	11.9	2.5	27
7	3.15	34.5	2.9	1.09	.87	9.0	3.7	8.0	1.5	51	4.0	6.0
8	13.1	9.3	2.35	.85	.70	7.6	1.7	7.4	1.4	12.2	3.95	8.4
9	12.4	11.6	1.96	.70	.62	1.28	1.3	1.3	7.0	8.3	22	7.0
10	13.0	5.8	1.68	.61	.54	.79	10	.90	12	8.4	12.5	4.4
11	4.4	32.5	1.44	5.0	2.15	.60	18	7.5	12	8.3	8.5	3.05
12	6.0	51	1.28	2.25	5.0	.50	11	1.9	7.0	11.6	16.8	4.6
13	3.15	8.6	1.99	3.65	2.3	.44	7.0	1.9	2.5	12.3	17.7	6.9
14	3.7	3.5	1.71	1.15	19.4	.41	4.0	1.4	1.52	5.4	9.7	2.5
15	3.9	8.7	1.15	1.15	21.5	.39	2.2	1.0	1.15	3.9	4.6	1.96
16	8.6	7.6	1.03	.70	2.7	.41	1.5	.70	13.9	3.05	14.0	2.5
17	6.0	6.5	.91	.61	1.85	.38	1.15	.60	22.5	2.15	5.9	2.35
18	3.4	3.25	.80	.53	1.34	.34	.97	.54	24.5	2.15	12.9	1.68
19	3.15	3.45	.75	.57	1.12	.31	.91	.50	9.6	6.6	44	4.0
20	3.05	2.4	.70	5.4	2.25	.31	.80	.46	4.2	4.5	6.1	7.4
21	10.1	9.1	.65	9.8	3.05	.31	.70	.44	2.5	3.8	3.25	10.2
22	8.1	3.9	.65	1.52	6.8	.29	.70	.42	2.05	4.9	2.5	17.1
23	2.4	4.6	.61	.91	3.25	.90	.66	.42	3.75	4.8	4.2	9.8
24	1.44	65	2.4	4.0	1.85	12	.61	.41	3.95	2.7	10.8	43
25	1.34	153	7.6	4.6	1.34	10	.56	2.7	10.4	1.77	136	60
26	1.17	31.5	2.85	1.77	.95	13	.51	2.6	2.7	1.58	22	5.8
27	.91	6.0	2.15	1.88	.83	3.0	.51	.80	5.2	4.6	8.1	8.5
28	.91	6.1	9.4	3.6	.70	2.1	.47	.76	21.5	2.7	8.2	6.6
29	1.00	19.9	5.6	2.35	.85	1.5	.43	-	9.0	1.68	3.6	28.5
30	21	12.6	4.2	1.09	.87	1.2	12	-	7.1	1.35	2.9	230
31	5.6	8.8	-	32.5	-	1.0	8.0	-	4.8	-	2.5	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	21	0.62	4.98	7.71	155	474
August	153	1.44	17.7	27.4	548	1,680
September	29	.61	4.09	6.33	123	376
October	32.5	.53	3.12	4.83	96.6	297
November	21.5	.54	3.40	5.26	102	313
December	13	.29	2.30	3.56	71.2	218
Calendar year 1940	153	.23	4.59	7.10	1,680	5,160
January	65	.43	7.67	11.9	238	730
February	8.0	.41	1.95	3.02	54.6	168
March	24.5	.64	7.31	11.3	227	696
April	51	1.35	8.99	13.9	270	828
May	136	2.5	13.7	21.2	424	1,300
June	230	1.44	17.5	27.1	525	1,610
Fiscal year 1940-41	230	.29	7.76	12.0	2,830	8,600

Note.- No gage-height record Dec. 16 to Jan. 16, Jan. 23 to Mar. 13, June 30; discharge computed on basis of records for stations on Punaluiu and Waimanuliiiii Streams.

Punalulu Stream near Waimanu

Location.- Lat. 20°08'50", long. 155°39'40", 200 feet upstream from Waimanu trail, 1.0 mile southeast from head of Awini ditch, 1.5 miles upstream from mouth, and 1.5 miles west of Waimanu. Altitude of gage, 1,870 feet (by barometer).

Drainage area.- 1.4 square miles.

Records available.- March 1939 to June 1941.

Extremes.- Maximum discharge during year, 980 million gallons a day (1,520 second-feet) June 30 (gage height, 4.90 feet), from rating curve extended above 4 million gallons a day by test on model of station site; minimum, 0.13 million gallons a day (0.20 second-foot) Dec. 23.

1939-41: Maximum discharge, that of June 30, 1941; minimum, 0.10 million gallons a day (0.16 second-foot) Oct. 3-5, 1939.

Remarks.- Records good. No diversions.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.2	0.11	0.6	1.93	1.2	9.9	2.5	54
.3	.29	.7	2.85	1.4	13.7	3.0	86
.4	.68	.8	4.0	1.7	21.5	3.5	135
.5	1.22	1.0	6.6	2.0	30	4.0	185

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.83	16.4	31.5	1.42	7.7	0.46	36	1.14	0.46	9.2	4.6	1.10
2	.54	2.2	5.3	1.32	1.62	.42	65	.59	.50	11.9	4.2	.93
3	.46	1.48	4.2	.68	2.9	.36	18.2	.42	.46	39	5.8	.83
4	5.9	13.8	5.2	.50	1.48	.33	3.2	1.95	16.3	22.5	6.7	.83
5	1.72	2.55	9.9	.42	2.8	.29	1.77	5.9	9.5	5.8	2.1	5.8
6	2.7	4.7	2.65	.69	1.22	.27	7.5	1.20	4.6	10.0	1.48	22.5
7	2.75	28.5	1.77	.63	.68	8.2	2.8	9.7	1.28	37.5	2.35	4.4
8	15.7	11.9	1.41	.50	.54	9.1	1.28	7.0	1.10	10.6	1.60	6.4
9	14.9	13.4	1.22	.39	.42	1.16	.93	1.22	5.0	7.1	20	4.8
10	14.2	5.8	1.04	.29	.39	.63	7.9	.78	9.7	6.9	9.9	3.0
11	4.2	31.5	.93	2.95	2.2	.46	16.8	6.4	11.7	4.0	6.7	1.85
12	6.4	31.5	.85	1.84	4.8	.39	7.9	1.70	6.0	9.0	16.2	2.4
13	2.85	9.9	1.04	2.7	2.05	.33	6.1	1.62	1.79	11.2	16.3	5.1
14	3.55	3.4	1.04	.68	22.5	.29	3.5	1.10	1.04	3.75	7.8	1.55
15	5.4	8.6	.78	.68	23.5	.24	1.48	.93	.78	2.4	2.75	1.16
16	10.0	7.6	.68	.42	2.65	.33	1.04	.63	8.1	1.85	11.2	1.41
17	5.9	6.6	.65	.29	1.77	.22	.83	.54	23	1.35	3.75	1.41
18	3.2	3.05	.54	.24	1.22	.19	.68	.42	24	1.22	10.6	.99
19	3.15	3.1	.50	.29	.93	.17	.59	.36	7.8	4.5	28	2.1
20	3.15	2.1	.42	4.7	2.55	.17	.50	.29	3.15	2.5	4.4	5.2
21	12.1	9.7	.39	8.4	3.0	.17	.46	.29	1.70	2.46	2.0	8.1
22	9.0	3.75	.39	1.00	9.7	.14	.42	.24	1.35	3.05	1.48	15.7
23	2.4	4.9	.36	.54	3.35	.49	.39	.24	2.55	2.95	3.0	7.1
24	1.41	50	.78	2.45	1.70	12.7	.36	.22	2.75	1.70	7.8	31
25	1.22	99	5.7	3.0	1.22	10.9	.33	2.7	9.3	1.10	85	51
26	1.04	19.5	1.82	1.16	.88	10.6	.29	2.65	1.77	.92	22.5	4.1
27	.85	4.0	1.46	1.20	.73	2.85	.29	.68	3.8	2.9	6.1	6.2
28	.83	3.95	7.0	1.89	.59	1.93	.27	.63	20.5	1.62	6.1	4.4
29	.88	18.1	4.4	1.33	.80	1.36	.24	-	7.2	1.04	2.1	15.0
30	18.2	10.5	2.7	.63	.73	.78	11.2	-	5.2	.83	1.62	182
31	6.1	6.0	-	25.5	-	.59	5.8	-	2.85	-	1.35	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	18.2	0.46	5.15	7.97	160	490
August	99	1.48	14.1	21.8	437	1,340
September	31.5	.36	3.22	4.98	96.6	296
October	25.5	.24	2.22	3.43	68.7	211
November	23.5	.39	3.56	5.49	107	327
December	12.7	.14	2.15	3.33	66.5	204
Calendar year 1940	99	.13	3.87	5.99	1,420	4,340
January	65	.24	6.58	10.2	204	626
February	9.7	.22	1.84	2.86	51.5	158
March	24	.46	6.30	9.75	195	599
April	39	.83	7.56	11.4	221	678
May	85	1.35	9.79	15.1	303	931
June	182	.83	15.3	23.6	398	1,220
Fiscal year 1940-41	182	.14	6.53	9.79	2,310	7,080

Waiaalala Stream near Waimanu

Location.- Lat. 20°09'05", long. 155°39'55", 0.7 mile east from head of Awini ditch, 1.3 miles upstream from mouth, and 1.8 miles west of Waimanu. Altitude of gage, 1,880 feet (by barometer).
Drainage area.- 0.2 square mile.
Records available.- March 1939 to June 1941.
Extremes.- Maximum discharge during year, 63 million gallons a day (98 second-feet) June 30 (gage height, 3.65 feet), from rating curve extended above 0.7 million gallons a day by test on model of station site; minimum, 0.19 million gallons a day (0.29 second-foot) July 3, 5.
1939-41: Maximum discharge, 67 million gallons a day (104 second-feet) Feb. 22, 1940 (gage height, 3.83 feet), from rating curve extended above 0.7 million gallons a day by test on model of station site; minimum, 0.14 million gallons a day (0.22 second-foot) Mar. 22, 1940.
Remarks.- Records good. No diversions.

Rating tables, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

July 1 to Apr. 7

0.2	0.18	0.5	1.17
.3	.39	.6	1.89
.4	.72		

Note.- Same as following table above 0.6 foot.

Apr. 8 to June 30

0.2	0.15	0.6	1.89	1.0	6.2
.3	.33	.7	2.9	1.2	13.4
.4	.64	.8	4.3	1.4	17.3
.5	1.15	.9	6.0		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.21	2.05	4.1	0.37	0.56	0.34	5.2	0.31	0.31	0.74	0.29	0.53
2	.21	.65	1.07	.34	.34	.34	9.6	.31	.29	1.24	.29	.53
3	.21	.55	.89	.34	.34	.31	4.0	.29	.29	6.2	.36	.50
4	.21	1.13	1.14	.31	.31	.31	.93	1.00	1.77	2.95	.38	.47
5	.21	.51	1.91	.31	.29	.29	.68	.96	1.82	1.08	.29	.50
6	.29	.52	.84	.31	.27	.29	.87	.39	.65	1.12	.29	1.92
7	.25	1.27	.72	.29	.27	.52	.58	3.55	.48	4.2	.27	.60
8	.65	2.35	.72	.29	.27	.89	.51	1.83	.45	1.25	.27	.94
9	.74	1.84	.65	.29	.27	.31	.48	.53	.42	.94	1.27	.68
10	1.09	.84	.61	.27	.27	.27	.79	.48	.80	.86	.68	.57
11	.39	3.5	.55	.42	.64	.27	2.25	.65	.82	.64	.56	.53
12	.51	3.5	.55	.55	.83	.27	.68	.42	.64	.57	.82	.50
13	.37	1.47	.58	.44	.39	.27	.68	.59	.45	.64	1.09	.47
14	.37	.89	.55	.29	2.35	.27	.55	.39	.39	.53	.71	.44
15	.34	.99	.55	.27	3.05	.27	.48	.37	.39	.47	.57	.44
16	.60	.84	.51	.27	.68	.29	.45	.34	.78	.47	1.03	.44
17	.60	.84	.48	.27	.55	.27	.42	.34	.71	.44	.53	.41
18	.45	.61	.48	.27	.45	.25	.42	.34	2.7	.44	.73	.41
19	.34	.58	.45	.27	.39	.25	.39	.31	.80	.61	1.37	.38
20	.34	.55	.42	.39	.53	.25	.39	.31	.65	.41	.57	.41
21	.66	.80	.42	.75	.45	.25	.39	.31	.51	.38	.53	.69
22	.87	.61	.42	.27	2.65	.23	.39	.31	.48	.41	.50	.70
23	.42	.73	.39	.27	.72	.35	.37	.29	.51	.38	.79	.50
24	.39	4.0	.48	.29	.55	3.15	.37	.29	.48	.36	.86	5.2
25	.37	10.6	.48	.29	.48	2.05	.34	1.09	.84	.33	6.4	5.8
26	.34	2.7	.39	.27	.42	.61	.54	.53	.48	.33	3.5	.91
27	.34	1.07	.37	.27	.39	.48	.34	.34	.55	.36	1.09	.72
28	.34	1.09	.48	.27	.39	.39	.34	.31	1.57	.33	.77	.64
29	.34	1.44	.62	.25	.45	.37	.31	-	.65	.31	.64	1.78
30	3.25	1.24	.42	.25	.39	.31	.44	-	.55	.29	.64	17.3
31	1.04	1.51	-	1.74	-	.31	.42	-	.51	-	.57	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	3.25	0.21	0.540	0.836	16.7	51
August	10.6	.51	1.65	2.55	51.3	157
September	4.1	.37	.741	1.15	22.2	68
October	1.74	.25	.370	.572	11.5	35
November	3.05	.27	.665	1.03	19.9	61
December	3.15	.23	.485	.750	15.0	46
Calendar year 1940	10.6	.15	.582	.900	213	682
January	9.6	.31	1.11	1.72	34.4	106
February	3.55	.29	.608	.941	17.0	52
March	2.7	.29	.734	1.14	22.7	70
April	5.2	.29	.975	1.51	29.3	90
May	5.4	.27	.925	1.43	28.7	88
June	17.3	.38	1.52	2.35	45.7	140
Fiscal year 1940-41	17.3	.21	.862	1.33	314	964

Paopao Stream near Waimanu

Location.- Lat. 20°09'05", long. 155°40'05", 150 feet upstream from Waimanu trail, 0.6 miles east of intake to Awini ditch, and 1.9 miles west of Waimanu. Altitude of gage, 1,910 feet (by barometer).

Drainage area.- 0.55 square mile.

Records available.- February 1939 to June 1941.

Extremes.- Maximum discharge during year, 230 million gallons a day (356 second-feet) June 30 (gage height, 4.30 feet), from rating curve extended above 8 million gallons a day by test on model of station site; minimum, 0.18 million gallons a day (0.28 second-foot Mar. 3.

1939-41: Maximum discharge, 264 million gallons a day (408 second-feet) Feb. 22, 1940 (gage height, 4.53 feet), from rating curve extended above 8 million gallons a day by test on model of station site; minimum, 0.14 million gallons a day (0.22 second-foot) Feb. 8, 1940.

Remarks.- Records fair. No diversions.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)
(Shifting-control method used Nov. 15 to Feb. 7 and Apr. 7 to May 19)

0.2	0.20	0.6	2.4	1.4	18.4
.25	.34	.7	3.65	1.7	28.5
.3	.49	.8	5.1	2.0	41
.4	.89	1.0	8.7	2.5	68
.5	1.48	1.2	13.1		

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.37	8.7	14.1	0.53	2.85	0.49	a20.5	0.49	0.26	2.65	0.92	0.64
2	.28	1.04	2.1	.46	.64	.46	a32	.37	.20	5.8	.82	.60
3	.26	.80	1.48	.37	.83	.40	11.0	.34	.20	19.8	1.88	.57
4	1.31	6.2	3.05	.34	.53	.37	2.05	2.6	9.1	12.6	1.43	.53
5	.60	.89	5.8	.31	.68	.40	1.10	4.3	6.7	2.55	.53	1.71
6	1.45	2.1	1.27	.34	.49	.37	a3.35	.64	1.69	5.0	.40	11.0
7	.89	10.3	.99	.34	.37	a1.98	1.28	9.9	.57	16.5	.49	1.60
8	6.7	6.7	.89	.31	.31	a4.2	.80	5.0	.46	4.3	.36	4.0
9	6.6	6.5	.80	.28	.28	.64	.68	.68	1.77	2.7	8.2	2.3
10	7.4	1.76	.72	.28	.28	.46	5.6	.46	4.1	2.9	3.7	1.36
11	1.38	14.3	.64	2.15	2.15	.43	a10.5	2.55	5.1	1.30	2.2	.80
12	3.05	12.8	.60	1.35	3.5	.40	3.35	.57	2.0	1.64	6.2	.72
13	1.07	3.9	.64	1.47	1.04	.37	2.8	.46	.68	3.05	7.2	1.42
14	1.63	1.52	.57	.43	10.7	.34	1.59	.40	.46	.99	2.5	.64
15	1.04	3.7	.53	.34	12.6	.34	.89	.34	.43	.80	.92	.57
16	3.55	2.7	.49	.28	1.52	.37	.72	.31	4.5	.64	4.3	.68
17	2.45	2.75	.46	.28	.94	.34	.64	.28	5.4	.49	.99	.57
18	1.18	1.04	.43	.28	.76	.31	.57	.26	10.8	.49	3.15	.49
19	.98	.99	.43	.28	.68	.31	.49	.26	3.1	1.77	12.0	.49
20	1.00	.80	.40	2.5	1.89	.28	.43	.26	1.27	.76	1.60	1.30
21	4.8	4.0	.40	4.0	1.35	.31	.43	.23	.68	.66	.94	3.55
22	3.9	1.36	.40	.49	7.9	.28	.40	.20	.57	1.34	.76	5.0
23	.94	2.05	.37	.34	1.98	.51	.37	.20	1.58	.96	2.15	2.05
24	.68	21	1.06	.56	1.04	all.6	.37	.20	.95	.57	3.1	16.5
25	.60	39.5	2.0	.99	.84	4.8	.37	2.75	3.25	.37	33	20.5
26	.57	11.6	.76	.53	.72	3.65	.34	1.30	.60	.34	10.7	1.60
27	.49	2.05	.63	.52	.64	1.26	.34	.34	1.47	.87	2.35	1.80
28	.46	2.25	2.85	.64	.53	.89	.34	.28	8.7	.49	1.99	1.51
29	.49	6.0	2.35	.37	.76	.68	.31	-	2.05	.34	.99	7.0
30	10.8	5.1	1.06	.28	.68	.49	5.1	-	1.31	.31	.84	60
31	2.55	3.55	-	11.3	-	.53	2.35	-	.76	-	.76	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	10.8	0.26	2.24	3.47	69.5	213
August	39.5	.80	6.06	9.38	188	577
September	14.1	.37	1.51	2.49	48.3	148
October	11.3	.28	1.06	1.64	32.9	101
November	12.6	.28	1.98	3.06	59.5	183
December	11.6	.28	1.23	1.90	38.3	117
Calendar year 1940	39.5	.18	1.87	2.89	685	2,100
January	32	.31	3.58	5.54	111	341
February	9.9	.20	1.28	1.98	36.0	110
March	10.8	.20	2.60	4.02	80.7	248
April	19.8	.31	3.10	4.80	93.0	285
May	33	.36	3.79	5.86	117	360
June	60	.49	5.05	7.81	152	465
Fiscal year 1940-41	60	.20	2.81	4.35	1,030	3,150

a No gage-height record; discharge computed on basis of records for station on Kukui Stream.

Kukui Stream near Waimanu

Location.- Lat. 20°09'10", long. 155°40'10", 300 feet upstream from Waimanu trail crossing, 0.4 mile east from head of Awini ditch, and 2.1 miles west of Waimanu. Altitude of gage, about 1,940 feet (by barometer).

Drainage area.- 0.4 square mile.

Records available.- February 1939 to June 1941.

Extremes.- Maximum discharge during year, 96 million gallons a day (149 second-feet) June 30 (gage height, 3.80 feet), from rating curve extended above 1.8 million gallons a day by test on model of station site; minimum, 0.24 million gallons a day (0.37 second-foot) Dec. 20-23, Mar. 3.
1939-41: Maximum discharge, that of June 30, 1941; minimum, 0.15 million gallons a day (0.23 second-foot) Jan. 25, 26, Feb. 6, 7, 1940.

Remarks.- Records good. No diversions above station.

Rating table, fiscal year 1940-41 (gage height, in feet, and discharge, in million gallons a day)

0.2	0.24	0.6	2.05	1.4	10.5
.3	.54	.8	3.6	1.7	15.2
.4	.94	1.0	5.5	2.0	21
.5	1.45	1.2	7.8	2.5	32

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.39	5.3	8.5	0.51	1.80	0.48	9.7	0.42	0.30	1.46	0.66	0.82
2	.36	1.20	1.93	.45	.66	.45	15.9	.33	.30	2.95	.66	.74
3	.36	.90	1.51	.42	.62	.42	6.3	.30	.30	11.7	1.11	.70
4	.62	3.2	2.35	.39	.48	.42	1.66	1.99	4.4	7.5	1.06	.66
5	.51	.99	3.85	.36	.51	.39	1.04	2.35	4.0	2.35	.58	.95
6	.93	1.14	1.35	.36	.45	.36	2.1	.54	1.19	2.65	.51	5.5
7	.66	4.6	1.14	.36	.39	1.31	1.00	6.4	.62	9.0	.51	1.33
8	2.8	4.7	.99	.33	.36	2.8	.74	3.08	.51	3.1	.48	2.25
9	3.2	1.81	.90	.33	.33	.54	.66	.74	.66	2.35	4.6	1.57
10	3.9	1.57	.86	.33	.33	.45	3.15	.54	2.25	2.3	2.15	1.17
11	1.14	7.7	.78	1.19	1.52	.42	5.0	1.31	2.4	1.45	1.78	.86
12	1.70	6.8	.74	.97	2.15	.36	1.63	.54	1.47	1.13	3.15	.78
13	.93	3.1	.74	.98	.81	.36	1.55	.48	.70	1.96	3.95	.86
14	.95	1.63	.70	.42	5.8	.33	.99	.45	.54	1.04	2.1	.70
15	.82	2.25	.66	.33	7.1	.30	.74	.42	.51	.90	1.12	.66
16	1.96	1.97	.62	.33	1.20	.33	.66	.39	1.97	.86	2.85	.66
17	1.73	1.89	.58	.30	.82	.30	.62	.36	2.6	.74	1.09	.58
18	1.05	1.09	.54	.30	.70	.27	.54	.33	6.0	.70	2.15	.58
19	.82	.94	.51	.33	.60	.27	.54	.33	1.75	1.41	5.3	.54
20	.84	.90	.48	.96	1.18	.27	.54	.33	1.02	.78	1.53	.86
21	2.6	2.15	.48	2.25	.95	.27	.51	.30	.74	.74	1.04	1.82
22	2.5	1.14	.48	.48	4.8	.24	.48	.30	.66	.89	.90	2.2
23	.94	1.31	.42	.36	1.44	.48	.45	.30	.99	.86	1.57	1.18
24	.78	9.7	.71	.42	.90	5.4	.45	.30	.82	.70	1.84	6.3
25	.74	19.3	1.13	.62	.74	3.3	.42	2.05	1.90	.58	14.3	10.5
26	.66	6.7	.66	.48	.66	1.78	.39	.98	.66	.54	6.8	1.45
27	.62	2.05	.48	.39	.58	.90	.36	.42	.96	.74	1.99	1.30
28	.62	2.05	1.32	.45	.54	.70	.36	.33	4.4	.62	1.57	1.14
29	.62	3.3	1.42	.36	.66	.58	.33	-	1.44	.51	1.09	3.5
30	5.9	3.05	.84	.33	.62	.48	1.49	-	.90	.48	.94	27
31	1.99	2.7	-	5.2	-	.51	.97	-	.74	-	.86	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	5.9	0.36	1.41	2.18	43.6	134
August	19.3	.90	3.46	5.35	107	329
September	8.5	.42	1.26	1.95	37.7	116
October	5.2	.30	.687	1.06	21.3	65
November	7.1	.33	1.32	2.04	39.7	122
December	5.4	.24	.822	1.27	25.5	78
Calendar year 1940	19.3	.15	1.10	1.70	404	1,240
January	15.9	.33	1.98	3.06	61.3	188
February	6.4	.30	.950	1.47	26.6	82
March	6.0	.30	1.55	2.40	47.9	147
April	11.7	.48	2.10	3.25	63.0	193
May	14.3	.48	2.27	3.51	70.2	216
June	27	.54	2.64	4.08	79.2	243
Fiscal year 1940-41	27	.24	1.71	2.65	623	1,910

Awini ditch at East Honokaneiki Gulch, near Niulii

Location.- Lat. 20°09'55", long. 155°43'10", at flume across East Honokaneiki Gulch, 4½ miles southeast of Niulii.

Records available.- October 1927 to June 1941.

Average discharge.- 12 years (1928-38, 1939-41) 11.9 million gallons a day (18.4 second-feet).

Extremes.- Maximum discharge during year, 30.5 million gallons a day (47.2 second-feet) Aug. 24, 25 (gage height, 3.58 feet); minimum, 0.93 million gallons a day (1.44 second-feet) Dec. 23.
1927-41: Maximum discharge, 34 million gallons a day (53 second-feet) Jan. 9, 1935 (gage height, 3.76 feet); no flow when ditch was dry or water was turned out.

Remarks.- Records good. Awini ditch diverts water at altitude 2,000 feet from all streams between the Waikaloa and the Honokane. Flow regulated by head gates and spillways. Water used for irrigation in vicinity of Kohala.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	9.6	25	29	12.9	22	4.4	14.5	10.1	4.9	19.0	10.6	11.0
2	6.0	16.6	25	11.6	12.9	3.55	23	5.6	4.6	25	16.6	9.7
3	4.6	11.6	23	7.4	14.3	3.2	21	4.3	4.5	27	17.4	9.1
4	15.3	21.5	19.0	6.0	12.2	2.8	13.6	7.3	21.5	25	21	8.0
5	15.0	17.4	25	5.1	15.0	2.05	9.1	23	22	24	15.8	14.7
6	15.1	16.6	21	6.4	11.0	2.05	13.3	12.6	22	20	10.3	23
7	20	24	16.6	6.9	6.4	5.2	12.9	12.5	11.0	25	9.1	23
8	22.5	25	15.8	5.6	4.5	19.0	6.6	22	8.0	25	8.6	20
9	27	25	14.3	4.6	3.55	11.6	5.6	12.2	14.0	24	24	21
10	27	20	12.2	3.85	3.05	6.0	7.9	8.6	24	24	25	19.0
11	22	25	11.0	12.4	7.6	4.0	24	17.1	25	23	24	13.6
12	21	25	9.7	13.3	16.6	3.2	20	13.6	23	22	25	12.2
13	21	23	9.1	18.1	9.1	2.8	20	12.9	15.0	24	25	18.2
14	14.3	16.6	9.1	7.4	13.0	2.55	15.6	10.3	9.7	22	24	12.9
15	21	18.6	8.6	5.4	24	2.4	11.6	7.4	6.9	17.4	19.0	9.7
16	23	25	8.0	4.3	13.6	2.2	9.7	6.0	11.7	14.3	23	10.3
17	24	24	7.4	3.55	9.7	1.54	8.0	5.1	25	11.0	22	10.3
18	19.0	20	6.9	3.05	7.4	1.26	6.9	4.5	25	9.1	23	8.6
19	13.6	15.8	6.0	2.85	5.6	1.22	6.4	4.0	24	13.9	25	13.2
20	17.4	16.6	5.6	3.45	7.5	1.05	5.8	3.55	20	12.2	23	23
21	25	20	5.3	20	17.4	.97	5.4	3.3	13.6	11.0	17.4	19.0
22	25	22	4.9	9.5	19.4	1.01	5.0	3.05	11.6	8.6	13.6	25
23	18.2	19.0	4.5	5.6	19.0	1.49	4.7	2.85	13.6	14.3	12.2	23
24	12.2	27	5.1	8.2	12.9	8.4	4.5	2.65	16.6	9.7	22	27
25	9.7	31	16.3	17.3	8.0	20	4.2	9.5	21	6.9	25	27
26	8.0	29	19.0	10.3	6.0	18.2	3.9	18.6	15.0	6.9	23	18.2
27	6.9	22	12.9	8.0	5.2	15.0	3.7	6.9	15.5	11.0	17.4	19.0
28	6.4	17 4	21	12.2	4.2	12.2	3.5	6.0	24	12.2	21	21
29	6.0	25	19.1	11.0	3.8	9.7	3.4	-	23	9.7	19.0	19.0
30	15.8	27	19.0	6.4	6.4	5.7	5.8	-	21	6.9	15.0	11.4
31	20	25	-	17.6	-	3.85	19.0	-	17.4	-	12.9	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	27	4.6	16.5	25.5	512	1,570
August	31	11.6	21.8	33.7	677	2,080
September	29	4.5	13.6	21.0	409	1,260
October	20	2.85	8.72	13.5	270	829
November	24	3.05	10.7	16.6	321	986
December	20	.97	5.76	8.91	179	548
Calendar year 1940	31	.97	10.9	16.9	3,970	12,200
January	24	3.4	10.4	16.1	321	986
February	23	2.65	9.12	14.1	256	784
March	25	4.5	16.6	25.7	514	1,580
April	27	6.9	16.8	26.0	504	1,550
May	25	8.6	19.0	29.4	590	1,810
June	27	8.0	16.7	25.8	500	1,530
Fiscal year 1940-41	31	.97	13.8	21.4	5,050	15,510

East Honokaneiki intake to Awini ditch at East Honokaneiki Gulch, near Niulii

Location.- Sharp-crested weir, 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, and 4½ miles southeast of Niulii.

Records available.- October 1927 to June 1938, July 1939 to June 1941.

Average discharge.- 10 years (1928-38, 1937-38, 1939-40) 1.22 million gallons a day (1.89 second-feet).

Extremes.- Maximum discharge during year, 8.8 million gallons a day (13.6 second-feet) May 18 (gage height, 1.50 feet); no flow sometime between Aug. 1 and Sept. 6.
1927-38, 1939-41: Maximum discharge (revised), that of May 18, 1941; no flow occasionally.

Remarks.- Records good except those for period of no gage-height record, which are poor. Intake diverts water from East Honokaneiki Gulch to Awini ditch for irrigation in vicinity of Kohala. Flow regulated by head gates.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.32		-	0.70	3.0	0.26	3.55	0.60	0.17	1.85	1.25	0.60
2	.20		-	.50	1.0	.20	4.7	.23	.12	2.9	1.35	.48
3	.14		-	.45	1.1	.14	2.75	.12	.10	4.0	1.98	.41
4	1.51		-	.40	.80	.12	1.75	1.49	4.2	3.2	3.55	.35
5	.71		-	.35	2.3	.12	1.11	4.9	3.55	1.96	.79	.92
6	1.68		-	.39	.70	.10	1.90	1.06	2.5	1.80	.32	2.6
7	1.40		0.83	.39	.40	1.25	1.40	2.2	.56	3.2	.29	1.01
8	4.5		.64	.35	.23	3.7	.75	2.75	.32	2.4	.35	.83
9	5.0		.52	.33	.18	.71	.48	.87	1.60	2.05	5.0	.79
10	4.6		.41	.30	.14	.32	1.11	.44	4.5	2.05	4.4	.83
11	1.60		.38	2.0	.12	.20	3.0	1.90	4.4	1.85	3.25	.64
12	2.15		.35	2.1	2.5	.14	2.05	.97	3.1	3.3	4.4	.56
13	1.41		.35	2.5	.90	.10	2.05	.75	.97	5.7	4.3	1.35
14	.71		.33	.60	3.0	.10	1.35	.48	.48	2.1	3.15	.60
15	1.72		.30	.45	5.0	.08	.75	.32	.32	1.35	1.30	.38
16	3.6		.27	.35	1.1	.08	.48	.23	1.75	1.06	3.9	.38
17	3.0		.25	.20	.60	.06	.38	.17	4.3	.75	2.25	.38
18	.97		.23	.13	.44	.04	.32	.14	3.85	.60	3.55	.41
19	.75		.21	.08	.35	.04	.26	.12	2.7	.97	3.45	.64
20	1.58		.19	.04	1.94	.04	.23	.10	1.85	.68	2.1	3.7
21	5.0		.18	2.6	2.65	.04	.20	.08	1.06	.48	1.11	2.3
22	3.15		.17	.70	4.5	.03	.17	.06	.71	.44	.79	2.9
23	.97		.17	.40	2.65	.12	.14	.06	.83	.79	1.04	1.96
24	.52		.17	.64	.97	1.95	.14	.06	.97	.44	2.6	2.65
25	.38		1.4	1.5	.60	2.75	.12	1.62	2.4	.44	1.95	.23
26	.32		1.6	.60	.44	2.65	.10	1.88	.97	.23	.02	.10
27	.26		.90	.54	.35	1.55	.10	.38	1.49	.44	1.78	.10
28	.26		2.0	.70	.29	.97	.08	.26	3.4	.48	2.45	.08
29	.23		1.3	.70	.35	.60	.08	-	2.45	.32	1.25	.23
30	1.15		1.4	.50	.48	.35	1.14	-	1.96	.20	.92	.67
31	.75		-	5.4	-	.26	3.1	-	1.30	-	.75	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	5.0	0.14	1.63	2.52	50.5	155
August	-	-	-	-	-	-
September	-	-	-	-	-	-
October	5.4	.04	.867	1.34	26.9	83
November	5.0	.12	1.30	2.01	39.1	120
December	3.7	.03	.615	.952	19.1	59
Calendar year	-	-	-	-	-	-
January	4.7	.08	1.15	1.78	35.7	110
February	4.9	.06	.866	1.34	24.2	74
March	4.5	.10	1.90	2.94	58.9	181
April	5.7	.20	1.60	2.48	48.0	147
May	5.0	.02	2.11	3.26	65.5	201
June	3.7	.08	.969	1.50	29.1	89
Fiscal year	-	-	-	-	-	-

Note.- Discharge for Aug. 1 to Sept. 6 not computed because of insufficient data. No gage-height record Sept. 12 to Nov. 17; discharge computed on basis of records for stations on Awini and Kukui Stream.

Kohala ditch at Pololu, near Niulii

Location.- Lat. 20°10'20", long. 155°44'15", on open section of ditch in Pololu Valley just downstream from boundary between land of Honolane and land of Pololu, 2⅝ miles upstream from mouth of Pololu Stream, and 4 miles south of Niulii.

Records available.- August 1927 to June 1941.

Average discharge.- 12 years (1928-38, 1939-41) 25.6 million gallons a day (39.6 second-feet).

Extremes.- Maximum discharge during year, 63 million gallons a day (98 second-feet) June 29 (gage height, 3.82 feet); minimum, 2.4 million gallons a day (3.7 second-feet) Aug. 13.

1927-41: Maximum discharge, 76 million gallons a day (118 second-feet) Dec. 2, 1932 (gage height, 4.33 feet); no flow occasionally, when water was shut out of ditch.

Remarks.- Records good except those for period of no gage-height record, which are poor. Flow regulated by head gates. Kohala ditch receives flow of Awini ditch at Honokane Gulch and diverts water at altitude of about 1,200 feet from all streams west of the Honokane. Water is used for irrigation in vicinity of Kohala.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	15.2	43	19.5	26	41	14.7	29	25	15.6	32	24	23
2	13.0	25	21	23	26	14.7	36.5	17.4	14.7	34	30	23
3	13.0	21	19.2	19.2	27	14.7	29	14.7	13.8	32	31	22
4	25.5	37	24	16.5	28	13.0	25	17.2	30.5	27	36.5	21
5	24	27	26	14.7	39	13.0	21	41	36.5	28	28	29
6	24	28.5	28	16.5	24	13.0	26	25	38	27	22	39
7	31	43	23	16.5	18.3	20	25	22.5	24	31	22	36.5
8	37	43	22	15.6	16.5	23	21	32.5	19.2	31	20	32.5
9	42	43	22	13.0	14.7	22	18.3	18.3	24	29	45	32.5
10	41	32.5	21	12.2	14.7	17.4	18.3	13.8	41	29	46	29
11	26.5	46	18.3	19.8	20	13.8	27	29	43	28	43	25
12	30	32	19.2	22	27	13.0	25	27	41	29	41	24
13	28.5	23	20	24.5	21	13.8	25	26	27	31	39	31
14	22	29	19.2	17.4	28	12.2	24	24	21	28	34	24
15	28	34	19.2	14.7	36.5	13.0	23	19.2	18.3	29	32	20
16	35.5	46	17.4	13.8	31	13.0	20	17.4	23.5	26	34	21
17	34.5	43	16.5	11.4	25	12.2	18.3	15.6	46	22	33	22
18	26	34.5	15.9	12.2	21	12.2	16.5	14.7	41	20	34.5	20
19	24	29	15.6	12.2	18.3	12.2	15.6	13.8	39	24	39	27
20	23.5	29	14.7	13.0	19.2	11.4	14.7	13.8	34.5	22	36.5	41
21	39	34.5	14.7	30	22	11.4	15.6	13.0	27	21	28	39
22	34.5	30	14.7	19.2	22	11.4	14.7	12.2	22	20	26	46
23	25	31	13.8	15.6	22	13.0	14.7	12.2	23	24	25	41
24	21	41	16.3	20	20	21	14.7	12.2	26	19.2	34.5	48
25	18.3	21	30	30	20	29	13.8	17.8	31	17.4	42	41
26	16.5	19	32.5	22	18.3	29	13.8	30	27	18.3	22.5	32.5
27	15.6	18	21	19.2	16.5	29	13.0	18.3	27	22	27	36.5
28	15.6	17	34.5	23	15.6	26	13.0	16.5	32.6	22	30	34.5
29	15.6	18	32.5	23	14.7	23	13.0	-	32.5	20	30	36
30	31.5	20	32.5	17.4	16.5	17.4	17.8	-	31	17.4	28	38.5
31	29	19	-	37.5	-	15.6	32	-	28	-	25	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	42	13.0	26.0	40.2	806	2,470
August	46	17	30.9	47.8	957	2,940
September	34.5	13.8	21.4	33.1	642	1,970
October	37.5	11.4	19.1	29.6	591	1,810
November	41	14.7	22.8	35.3	684	2,100
December	29	11.4	16.7	25.8	518	1,590
Calendar year 1940	46	10.3	21.1	32.6	7,720	23,700
January	39	13.0	20.7	32.0	641	1,970
February	41	12.2	20.0	30.9	560	1,720
March	46	13.8	29.0	44.9	899	2,760
April	34	17.4	25.3	39.1	760	2,330
May	46	20	31.9	49.4	988	3,050
June	48	20	31.2	48.3	936	2,870
Fiscal year 1940-41	48	11.4	24.6	38.1	8,980	27,560

Note.- No gage-height record Aug. 26-31, Nov. 16-18, Mar. 29 to Apr. 5, May 14-17; discharge computed on basis of records for stations on Awini and Kehena ditches.

Kehena ditch near Kohala

Location.- Three sharp-crested weirs, lat. 20°07'25", long. 155°45'05", at old Honokane weir, near head of West Branch of Honokanenui Gulch, and 8½ miles southeast of Kohala.

Records available.- December 1917 to November 1919, April 1928 to June 1941.

Average discharge.- 13 years (1928-41) 7.59 million gallons a day (11.7 second-feet).

Extremes.- Maximum discharge during year, 39.5 million gallons a day (61.1 second-feet) June 30 (gage height, 1.09 feet); no flow Dec. 23, 24, Jan. 29, 30.
1917-19, 1928-41: Maximum discharge, 86 million gallons a day (133 second-feet) Jan. 27, 1918 (gage height, 2.16 feet, datum then in use); no flow during dry periods.

Remarks.- Records fair. Flow regulated by several gates above station. Intake on Honokanenui Stream 2 miles upstream from station, at altitude of about 4,200 feet. No diversions. Water used for irrigation in vicinity of Hawi.

Discharge, in million gallons, fiscal year July 1940 to June 1941

Day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	4.4	23	21.5	4.4	23.5	0.40	9.5	3.05	0.84	12.8	9.8	1.73
2	1.90	3.9	16.8	4.1	5.9	.30	29.5	1.41	1.12	24	9.6	1.57
3	1.26	2.1	13.3	2.1	11.3	.30	18.8	.84	1.26	33	8.0	1.26
4	8.4	18.1	5.9	1.26	11.6	.30	4.6	1.08	13.7	23.5	16.1	1.12
5	5.4	8.8	10.2	.84	21.5	.30	2.45	10.6	15.9	9.4	4.9	4.9
6	7.7	9.8	5.6	3.75	5.6	.40	8.9	4.6	14.2	4.7	2.25	6.8
7	12.0	22.5	2.85	3.05	2.45	10.0	5.9	8.7	3.7	22.5	2.45	11.6
8	18.6	19.3	2.1	1.90	1.57	22.5	2.85	17.0	2.85	20.5	1.57	4.4
9	24.5	19.8	1.57	1.12	.98	4.6	1.41	3.45	6.9	16.5	23.5	3.9
10	20.5	11.7	1.26	.72	.84	1.90	7.3	1.73	23	12.8	25	2.45
11	8.7	30.5	1.26	.72	.72	1.26	26.5	10.5	26.5	6.8	18.1	1.73
12	5.4	19.0	1.12	.98	.98	.72	15.0	6.2	19.7	11.0	25	3.2
13	5.4	15.9	1.12	1.26	.84	.50	14.2	9.1	5.0	26	25	9.3
14	3.25	7.1	1.12	.98	7.7	.61	5.6	4.9	1.73	8.6	17.0	3.25
15	11.4	10.0	.98	.72	26.5	.72	2.65	2.45	.98	4.1	5.6	1.90
16	21.5	15.8	.84	.40	5.8	.50	1.41	1.41	5.4	2.85	19.4	1.73
17	16.0	13.9	.84	.30	4.5	.30	.98	.98	30	1.90	12.8	2.65
18	5.9	9.2	.84	.30	2.45	.30	.61	.72	28.5	1.41	18.9	2.1
19	3.05	5.9	.72	.30	1.26	.30	.40	.50	21	1.57	20.5	12.2
20	2.35	6.2	.72	.20	10.5	.30	.40	.40	5.3	1.73	11.1	23.5
21	19.3	7.4	.61	4.4	17.7	.30	.40	.40	2.85	1.90	3.7	20
22	14.4	8.6	.61	2.1	9.0	.30	.30	.30	1.90	1.41	2.45	29.5
23	4.1	6.0	.61	1.12	6.4	0	.30	.30	1.57	1.41	1.73	17.1
24	1.90	24	.61	2.9	3.45	1.51	.30	.20	1.90	1.26	5.6	31
25	1.12	37.5	10.3	14.5	1.90	21.5	.20	.63	16.3	.84	34.5	29.5
26	.72	21	14.0	3.45	1.26	27.5	.10	2.45	5.6	.61	25	9.4
27	.50	6.2	4.6	2.65	.96	16.1	.10	1.12	6.9	.72	10.0	12.7
28	.40	4.4	15.9	8.0	.72	6.8	.20	.98	27	1.41	9.4	11.0
29	.50	23	9.2	7.6	.61	3.7	.02	-	25	1.41	3.9	11.7
30	12.4	26	10.4	2.85	.50	2.1	4.1	-	25	.98	2.65	21.5
31	10.9	13.5	-	16.6	-	1.41	12.6	-	14.0	-	2.25	-

Month	Million gallons a day			Second-feet (mean)	Total run-off	
	Maximum	Minimum	Mean		Million gallons	Acre-feet
July	24.5	0.40	8.19	12.7	254	779
August	37.5	2.1	14.5	22.4	450	1,380
September	21.6	.61	5.25	8.12	157	483
October	16.6	.20	3.09	4.78	95.8	294
November	26.5	.50	6.37	9.86	191	587
December	27.5	0	4.12	6.37	128	392
Calendar year 1940	37.5	0	5.86	9.05	2,140	6,570
January	29.5	.02	5.73	8.87	178	545
February	17.0	.20	3.43	5.31	96.0	295
March	30	.98	11.5	17.8	358	1,100
April	33	.61	8.59	13.3	258	791
May	34.5	1.57	12.2	18.9	378	1,160
June	31	1.12	9.82	15.2	295	904
Fiscal year 1940-41	37.5	0	7.77	12.0	2,840	8,710

MISCELLANEOUS DISCHARGE MEASUREMENTS

Measurements of streams on the island of Hawaii at other than regular gaging stations are listed below:

Miscellaneous discharge measurements on Hawaii during fiscal year July 1940 to June 1941

Date	Stream	Tributary to--	Locality	Discharge	
				Second-feet	Million gallons a day
July 17	Third Branch of Waimanu Stream.	Waimanu Stream...	At altitude 2,750 feet, near Waimanu.	7.64	4.94
Sept.13	....do.....	....do.....	....do.....	1.06	.685
Nov. 20	....do.....	....do.....	....do.....	1.37	.885
Jan. 17	....do.....	....do.....	....do.....	1.44	.931
Mar. 14	....do.....	....do.....	....do.....	2.16	1.40
May 15	.... do.....	....do.....	....do.....	4.86	3.14
July 17	First Branch of Waimanu Stream.	....do.....	At altitude 2,930 feet, near Waimanu.	4.79	3.10
Sept.13	....do.....	....do.....	....do.....	.519	.335
Nov. 20	....do.....	....do.....	....do.....	.591	.382
Jan. 17	....do.....	....do.....	....do.....	.619	.400
Mar. 14	....do.....	....do.....	....do.....	.735	.474
Mar. 15	....do.....	....do.....	....do.....	3.03	1.96

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