1974

Water Resources Data for Hawaii and other Pacific Areas

Part 1. Surface Water Records

Part 2. Water Quality Records

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Prepared in cooperation with the State of Hawaii, Trust Territory of the Pacific Islands, the Government of American Samoa, the Government of Guam, and with other State, county, and Federal agencies

CALENDAR FOR WATER YEAR 1974

1973

OCTOBER

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1974

JANUARY

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FEBRUARY

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JUNE

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JULY

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AUGUST

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SEPTEMBER

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FEB 28 1979

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Prepared in cooperation with

Hawaii Department of Land and Natural Resources,
Division of Water and Land Development
Hawaii Department of Transportation
Government of Guam
Government of American Samoa
Trust Territory of the Pacific Islands
City and County of Honolulu
Corps of Engineers, U.S. Army

Copies of this report may be obtained from
District Chief, Water Resources Division
U.S. Geological Survey
5th Floor, 1833 Kalakaua Avenue
Honolulu, Hawaii 96815

1975

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(Letters after station name designate type of data: (c), chemical; (t), water temperature; (s), sediment)

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WATER RESOURCES DATA FOR HAWAII AND OTHER PACIFIC AREAS, 1974

Part 1. Surface Water Records
Part 2. Water Quality Records

INTRODUCTION

Water resources data for the 1974 water year for Hawaii and other Pacific areas including records of streamflow or reservoir storage at gaging stations, partial-record stations, and miscellaneous sites, and records of water-quality data on the chemical and physical characteristics of surface water, are given in this report. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of F. T. Hidaka, district chief. These data represent that portion of the National Water Data System collected by the U.S. Geological Survey and cooperating State, Territorial, and Federal agencies in Hawaii and other Pacific areas.

Through September 30, 1960 (June 30, 1960, for Hawaii and other Pacific areas), the records of discharge and stage of streams and contents and stage of lakes or reservoirs were published in an annual series of U.S. Geological Survey water-supply papers entitled, "Surface Water Supply of the United States." The records in Hawaii were contained in the series as "Surface Water Supply of Hawaii." Records for other Pacific areas were contained in one volume entitled "Surface Water Supply of Mariana, Caroline, and Samoa Islands."

Beginning with the 1961 water year (fiscal year for Hawaii), streamflow records and related data have been released by the Geological Survey in annual reports on a State-boundary basis. The Hawaii reports have included records for other Pacific areas. Through June 1967, the Hawaii reports were on a fiscal-year basis (the 12-month period July 1 to June 30) and discharges (except for Guam and Okinawa) were published in million gallons a day.

Beginning with the 1967 water year, the Hawaii reports have been published on a water-year basis and with discharges entirely in cubic feet per second.

Distribution of these basic-data reports is limited; they are designed primarily for rapid release of data shortly after the end of the water year to meet local needs. The streamflow records for 1961-65 also are published in a Geological Survey water-supply series entitled, "Surface Water Supply of the United States 1961-65," and those for 1966-70 will be published in a similar series.

The Geological Survey has published records of chemical quality, water temperatures, and suspended sediment since 1941 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Beginning with the 1964 water year, water-quality records also have been released on a State-boundary basis in conjunction with streamflow records or in a separate volume.

COOPERATION

The U.S. Geological Survey and organizations of the State of Hawaii have had cooperative agreements for the systematic collection of streamflow records since 1909, and for water-quality records since 1967. Cooperative agreements with the Territory of Guam for the collection of streamflow records began in 1953, with the Territory of American Samoa in 1957, and with the Trust Territory of the Pacific Islands in 1968. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Hawaii Department of Land and Natural Resources, Division of Water and Land Development, R. T. Chuck, manager-chief engineer.
Hawaii Department of Transportation, E. Alvey Wright, director.
Trust Territory of the Pacific Islands, E. E. Johnston, high commissioner.
Government of American Samoa, J. M. Haydon, governor.
Government of Guam, C. G. D. Camacho, governor.
City and County of Honolulu, Board of Water Supply, Edward Y. Hirata, manager and chief engineer.
City and County of Honolulu, Division of Engineering, Kazu Hayashida, director and chief engineer.

Assistance in the form of funds or services are given by the Corps of Engineers, U.S. Army in collecting records for 10 gaging stations, 2 water-quality stations and 5 partial-record stations, and the U.S. Forest Service for 1 water-quality station published in this report.

The following organizations aided in collecting records:

Maui County Board of Water Supply; East Kauai Water Co., Ltd.; McBryde Sugar Co., Ltd.; East Maui Irrigation Co., Ltd.; and B. P. Bishop Estate.

DEFINITION OF TERMS

Definition of terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined as follows:

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or 325,851 gallons or 1,233 cubic metres.

Bed material is the shifting portion of fragmented material of which the streambed is composed.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.9835 acre-feet, or 646,317 gallons or 2,445 cubic metres. It represents a runoff of 0.0372 inch from 1 square mile or 0.3468 millimetre from 1 square kilometre.

Coliform organisms are a group of bacteria used as an indicator of the sanitary quality of the water. The number of coliform colonies per 100 millilitres is determed by the immediate or delayed incubation membrane filter method.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

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

Cubic foot per second (CFS, cfs) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic metres per second.

Discharge is the volume of water (or more broadly, total fluids), that passes a given point within a given period of time.

Mean discharge is the arithmetic average of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time. If this discharge is reported instead of the daily mean, the heading of the discharge column in the tables is "Discharge (cfs)."

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

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

Hardness of water is a physical-chemical characteristic attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Micrograms per litre (UG/L, ug/l) is a more precise unit for expressing the concentration of chemical constituents

in solution as the weight (micrograms) of solute per unit volume (litre) of water. One thousand micrograms per litre is equivalent to one milligram per litre.

Milligrams per litre (MG/L, mg/l is a unit for expressing the concentration of chemical constituents in solution. Milligrams per litre represents the weight of solute per unit volume of water. Milligrams or micrograms per litre may be converted to milliequivalents (one thousandth of a gram-equivalent weight of a constituent) per litre by multiplying by the factors in table 1, page 6. Concentration of suspended sediment also is expressed in mg/l, and is based on the weight of sediment per litre of water-sediment mixture. Sediment concentrations are determined in the laboratory as parts per million (ppm) and are converted to mg/l by using the factors in table 2, page 6.

Partial-record station is a particular site where limited streamflow or water quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimetres (mm), of suspended sediment or bed material determined by sieve and sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling) (Guy, 1969).

Particle-size classification, used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay.....	0.00024 - 0.004	Sedimentation.
Silt.....	.004 - .062	Sedimentation.
Sand.....	.062 - 2.0	Sedimentation or sieve.
Gravel.....	2.0 - 64.0	Sieve.

The particle-size distributions given in this report are not necessarily representative of the particle sizes of sediment in transport in the natural stream. Most of the organic

Table 1.--Factors for conversion of chemical constituents in milligrams or micrograms per litre to milliequivalents per litre

Ion	Multiply by	Ion	Multiply by
Aluminum (Al^{+3})*...	0.11119	Iodide (I^{-1}).....	0.00788
Ammonia as NH_4^{+1}...	.05544	Iron (Fe^{+3})*.....	.05372
Barium (Ba^{+2}).....	.01456	Lead (Pb^{+2})*.....	.00965
Bicarbonate (HCO_3^{-1})	.01639	Lithium (Li^{+1})*...	.14411
Bromide (Br^{-1}).....	.01251	Magnesium (Mg^{+2})..	.08226
Calcium (Ca^{+2}).....	.04990	Manganese (Mn^{+2})*.	.03640
Carbonate (CO_3^{-2})..	.03333	Nickel (Ni^{+2})*....	.03406
Chloride (Cl^{-1})....	.02821	Nitrate (NO_3^{-1})...	.01613
Chromium (Cr^{+6})*...	.11539	Nitrite (NO_2^{-1})...	.02174
Cobalt (Co^{+2})*.....	.03394	Phosphate (PO_4^{-3}).	.03159
Copper (Cu^{+2})*.....	.03148	Potassium (K^{+1})...	.02557
Cyanide (CN^{-1})	.03844	Sodium (Na^{+1}).....	.04350
Fluoride (F^{-1}).....	.05264	Strontium (Sr^{+2})*.	.02283
Hydrogen (H^{+1}).....	.99209	Sulfate (SO_4^{-2})...	.02082
Hydroxide (OH^{-1})...	.05880	Zinc (Zn^{+2})*.....	.03060

*Constituent reported in micrograms per litre; multiply by factor and divide results by 1,000.

Table 2.--Factors for conversion of sediment concentration in milligrams per litre to parts per million*
(All values calculated to three significant figures)

Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by
0 - 8	1.00	201-217	1.13	411-424	1.26	619-634	1.39
8.05- 24	1.01	218-232	1.14	427-440	1.27	636-650	1.40
24.2 - 40	1.02	234-248	1.15	443-457	1.28	652-666	1.41
40.5 - 56	1.03	250-264	1.16	460-473	1.29	668-682	1.42
56.5 - 72	1.04	266-280	1.17	476-489	1.30	684-698	1.43
72.5 - 88	1.05	282-297	1.18	492-506	1.31	700-715	1.44
88.5 -104	1.06	299-313	1.19	508-522	1.32	717-730	1.45
105 -120	1.07	315-329	1.20	524-538	1.33	732-747	1.46
121 -136	1.08	331-345	1.21	540-554	1.34	749-762	1.47
137 -152	1.09	347-361	1.22	556-570	1.35	765-780	1.48
153 -169	1.10	363-378	1.23	572-585	1.36	782-796	1.49
170 -185	1.11	380-393	1.24	587-602	1.37	798-810	1.50
186 -200	1.12	395-409	1.25	604-617	1.38		

*Based on water density of 1.000 g/ml and a specific gravity of sediment of 2.65.

matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Plankton is the floating (or weakly swimming) animal or plant life in a body of water consisting chiefly of minute plants (as diatoms and blue-green algae) and of minute animals (as protozoan, entomostracans, and various larvae).

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment discharge is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight, or by volume, that is discharged in a given time. It is computed by multiplying discharge times mg/l times 0.0027.

Total sediment discharge or total sediment load is the sum of the suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry weight or volume, that is discharged during a given time (Colby and Hembree, 1955).

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per litre of water-sediment mixture (mg/l).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25°C. Because the specific conductance is related to the number and specific chemical types of ions in solution, it can be used for approximating the dissolved-solids content in the water. Commonly, the amount of dissolved solids (in milligrams per litre) is about 65 percent of the specific conductance (in micromhos per cm at 25°C). This relation is not constant from stream to stream or from well to well, and it may even vary in the same source with changes in the composition of the water.

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

Tons per acre-foot indicates the dry weight of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of milligrams per litre by 0.00136.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour day.

WRD is used as an abbreviation for "Water-Resources Data" in the summary REVISIONS paragraph to refer to previously published state annual basic-data reports.

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

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

National stream-quality-accounting network is an accounting network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated in the network design. Areal configuration of the network is based on river-basin accounting units designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in stream quality.

DOWNSTREAM ORDER AND STATION NUMBER

Records are listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the lists of gaging stations and water-quality stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each gaging station, partial-record station, and water-quality station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types

of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station, such as 16884600 which appears just to the left of the station name includes the 2-digit number "16" plus the 6-digit downstream order number "884600." In this report, the records are listed in downstream order by islands.

EXPLANATION OF SURFACE WATER RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from direct reading on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at 5-, 15-, 30-, or 60-minute intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6. Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

For a stream-gaging station, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The application of the gage height to the rating table gives the discharge. The daily mean discharge is computed from gage heights, then the monthly and yearly mean

discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method. Discharge over spillways is computed from a stage-discharge relation curve defined by discharge measurements.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other stations records from the same or nearby basins.

The data in this report generally comprise a description of the station and tabulations of basic data. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents is given. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the 1974 water year is shown on the reverse side of the front cover to facilitate finding the day of the week for any date.

The description of the gaging stations gives the location, drainage area, period of record, type and history of gages, average discharge, extremes of discharge or contents, notations of revisions of previously published records, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD." The type of gage currently in use, the datum of the present gage above

mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified. The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE;" it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. The maximum discharge (or contents), the maximum gage height, and the minimum discharge if there is little or no regulation (or minimum contents) are given under "EXTREMES." The maximum and minimum daily discharge are given if there is extensive regulation. In the first paragraph headed "Current year," the data given are for the complete current water year unless otherwise specified. In the second paragraph under "EXTREMES" headed "Period of record:" the data given are for the period of record given in "PERIOD OF RECORD" paragraph. Reliable information concerning major floods or abnormally low flows that occurred outside the period of record is given in the third or last paragraph under "EXTREMES." Unless otherwise qualified, the maximum discharge (or contents) corresponds to the crest stage obtained by use of a water-stage recorder (graphic or digital) or crest-stage gage. If the maximum gage height did not occur at the same time as the maximum discharge (or contents), it is given separately. Information pertaining to the accuracy of the discharge records, to conditions that affect the natural flow at the gaging station, and availability of Water Quality records, is given under "REMARKS".

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

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

The daily table for stream-gaging stations gives the discharge corresponding to the daily mean gage height unless there are large or rapid changes in the discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharge for several parts of a day. For digital recorders, the daily mean discharge is always the average of the discharges at each punched reading.

The monthly summary is given below the daily table. For stream-gaging stations the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX." and "MIN." give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month is also expressed in acre-feet (line headed "AC-FT").

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges for the calendar and water years; likewise, the minimums in this summary are minimum daily discharges.

Peak discharges and their times of occurrence and corresponding gage heights for many stations are listed below the yearly summary. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330.

In a general footnote, introduced by the word "NOTE," certain periods are indicated for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other

unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage are indicated only if they are a month or more in length and the accuracy of the records is affected. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

Accuracy of data

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

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges is within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversions, comsumptive use, regulation, evaporation or other factors.

Publications

In each water-supply paper entitled, "Surface Water Supply of the United States" there is a list of numbers of preceding water-supply papers containing streamflow information for the area covered by that report. In addition, there is a list of numbers of water-supply papers containing

detailed information on major floods in the area. Records for stations in Hawaii and other Pacific areas for the period October 1959 to September 1965 are in Water-Supply Paper 1937.

Two series of summary reports entitled, "Compilation of Records of Surface Waters of the United States" have been published; the first series covers the entire period of record through September 1950 (June 1950 for Hawaii) and the second series covers the period October 1950 to September 1960 (July 1950 to June 1960 for Hawaii and other Pacific areas). These reports contain summaries of monthly and annual discharge and monthend storage for all previously published records, as well as some records not contained in the annual series of water-supply papers. All records were reexamined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical. The yearly summary table for each gaging station lists the numbers of the water-supply papers in which daily records were published for that station. Records for stations in Hawaii and other Pacific areas are compiled in Water-Supply Paper 1319 through June 1950, in 1739 and 1851 for July 1950 to June 1960, and in 1937 for October 1959 to September 1965.

Special reports on major floods or droughts or of other hydrologic studies for the area have been issued in publications other than water-supply papers. Information relative to these reports may be obtained from the district office.

Other Data Available

Data collected at partial-record stations and at miscellaneous sites are given in three tables at the end of the surface-water records in this report. The first is a table of discharge measurements at low-flow partial-record stations, the second is a table of annual maximum stage and discharge at crest-stage stations, and the third is a table of discharge measurements of miscellaneous sites.

Information of a more detailed nature than that published for most of the gaging stations, such as discharge measurements, gage-height records, and rating tables, is on file in the district office. Also, most gaging-station records are available in computer-usable form and many statistical analyses have been made.

EXPLANATION OF WATER QUALITY RECORDS

Collection and examination of data

Water samples for analyses usually are collected at or near gaging stations. The discharge records at these stations are used in conjunction with the computations of the chemical constituents and sediment loads in this report.

Descriptive statements are given for water-quality stations located at or near streamflow stations. Given are location, drainage area, periods of record for the various water-quality data, extremes of pertinent data, and general remarks, in a format similar to that used for streamflow gaging stations.

Data on the quality of surface water were collected daily at some sites and less frequently at others. Water-quality information is presented for chemical quality, biological, microbiological, water temperature, and fluvial sediment. Chemical quality includes concentrations of individual dissolved constituents and certain properties or characteristics such as hardness, sodium adsorption ratio, specific conductance, and pH. The biological information includes qualitative and quantitative analyses of plankton, bottom organisms and particulate inorganic and amorphous matter present. Microbiological information includes quantitative identification of certain bacteriological indicator organisms. Water-temperature data represent once-daily observations. Fluvial-sediment information is given for suspended-sediment discharges and concentrations and for particle-size distribution of suspended sediment and bed material.

Prior to the 1968 water year, data for chemical constituents and concentration of suspended sediment were reported in parts per million (ppm) and water temperatures were reported in degrees Fahrenheit (°F). In October 1967 the U.S. Geological Survey began to use the metric system; data for chemical constituents and concentrations of suspended sediment are now reported in milligrams per litre (mg/l) and water temperatures are given in degrees Celsius (centigrade, °C). In waters with a density of 1.000 g/ml (grams per millilitre), parts per million and milligrams per litre can be considered equal. In waters with a density greater than 1.000 g/ml, values in parts per million should be multiplied

by the density to convert to milligrams per litre. To convert temperatures in degrees Fahrenheit to degrees Celsius, see table 3, p. 18.

In October 1968, the Geological Survey began reporting many of the chemical constituents as well as the minor elements in micrograms per litre instead of milligrams per litre. (See "Definition of Terms," p. 3, and table for converting English Units to SI Units, p. 23).

Solutes

The methods of collecting and analyzing water samples for determining the kinds and concentrations of solutes are described by Brown, Skougstad, and Fishman. The method for determining elemental constituents by emission of spectrographic techniques is described by Barnett and Mallory. Analysis of pesticides, herbicides, and organic substances in water are described by Goerlitz and Lamar, Lamar, Goerlitz, and Law, and Goerlitz and Brown. The collection and analysis of aquatic, biological and microbiological samples are described by Slack and others. One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled at several verticals across the channel to determine accurately the solute load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between the reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

Table 3.--Degrees Celsius (°C) to degrees Fahrenheit (°F) *
(Temperature reported to nearest 0.5°C)

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0.0	32	10.0	50	20.0	68	30.0	86	40.0	104
.5	33	10.5	51	20.5	69	30.5	87	40.5	105
1.0	34	11.0	52	21.0	70	31.0	88	41.0	106
1.5	35	11.5	53	21.5	71	31.5	89	41.5	107
2.0	36	12.0	54	22.0	72	32.0	90	42.0	108
2.5	36	12.5	54	22.5	72	32.5	90	42.5	108
3.0	37	13.0	55	23.0	73	33.0	91	43.0	109
3.5	38	13.5	56	23.5	74	33.5	92	43.5	110
4.0	39	14.0	57	24.0	74	34.0	93	44.0	111
4.5	40	14.5	58	24.5	75	34.5	94	44.5	112
5.0	41	15.0	59	25.0	77	35.0	95	45.0	113
5.5	42	15.5	60	25.5	78	35.5	96	45.5	114
6.0	43	16.0	61	26.0	79	36.0	97	46.0	115
6.5	44	16.5	62	26.5	80	36.5	98	46.5	116
7.0	45	17.0	63	27.0	81	37.0	99	47.0	117
7.5	45	17.5	63	27.5	81	37.5	99	47.5	117
8.0	46	18.0	64	28.0	82	38.0	100	48.0	118
8.5	47	18.5	65	28.5	83	38.5	101	48.5	119
9.0	48	19.0	66	29.0	84	39.0	102	49.0	120
9.5	49	19.5	67	29.5	85	39.5	103	49.5	121

* C = 5/9 (°F - 32) or °F = 9/5 (°C) + 32.

Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for surface-water stations. For daily stations, the water temperatures are taken about the same time each day when sample is collected. Large streams have a small diurnal temperature change while small, shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature.

At stations where continuous recording thermographs are present the records consist of maximum and minimum temperatures for each day and monthly averages.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the sub-divided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the sub-divided day method. For periods when no samples are collected, daily loads of suspended sediment are estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples are collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observation, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

Publications

The annual series of water-supply papers that contain information on quality of surface waters in Hawaii and other Pacific areas are listed below.

Water year	WSP No.	Water year	WSP No.	Water year	WSP No.
1964	1966	1967	2016	1970	A2160
1965	1966	1968	2016	1971	A2170
1966	1996	1969	A2150		

A In preparation.

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Table 4.--Factors for converting English units to International System (SI) units

The following factors may be used to convert the English units published herein to the International System of Units (SI). Subsequent reports will contain both the English and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

Multiply English units	By	To obtain SI units
	Length	
inches (in)	25.4	millimetres (mm)
	.0254	metres (m)
feet (ft)	.3048	metres (m)
yards (yd)	.9144	metres (m)
rods	5.0292	metres (m)
miles (mi)	1.609	kilometres (km)
	Area	
acres	4047	square metres (m^2)
	.4047	*hectares (ha)
	.4047	square hectometres (hm^2)
	.004047	square kilometres (km^2)
square miles (mi^2)	2.590	square kilometres (km^2)
	Volume	
gallons (gal)	3.785	**litres (l)
	3.785	cubic decimetres (dm^3)
	3.785×10^{-3}	cubic metres (m^3)
million gallons (10^6 gal)	3785	cubic metres (m^3)
	3.785×10^{-3}	cubic hectometres (hm^3)
cubic feet (ft^3)	28.32	cubic decimetres (dm^3)
	.02832	cubic metres (m^3)
cfs-day (ft^3/s-day)	2447	cubic metres (m^3)
	2.447×10^{-3}	cubic hectometres (hm^3)
acre-feet (acre-ft)	1233	cubic metres (m^3)
	1.233×10^{-3}	cubic hectometres (hm^3)
	1.233×10^{-6}	cubic kilometres (km^3)
	Flow	
cubic feet per second (ft^3/s)	28.32	litres per second (l/s)
	28.32	cubic decimetres per second (dm^3/s)
	.02832	cubic metres per second (m^3/s)
gallons per minute (gpm)	.06309	litres per second (l/s)
	.06309	cubic decimetres per second (dm^3/s)
	6.309×10^{-5}	cubic metres per second (m^3/s)
million gallons per day (mgd)	43.81	cubic decimetres per second (dm^3/s)
	.04381	cubic metres per second (m^3/s)
	Mass	
ton (short)	.9072	tonnes (t)

*The unit hectare is approved for use with the International System (SI) for a limited time. See NBS Special Bulletin 330, p. 15, 1972 edition.

**The unit litre is accepted for use with the International System (SI). See NBS Special Bulletin 330, p. 13, 1972 edition.

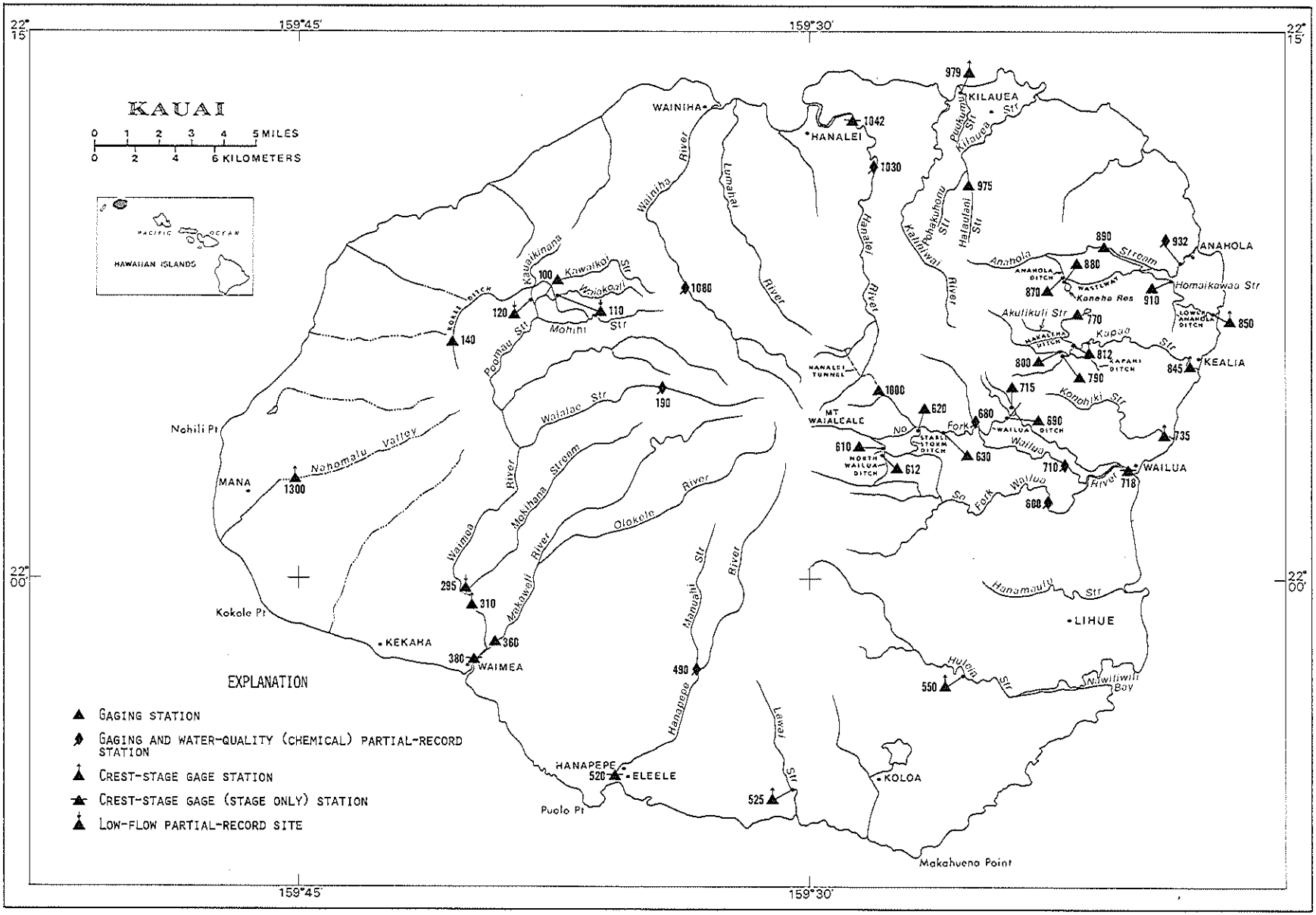

FIGURE 1.--MAP OF KAUAI SHOWING LOCATIONS OF GAGING, WATER-QUALITY, AND PARTIAL-RECORD STATIONS.

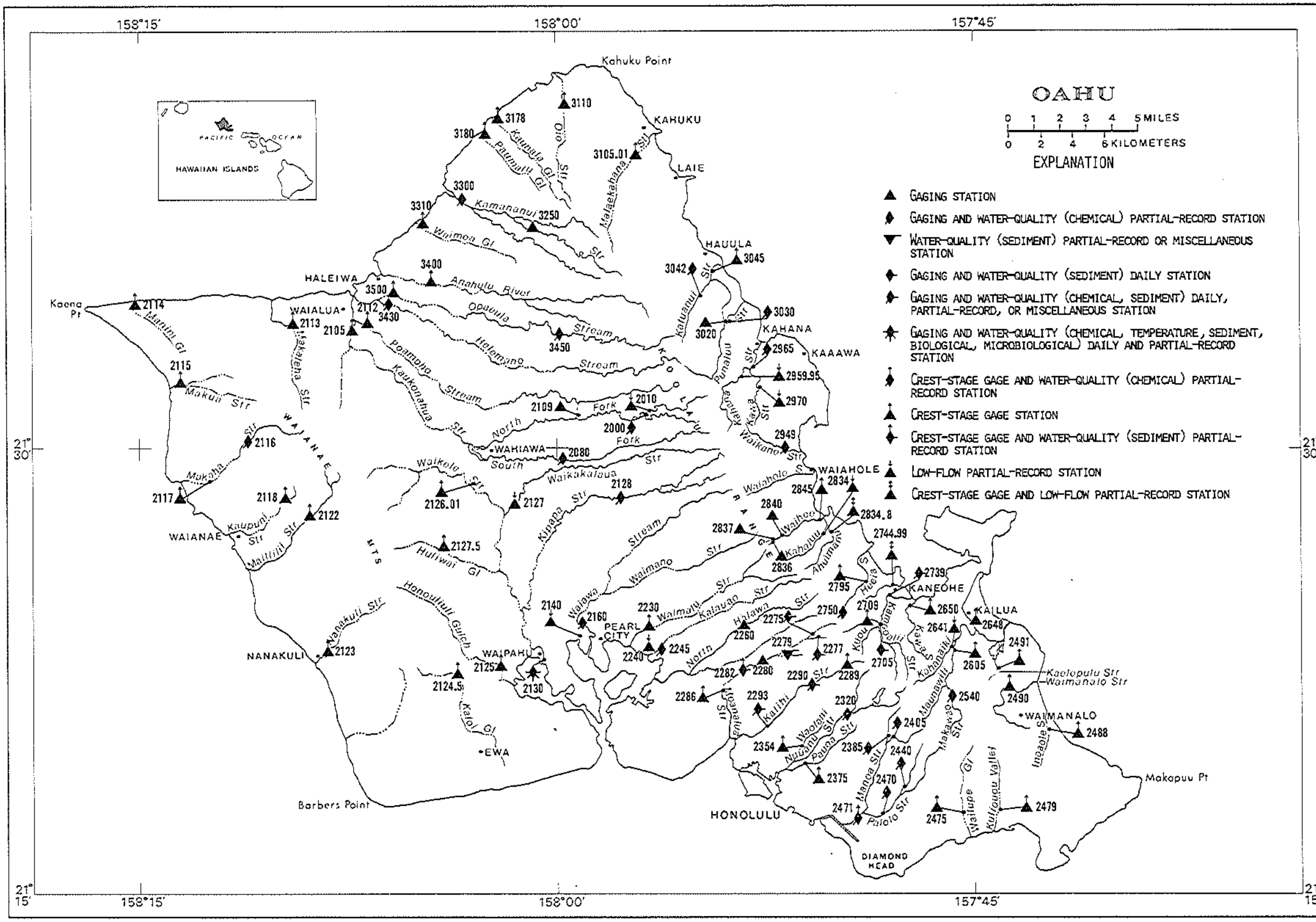

FIGURE 2.--MAP OF OAHU SHOWING LOCATIONS OF GAGING, WATER-QUALITY, AND PARTIAL-RECORD STATIONS.

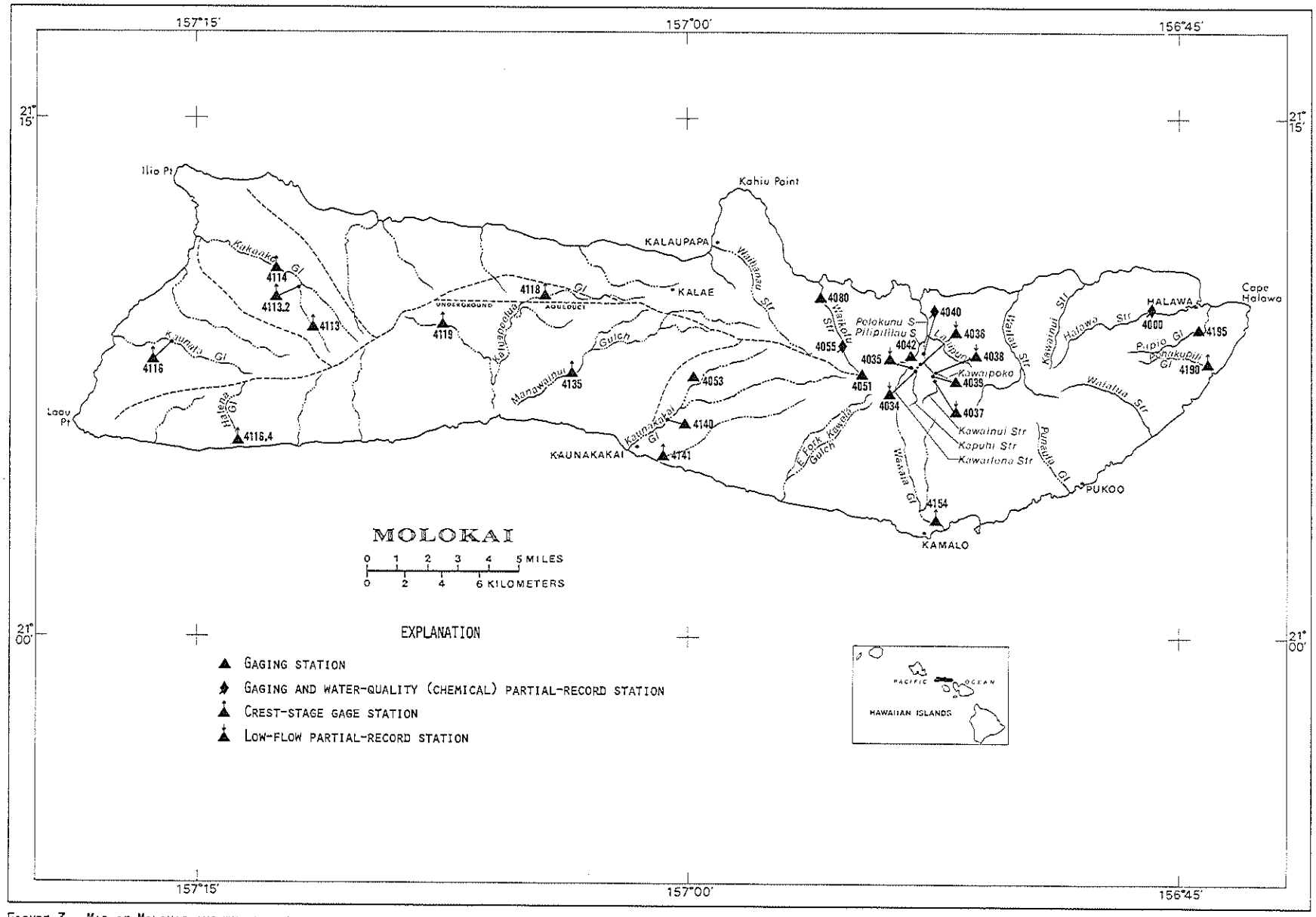

FIGURE 3.--MAP OF MOLOKAI SHOWING LOCATIONS OF GAGING, WATER-QUALITY, AND PARTIAL-RECORD STATIONS.

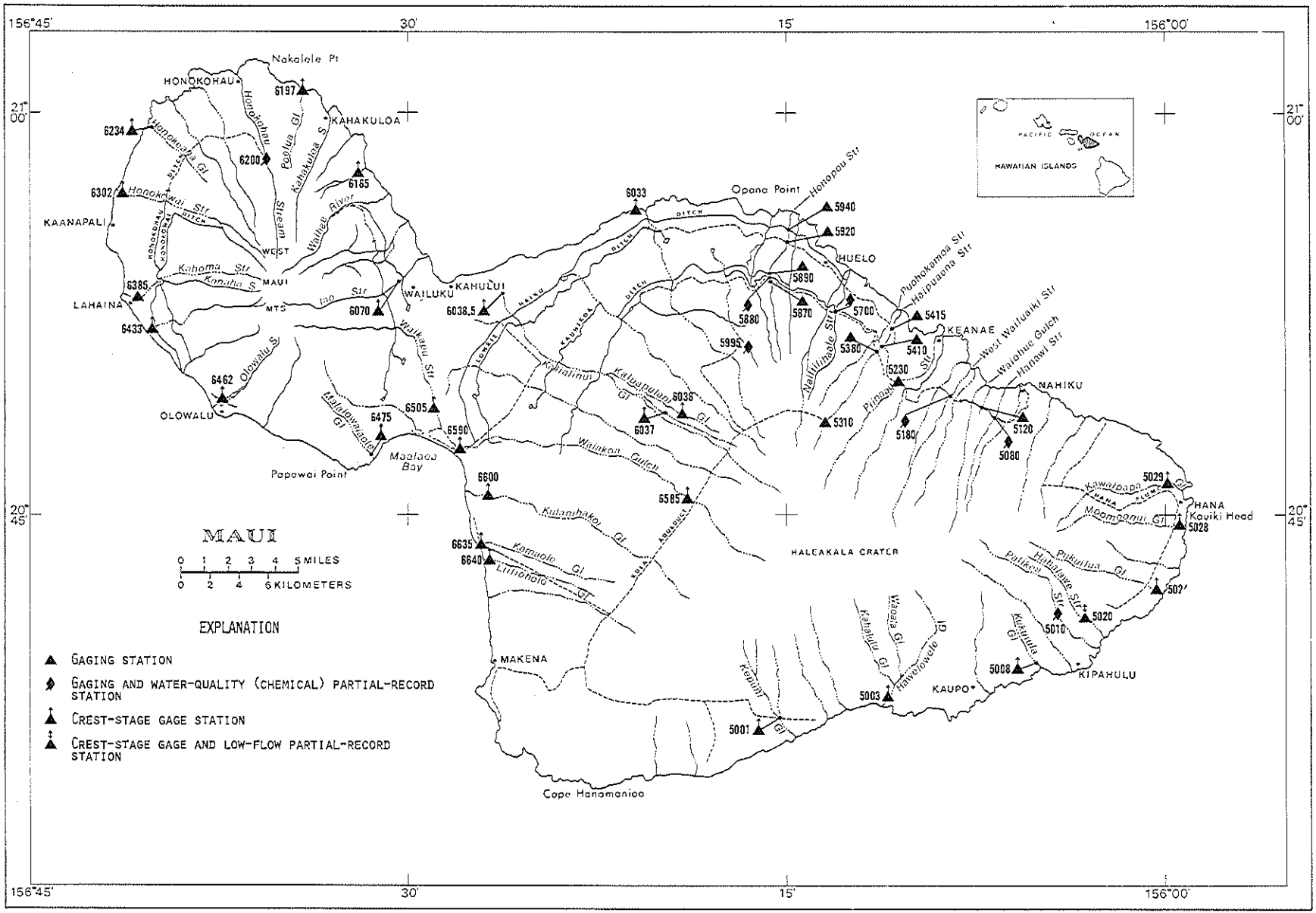

FIGURE 4.--MAP OF MAUI SHOWING LOCATIONS OF GAGING, WATER-QUALITY, AND PARTIAL-RECORD STATIONS.

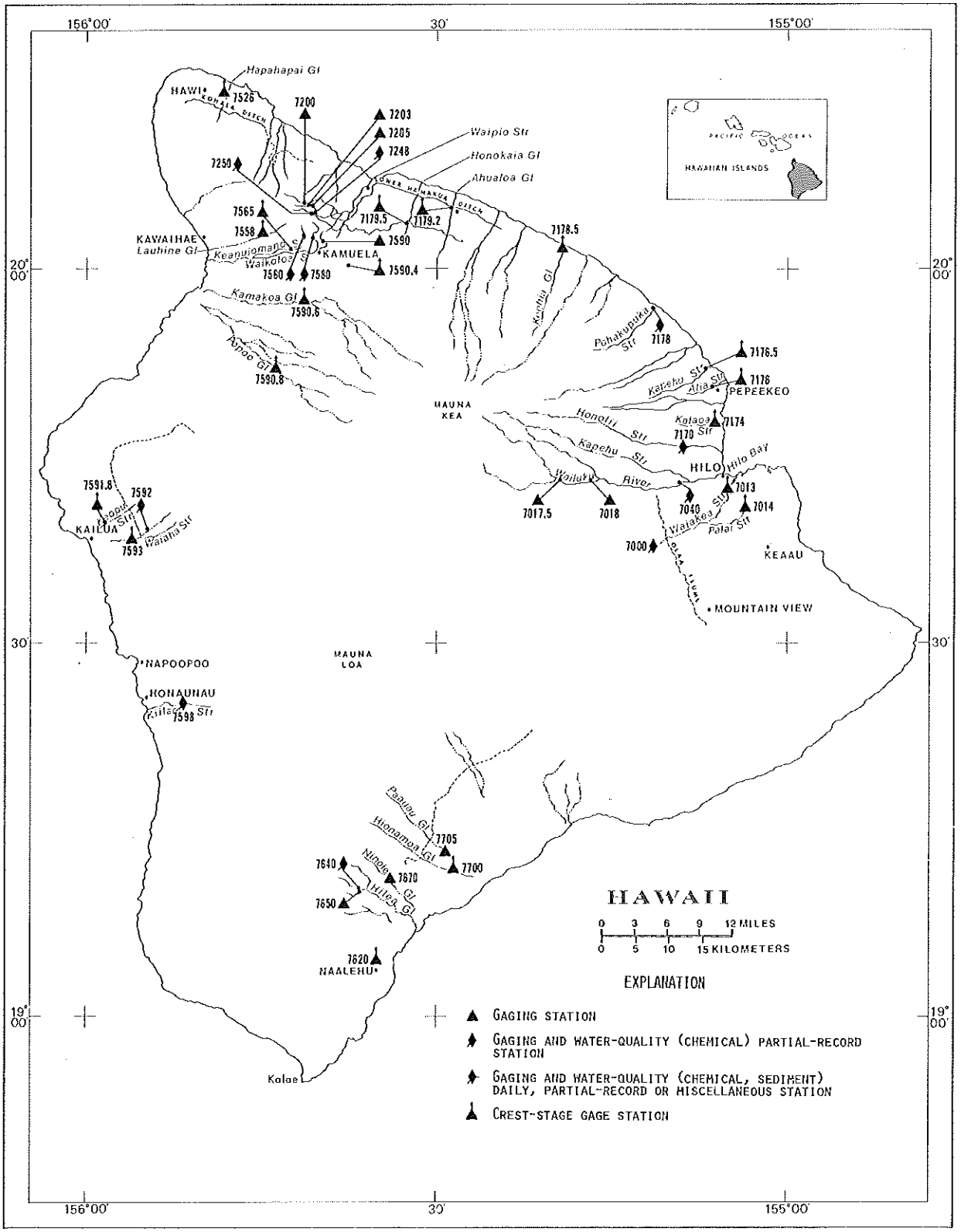

FIGURE 5.--MAP OF HAWAII SHOWING LOCATIONS OF GAGING, WATER-QUALITY, AND PARTIAL-RECORD STATIONS.

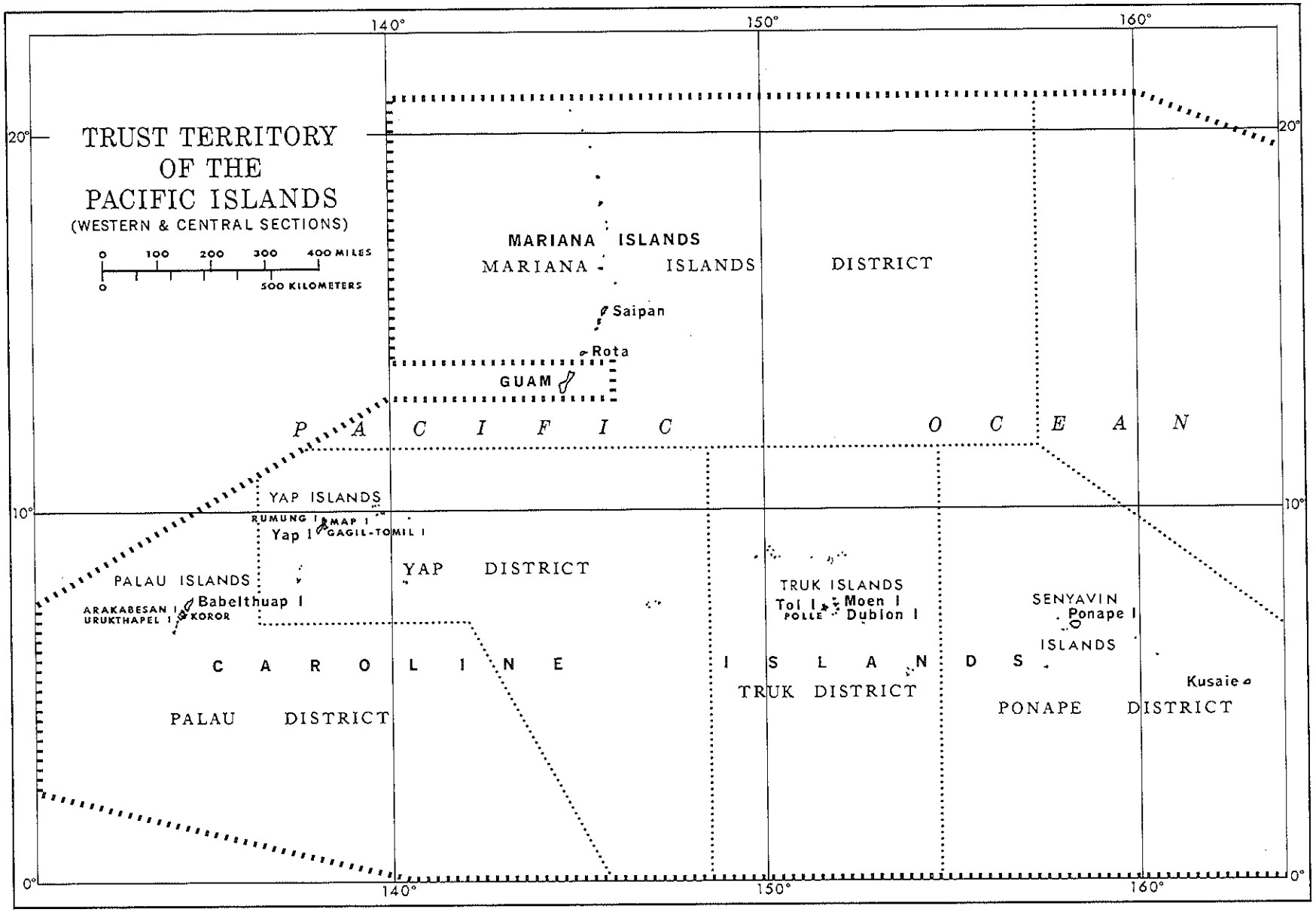

FIGURE 6.--MAP SHOWING LOCATIONS OF THE TRUST TERRITORY PACIFIC ISLANDS.

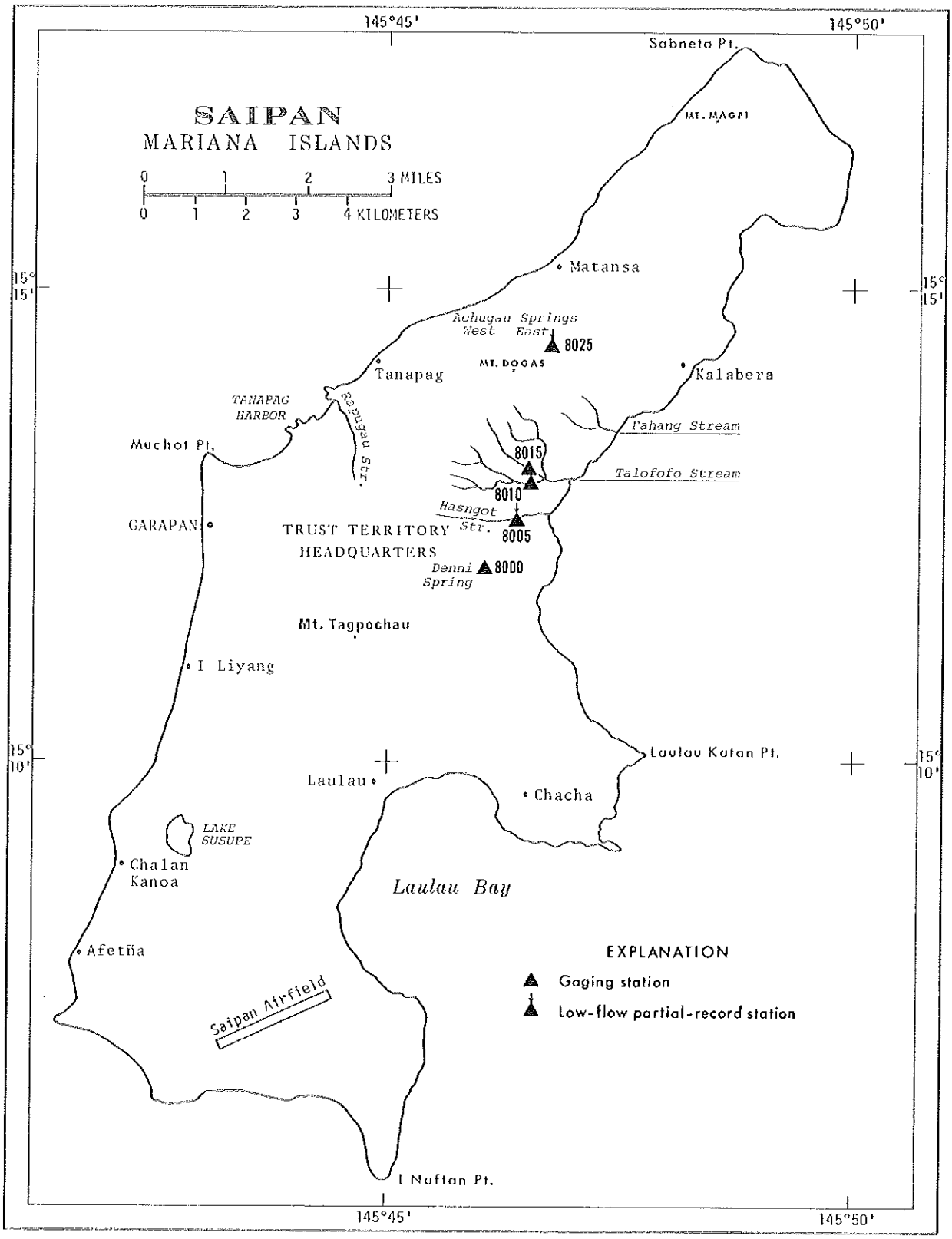

FIGURE 7.--MAP OF SAIPAN, MARIANA ISLANDS, SHOWING LOCATIONS OF GAGING AND PARTIAL-RECORD STATIONS.

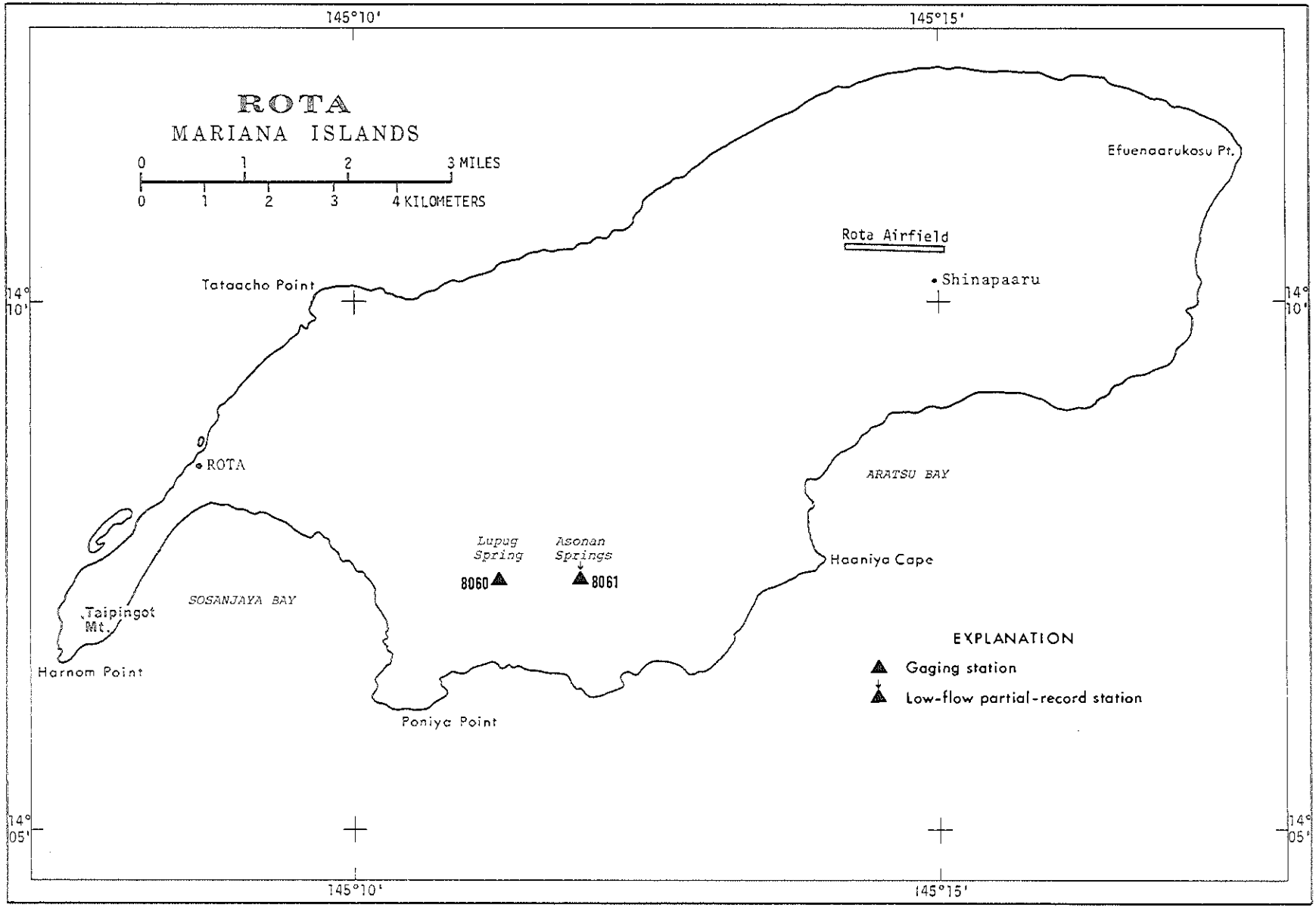

FIGURE 8.--MAP OF ROTA, MARIANA ISLANDS, SHOWING LOCATIONS OF GAGING AND PARTIAL-RECORD STATIONS.

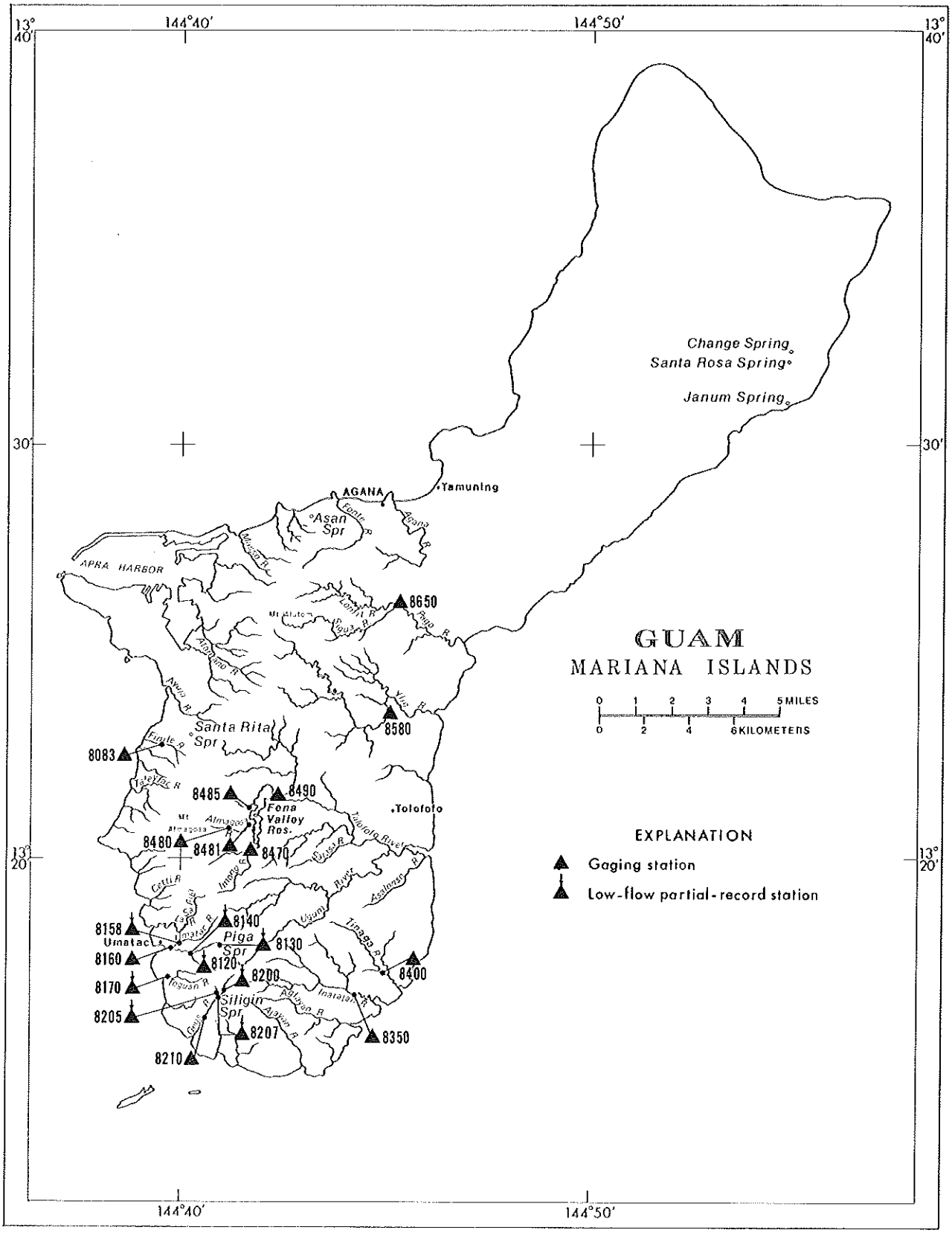

FIGURE 9.--MAP OF GUAM, MARIANA ISLANDS, SHOWING LOCATIONS OF GAGING AND PARTIAL-RECORD STATIONS.

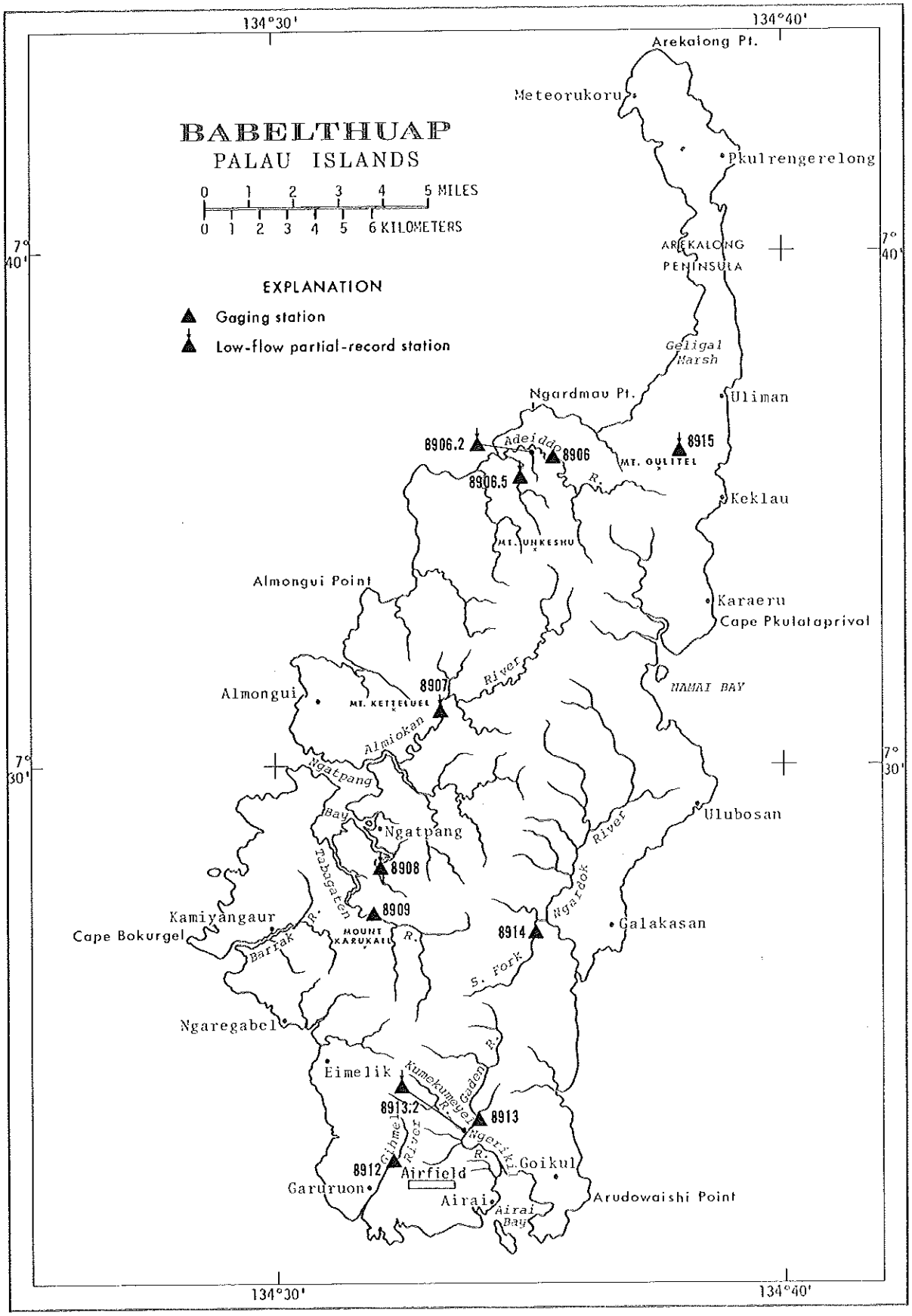

FIGURE 10.--MAP OF BABELTHUAP, PALAU ISLANDS, SHOWING LOCATIONS OF GAGING AND PARTIAL-RECORD STATIONS.

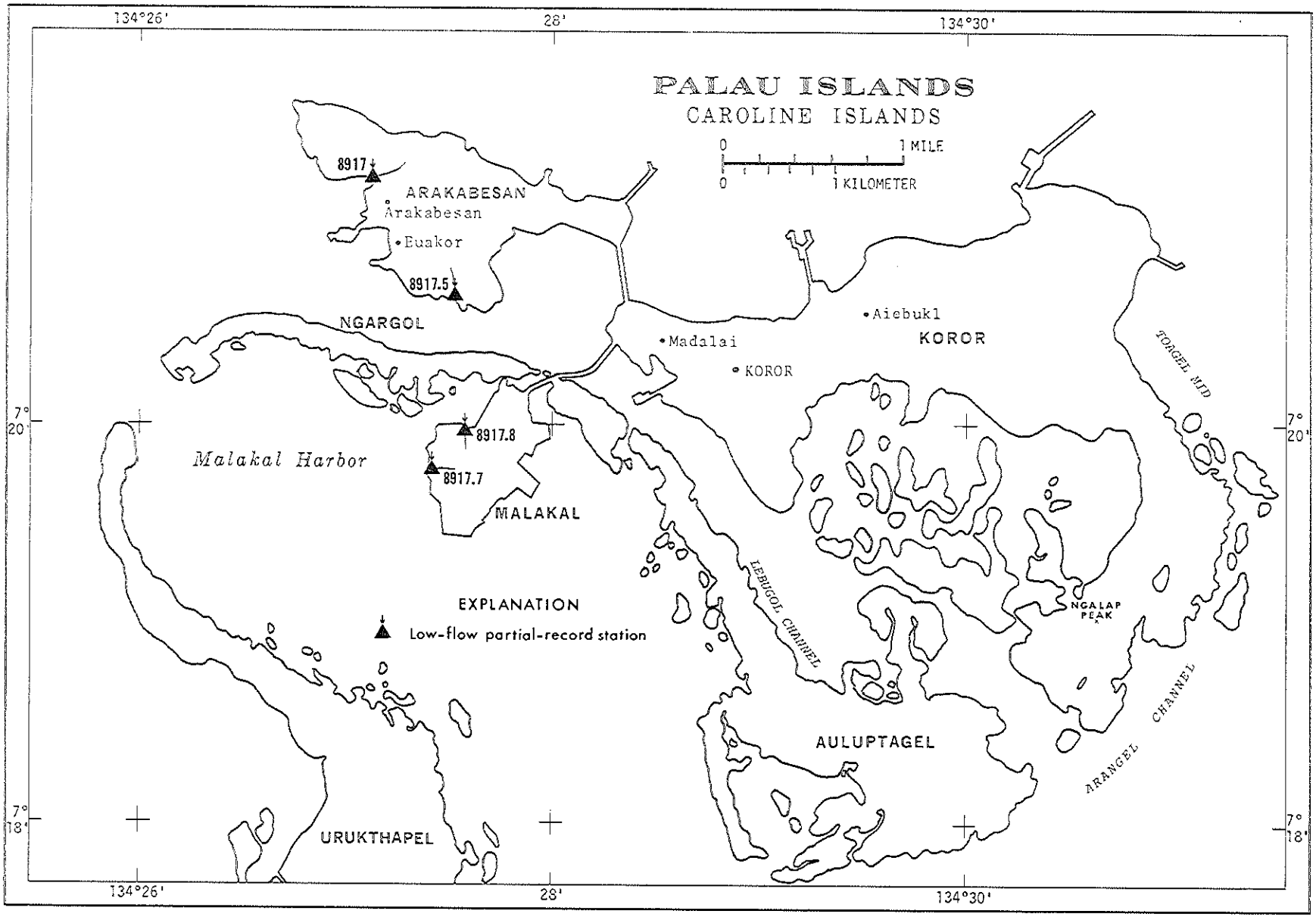

FIGURE 11.--MAP OF ARAKABESAN, MALAKAL, PALAU ISLANDS, SHOWING LOCATIONS OF PARTIAL-RECORD STATIONS.

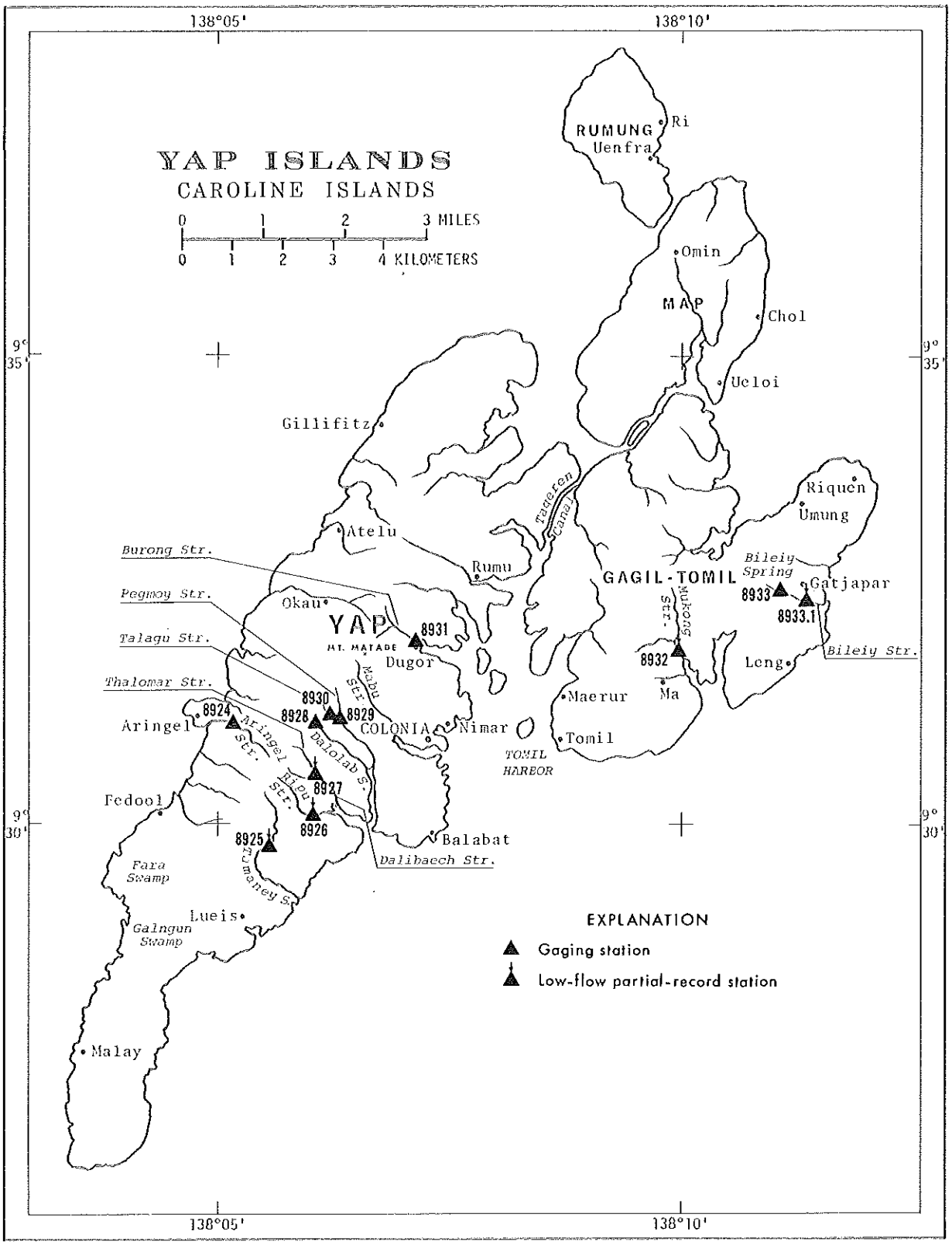

FIGURE 12.--MAP OF YAP ISLANDS, SHOWING LOCATIONS OF GAGING AND PARTIAL-RECORD STATIONS.

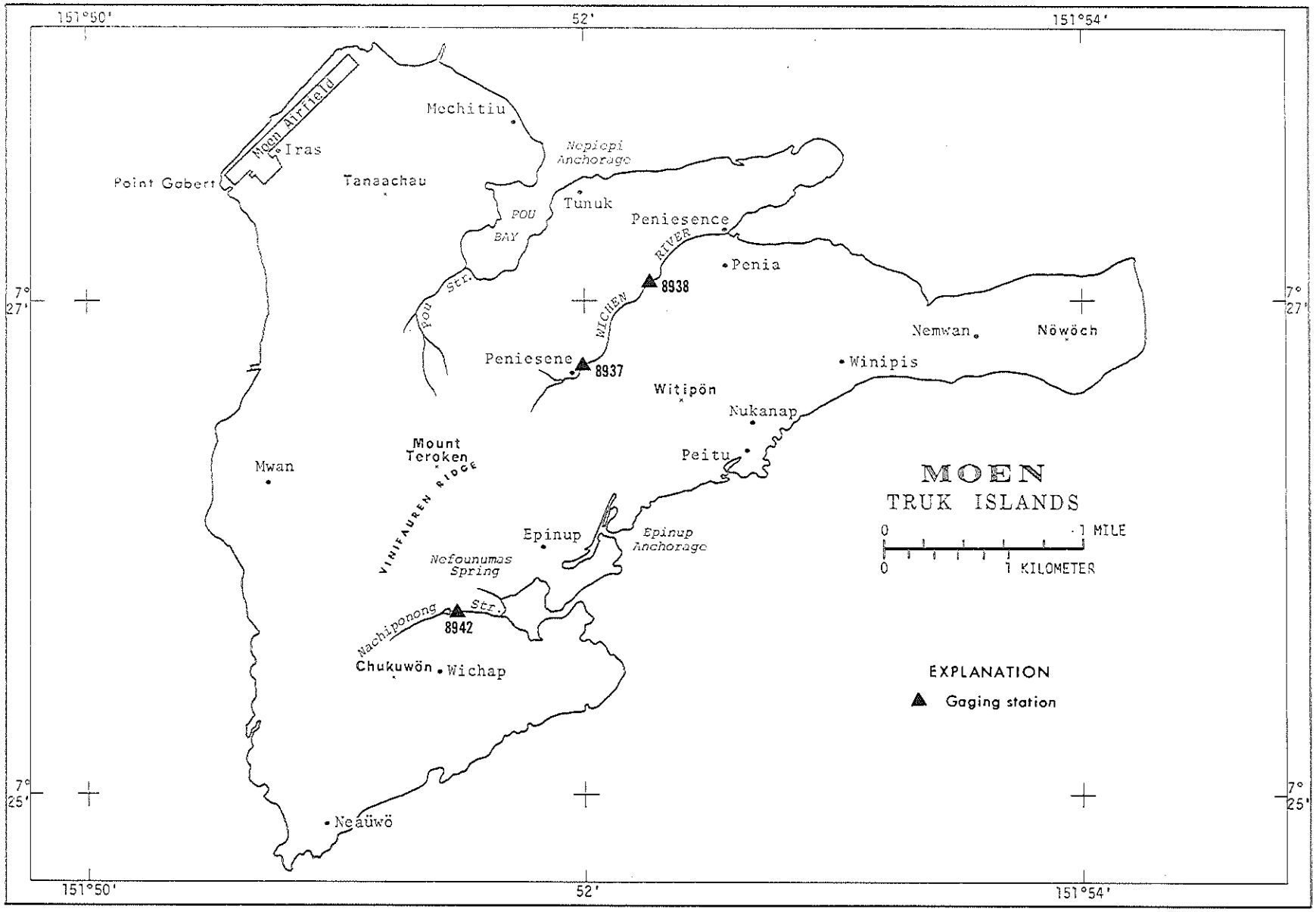

FIGURE 13.--MAP OF MOEN, TRUK ISLANDS, SHOWING LOCATIONS OF GAGING STATIONS.

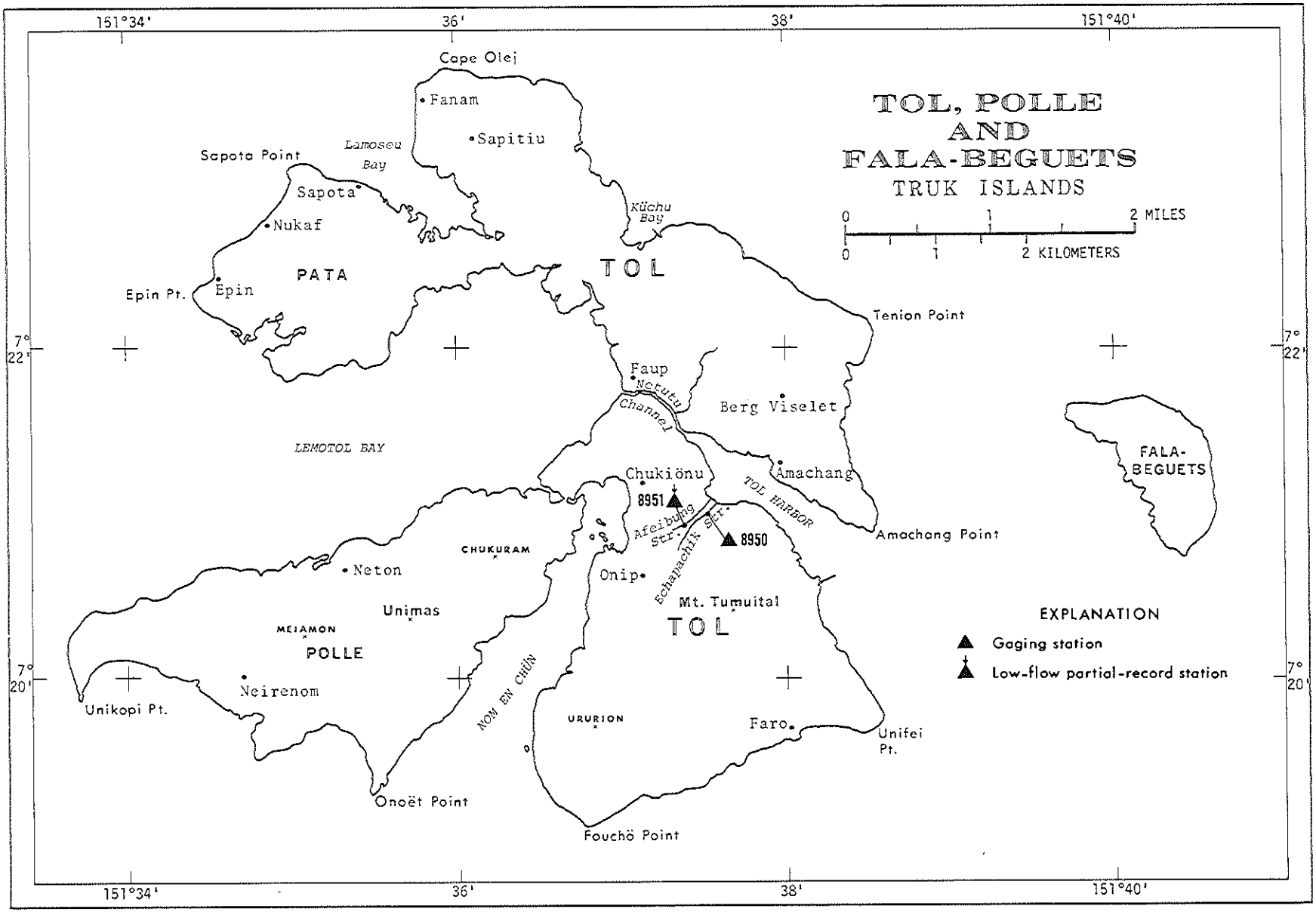

FIGURE 14.--MAP OF TOL, TRUK ISLANDS, SHOWING LOCATIONS OF GAGING AND PARTIAL-RECORD STATIONS.

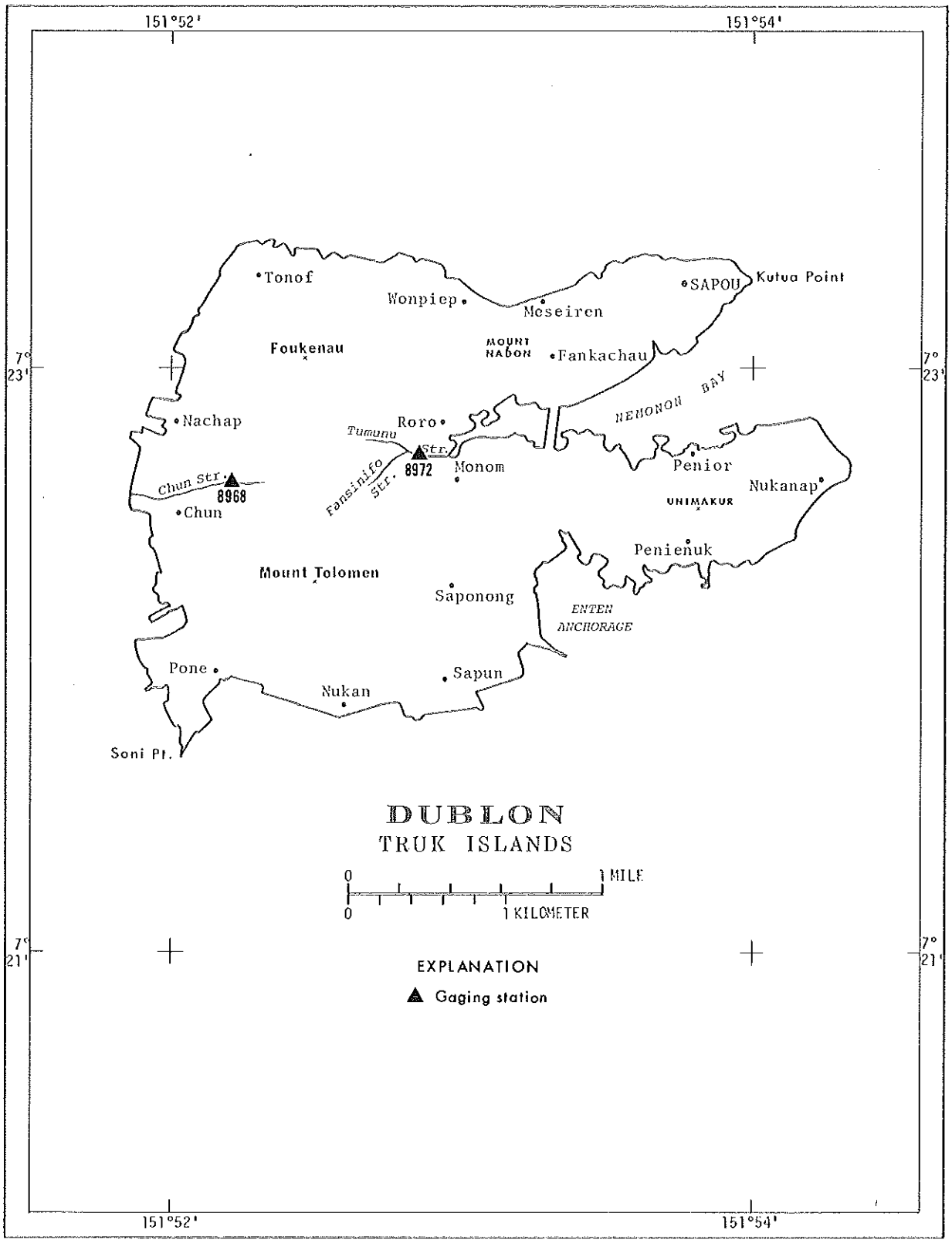

FIGURE 15.--MAP OF DUBLON ISLAND, TRUK ISLANDS, SHOWING LOCATIONS OF GAGING STATIONS.

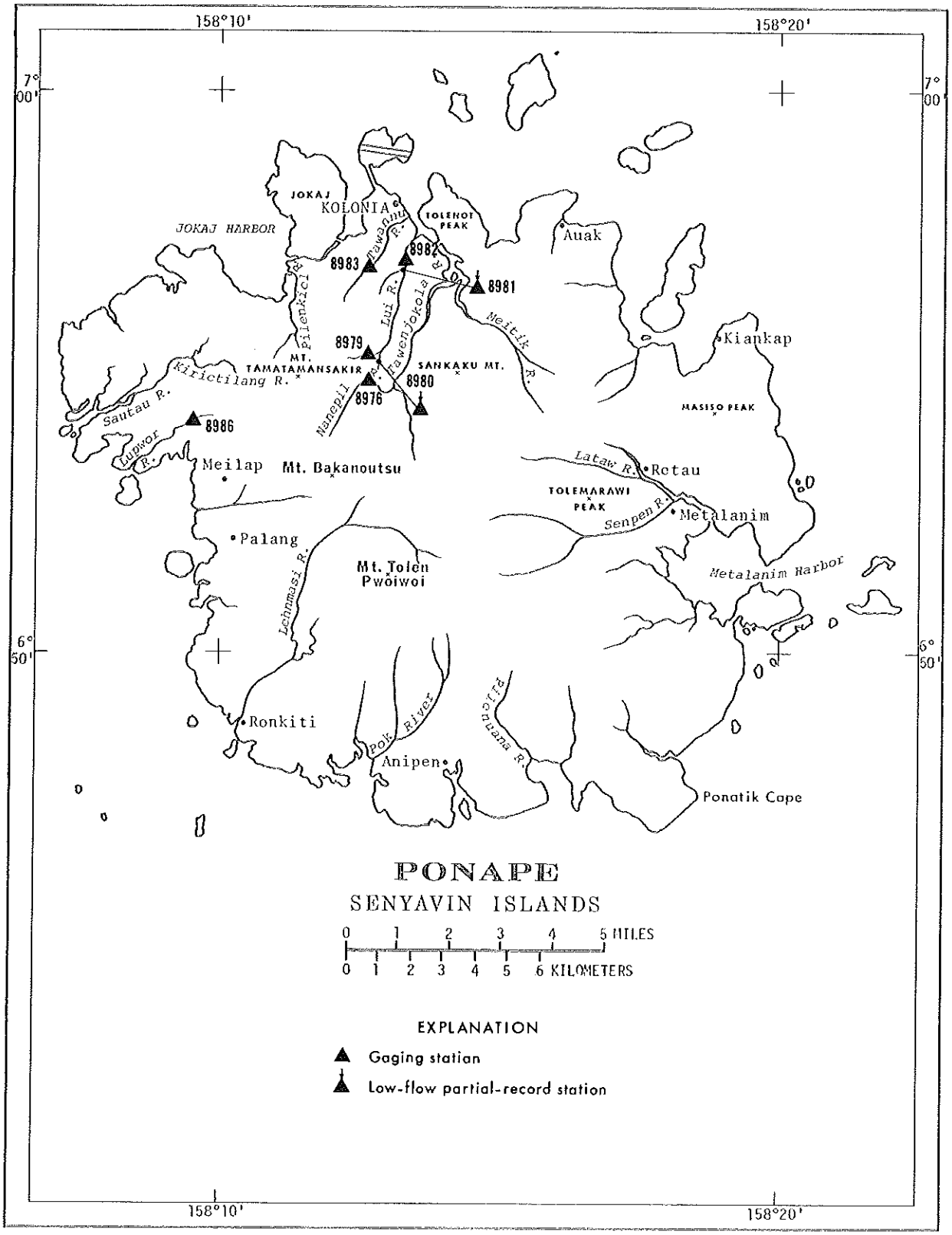

FIGURE 16.--MAP OF PONAPE, SHOWING LOCATIONS OF GAGING AND PARTIAL-RECORD STATIONS.

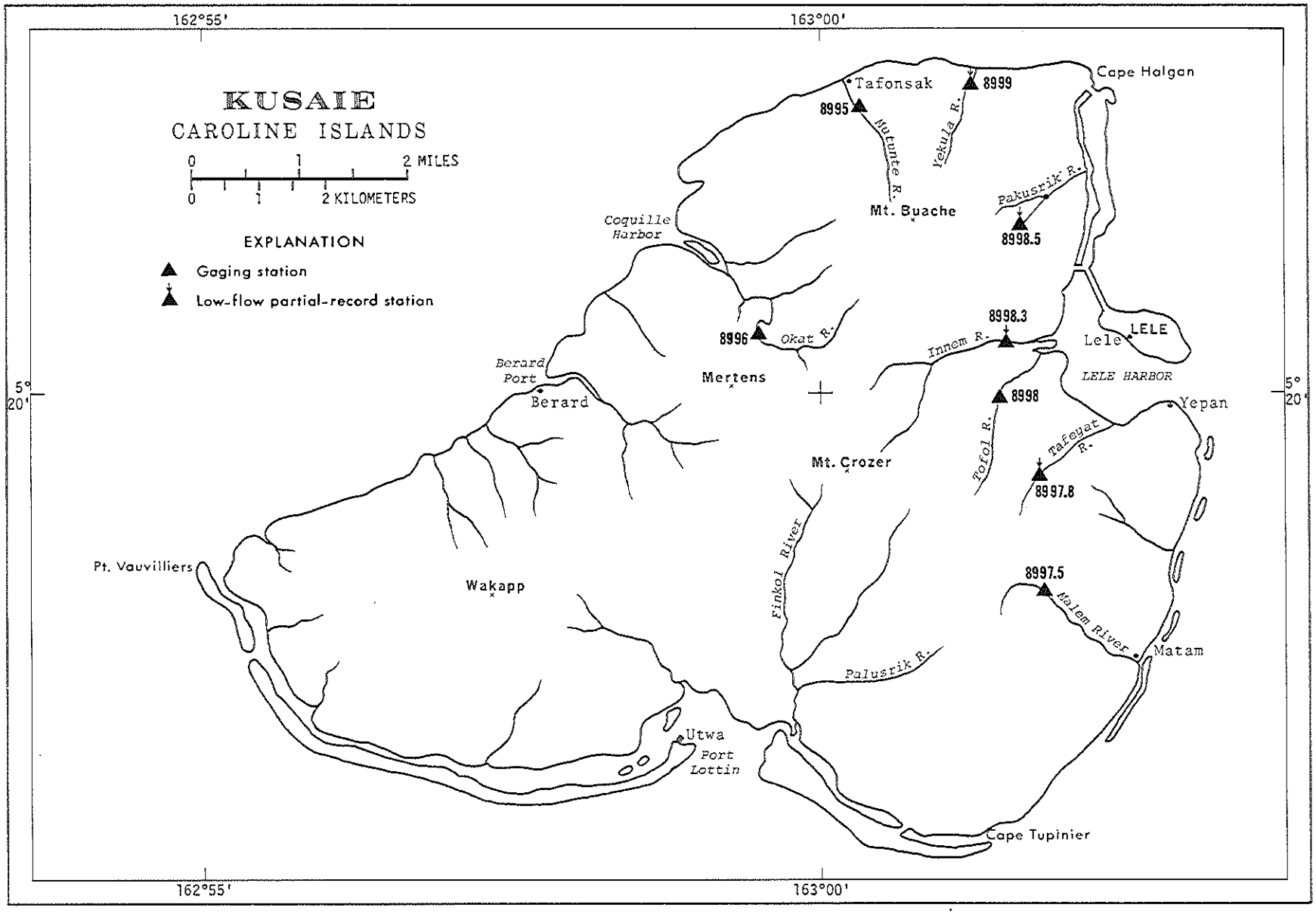

FIGURE 17.--MAP OF KUSAIE, SHOWING LOCATIONS OF GAGING AND PARTIAL-RECORD STATIONS.

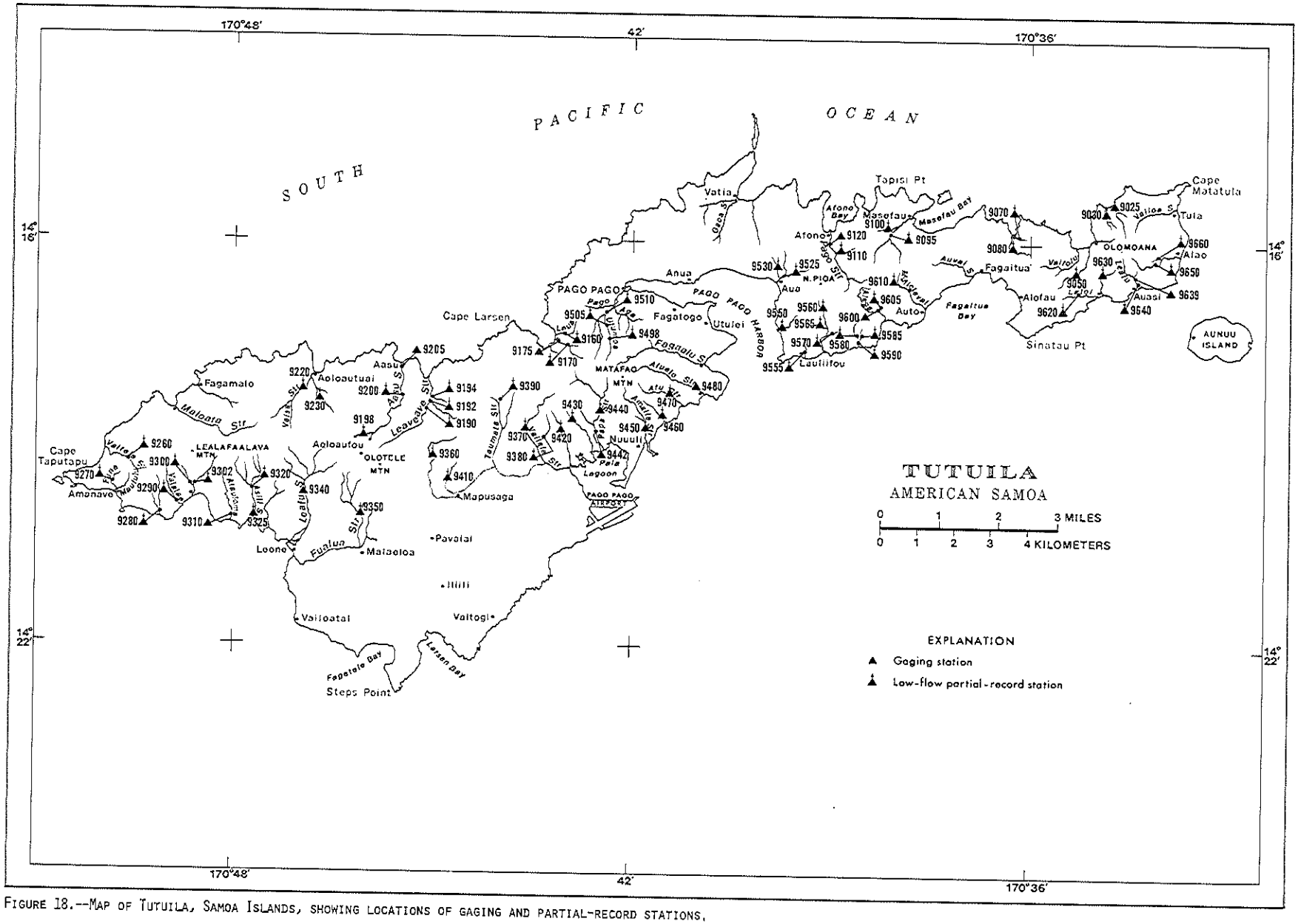

FIGURE 18.--MAP OF TUTUILA, SAMOA ISLANDS, SHOWING LOCATIONS OF GAGING AND PARTIAL-RECORD STATIONS.

PART 1. SURFACE WATER RECORDS

HAWAII, ISLAND OF KAUAI

16010000 KAWAIKOI STREAM NEAR WAIMEA

LOCATION.--Lat 22°08'09", long 159°37'22", on left bank 0.2 mi (0.3 km) upstream from Kokee-Mohihi Road crossing, 2.5 mi (4.0 km) east of Kokee Lodge, and 12.5 mi (20.1 km) north of Waimea.

DRAINAGE AREA.--3.95 mi^2 (10.23 km^2).

PERIOD OF RECORD.--April 1909 to October 1912, December 1912 to March 1913, May 1913 to June 1915, August 1915 to May 1916, July to December 1916, July 1919 to current year. Monthly discharge only for some periods, published in WSP 1319.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,420 ft (1,042 m) by barometer. Prior to May 26, 1910, nonrecording gage at site 300 ft (91 m) downstream at different datum.

AVERAGE DISCHARGE.--57 years (1911-12, 1913-14, 1919-74), 34.8 ft^3/s (0.986 m^3/s), 25,210 acre-ft/yr (31.1 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 8,070 ft^3/s (229 m^3/s) Apr. 19, gage height, 13.44 ft (4.097 m), from rating curve extended as explained below; minimum, 2.8 ft^3/s (0.079 m^3/s) Oct. 6, 7.

Period of record: Maximum discharge, 11,300 ft^3/s (320 m^3/s) Jan. 13, 1967, gage height, 15.33 ft (4.673 m), from rating curve extended above 470 ft^3/s (13.3 m^3/s) on basis of slope-area measurements at gage heights 12.12 ft (3.694 m) and 13.43 ft (4.093 m); minimum, 1.14 ft^3/s (0.032 m^3/s) Sept. 21, 22, 1953.

REMARKS.--Records good. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 555: 1920-21. WSP 1185: 1914-17(M), 1920-38(M), 1940-43(M), 1947(M). WSP 1719: 1912, 1921-25, 1927-32, 1936. WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	25	508	209	181	7.8	9.4	20	10	7.0	4.9	3.1
2	5.0	17	106	34	42	17	10	15	9.6	9.0	4.5	3.6
3	4.2	6.0	37	30	70	9.5	20	14	10	12	4.7	5.2
4	3.5	4.4	24	19	30	8.0	40	13	9.1	7.3	4.9	26
5	3.1	3.7	18	15	23	74	170	12	8.6	6.4	4.5	23
6	2.9	3.4	46	178	20	116	60	12	8.3	20	4.5	16
7	3.5	3.1	84	86	75	30	500	14	7.6	52	4.9	6.3
8	47	3.0	26	97	90	19	150	16	7.6	17	4.7	4.7
9	7.2	2.9	146	98	32	14	40	24	7.4	9.4	4.2	7.4
10	4.4	2.9	86	26	59	12	60	70	27	7.4	4.1	14
11	5.0	159	25	50	93	9.6	30	93	16	6.3	4.2	5.8
12	6.9	134	18	141	25	151	80	40	9.4	16	45	4.4
13	22	29	16	137	19	25	100	70	7.9	28	11	3.8
14	13	11	30	208	17	16	80	117	13	19	7.9	3.6
15	5.7	7.3	21	197	15	19	40	34	12	37	8.4	3.4
16	4.1	6.1	14	78	14	13	30	32	8.3	13	5.9	14
17	3.5	5.5	12	52	13	12	27	35	7.3	38	4.9	13
18	31	5.0	11	46	12	41	150	27	7.0	67	4.4	26
19	9.0	248	9.6	28	11	18	600	33	6.7	25	4.1	143
20	6.1	244	8.9	25	11	15	400	27	6.4	21	3.9	97
21	9.5	139	8.3	20	10	12	200	18	6.4	10	3.8	26
22	5.8	24	8.1	18	9.4	169	250	14	8.8	7.4	3.8	11
23	8.3	17	11	21	20	110	110	13	23	5.9	3.6	7.9
24	8.9	156	9.8	86	15	22	50	12	10	5.9	3.8	6.7
25	16	58	8.8	28	10	16	25	11	8.4	5.8	3.6	6.0
26	6.2	20	9.1	18	9.0	14	27	22	8.5	11	3.5	5.5
27	4.7	14	10	15	8.4	12	25	22	9.8	46	3.4	5.1
28	4.5	41	7.8	13	8.0	11	23	12	17	11	3.4	4.9
29	5.5	57	6.7	12	------	13	22	11	18	7.2	3.2	4.8
30	5.1	24	123	195	------	13	21	25	8.8	5.8	3.2	4.6
31	4.7	------	18	308	------	11	------	14	------	5.2	3.1	------
TOTAL	273.3	1,470.3	1,467.1	2,488	941.8	1,029.9	3,349.4	892	317.9	539.0	184.0	505.8
MEAN	8.82	49.0	47.3	80.3	33.6	33.2	112	28.8	10.6	17.4	5.94	16.9
MAX	47	248	508	308	181	169	600	117	27	67	45	143
MIN	2.9	2.9	6.7	12	8.0	7.8	9.4	11	6.4	5.2	3.1	3.1
AC-FT	542	2,920	2,910	4,930	1,870	2,040	6,640	1,770	631	1,070	365	1,000

CAL YR 1973 TOTAL 10,477.3 MEAN 28.7 MAX 508 MIN 2.9 AC-FT 20,780
WTR YR 1974 TOTAL 13,458.5 MEAN 36.9 MAX 600 MIN 2.9 AC-FT 26,690

PEAK DISCHARGE (BASE, 2,100 CFS).--Dec. 1 (1430) 2,530 cfs (8.66 ft); probably Apr. 19 (time unknown) 8,070 cfs (13.44 ft).

NOTE.--No gage-height record Apr. 1 to May 2.

16014000 KOKEE DITCH NEAR WAIMEA

LOCATION.--Lat 22°06'42", long 159°40'43", on left bank, 0.3 mi (0.5 km) west of Highway 55, 1.9 mi (3.1 km) south of Kokee Lodge, and 10.5 mi (16.9 km) north of Waimea.

PERIOD OF RECORD.--September 1926 to current year.

GAGE.--Water-stage recorder and suppressed weir. Altitude of gage is 3,310 ft (1,009 m) by barometer. Prior to July 1, 1962, at datum 0.07 ft (0.021 m) higher.

AVERAGE DISCHARGE.--48 years, 24.3 ft^3/s (0.688 m^3/s), 17,610 acre-ft/yr (21.7 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 105 ft^3/s (2.97 m^3/s) Dec. 2, 1929, Mar. 4, 1933; no flow at times.

REMARKS.--Records good. Ditch diverts at altitude 3,400 ft (1,040 m) from Mohihi Stream and all streams west which are tributary to Waimea River, for irrigation in vicinity of Kekaha. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	17	36	50	61	26	17	44	20	12	10	5.2
2	7.5	30	2.7	16	38	34	28	42	19	12	9.5	6.9
3	6.4	13	30	20	40	26	27	39	20	17	9.2	14
4	5.4	8.8	50	17	28	24	43	37	18	12	9.5	30
5	4.8	7.1	40	10	31	44	32	36	17	10	9.0	38
6	4.6	6.2	13	19	44	84	32	35	17	16	9.0	34
7	4.6	5.4	11	43	53	53	31	36	16	47	9.2	14
8	41	5.2	19	37	54	38	20	37	16	23	9.2	9.5
9	14	5.0	11	29	20	31	12	41	16	15	8.5	9.2
10	8.0	5.0	27	10	32	28	18	73	29	12	8.0	21
11	7.1	27	18	24	36	26	18	79	28	12	8.2	10
12	10	79	28	33	32	36	35	61	19	18	45	7.8
13	21	48	41	24	50	1.4	30	54	17	33	21	6.9
14	21	22	50	27	48	11	26	49	19	28	13	6.0
15	10	14	46	28	46	20	23	28	21	35	14	5.8
16	7.1	11	35	22	44	13	26	35	17	22	11	12
17	6.0	9.5	31	19	41	11	21	54	15	37	9.2	24
18	32	8.5	28	36	39	33	30	41	15	54	8.0	21
19	15	21	26	44	36	17	15	46	14	30	7.3	67
20	9.5	72	25	39	35	14	20	44	14	34	7.1	62
21	13	76	24	35	34	13	24	31	13	20	7.1	46
22	9.5	41	24	35	32	34	35	27	15	16	6.9	21
23	11	30	28	33	40	36	63	25	27	14	6.9	15
24	9.8	70	26	37	44	29	56	24	18	12	6.9	12
25	20	60	23	38	32	21	38	23	14	12	6.4	10
26	11	33	23	32	29	17	42	26	14	17	6.2	9.2
27	7.3	28	24	26	28	14	36	41	17	42	6.0	8.2
28	6.7	36	21	31	26	12	41	25	18	21	6.0	7.8
29	8.0	57	19	42	------	14	50	22	29	15	5.8	7.3
30	8.0	46	72	62	------	13	47	32	15	12	5.8	6.9
31	8.0	------	44	85	------	10	------	25	------	11	5.4	------
TOTAL	356.5	891.7	895.7	1,003	1,073	783.4	936	1,212	547	671	304.3	547.7
MEAN	11.5	29.7	28.9	32.4	38.3	25.3	31.2	39.1	18.2	21.6	9.82	18.3
MAX	41	79	72	85	61	84	63	79	29	54	45	67
MIN	4.6	5.0	2.7	10	20	1.4	12	22	13	10	5.4	5.2
AC-FT	707	1,770	1,780	1,990	2,130	1,550	1,860	2,400	1,080	1,330	604	1,090

CAL YR 1973 TOTAL 8,930.6 MEAN 24.5 MAX 87 MIN 2.7 AC-FT 17,710
WTR YR 1974 TOTAL 9,221.3 MEAN 25.3 MAX 85 MIN 1.4 AC-FT 18,290

NOTE.--No gage-height record Jan. 16 to Feb. 7.

16019000 WAIALAE STREAM AT ALTITUDE 3,820 FT (1,164 m), NEAR WAIMEA

LOCATION.--Lat 22°05'20", long 159°34'18", on left bank 5.0 mi (8.0 km) northeast of mouth, 6.4 mi (10.3 km) southeast of Kokee Lodge, and 11 mi (18 km) northeast of Waimea.

DRAINAGE AREA.--1.79 mi² (4.64 km²).

PERIOD OF RECORD.--January 1920 to July 1932, June 1952 to current year. Prior to July 1954, published as Waialae River at altitude 3,700 ft (1,128 m) near Waimea.

GAGE.--Water-stage recorder. Altitude of gage is 3,820 ft (1,164 m) from topographic map.

AVERAGE DISCHARGE.--33 years (1920-31, 1952-74), 22.6 ft³/s (0.640 m³/s), 16,370 acre-ft/yr (20.2 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,500 ft³/s (99.1 m³/s), Apr. 19, gage height, 7.39 ft (2.252 m); minimum, 2.2 ft³/s (0.062 m³/s) Sept. 15, 16.

Period of record: Maximum discharge, 4,530 ft³/s (128 m³/s) Jan. 16, 1921, gage height, 8.44 ft (2.573 m), from rating curve extended above 1,100 ft³/s (31.2 m³/s) on basis of slope-area measurement at gage height 4.60 ft (1.402 m); minimum, 0.99 ft³/s (0.028 m³/s) May 17, 18, May 30 to June 2, 1966.

REMARKS.--Records fair. No diversion above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1937: 1921, 1922-32(M), 1953(M), 1954. WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	10	551	142	58	5.0	4.7	12	5.8	4.7	4.0	2.3
2	6.9	11	140	31	44	5.0	4.4	9.0	5.2	3.8	3.6	4.2
3	5.8	6.9	28	20	168	4.7	4.2	8.0	6.6	3.4	3.6	14
4	5.0	5.8	14	12	17	16	11	7.0	5.8	3.0	3.4	24
5	4.2	5.0	10	14	11	244	174	5.0	5.2	2.8	3.2	59
6	3.8	4.2	8.6	160	9.0	333	44	4.4	4.7	3.4	3.8	11
7	12	3.8	32	54	7.7	60	229	5.0	4.4	88	6.4	5.0
8	49	3.6	22	131	13	32	71	5.2	5.5	19	5.0	3.6
9	8.1	3.6	11	45	21	31	100	10	5.0	9.0	4.0	5.9
10	6.1	3.6	175	11	45	11	41	19	11	5.8	5.8	6.6
11	6.6	140	37	102	47	9.5	56	20	8.3	4.4	14	4.0
12	8.1	60	14	188	11	173	67	16	4.7	18	40	3.0
13	11	17	10	179	9.0	15	67	32	4.0	56	9.0	2.6
14	12	10	8.6	296	7.2	10	60	204	7.1	15	5.8	2.3
15	8.1	6.9	7.2	203	6.4	8.1	83	60	6.6	40	4.7	2.3
16	5.8	6.4	6.1	48	6.6	6.9	56	80	4.7	10	3.8	2.2
17	5.0	6.9	5.5	60	6.6	9.5	72	50	3.8	22	3.6	3.2
18	26	6.9	4.7	35	5.8	13	119	16	3.6	114	3.4	5.4
19	8.6	331	4.4	23	5.2	52	642	14	3.4	14	3.2	21
20	7.7	324	4.0	17	6.6	16	420	16	3.2	11	3.0	28
21	6.9	123	3.8	11	6.6	86	116	11	3.9	7.7	3.2	9.5
22	6.4	97	4.6	11	5.0	315	206	9.0	11	7.2	2.8	5.2
23	9.5	51	40	9.0	4.4	56	58	7.7	15	5.8	4.4	4.0
24	8.1	151	8.1	100	4.2	16	15	6.6	8.1	6.9	4.4	3.2
25	11	48	5.8	21	4.2	10	12	5.8	5.8	7.2	3.6	3.0
26	6.9	23	4.7	11	4.0	8.6	10	9.4	4.4	17	3.0	2.6
27	5.8	12	4.2	8.6	6.0	7.2	9.0	10	5.8	43	2.8	2.4
28	15	26	3.8	8.1	6.1	6.6	8.0	17	14	8.6	2.6	2.4
29	14	17	3.6	10	------	6.4	7.2	11	9.5	5.8	2.6	2.3
30	19	12	76	97	------	5.5	7.0	10	6.1	4.7	2.4	2.3
31	8.1	------	11	136	------	5.0	------	7.7	------	4.2	2.4	------
TOTAL	320.5	1,526.6	1,258.7	2,193.7	545.6	1,577.0	2,773.5	697.8	192.2	565.4	167.5	246.5
MEAN	10.3	50.9	40.6	70.8	19.5	50.9	92.5	22.5	6.41	18.2	5.40	8.22
MAX	49	331	551	296	168	333	642	204	15	114	40	59
MIN	3.8	3.6	3.6	8.1	4.0	4.7	4.2	4.4	3.2	2.8	2.4	2.2
AC-FT	636	3,030	2,500	4,350	1,080	3,130	5,500	1,380	381	1,120	332	489

CAL YR 1973 TOTAL 7,719.8 MEAN 21.2 MAX 551 MIN 3.0 AC-FT 15,310
WTR YR 1974 TOTAL 12,065.0 MEAN 33.1 MAX 642 MIN 2.2 AC-FT 23,930

PEAK DISCHARGE (BASE, 1,300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-19	1830	4.58	1,350	4-19	0530	7.39	3,500
12- 1	1400	6.22	2,500				

HAWAII, ISLAND OF KAUAI

16036000 MAKAWELI RIVER NEAR WAIMEA

LOCATION.--Lat 21°58'31", long 159°38'55", on left bank 0.7 mi (1.1 km) upstream from mouth and 1.9 mi (3.1 km) northeast of Waimea.

DRAINAGE AREA.--26.0 mi^2 (67.3 km^2).

PERIOD OF RECORD.--July 1943 to current year. Records for October 1911 to June 1917 at site 0.2 mi (0.3 km) downstream not equivalent owing to intervening diversion.

GAGE.--Water-stage recorder. Datum of gage is 18.2 ft (5.55 m) above mean sea level (by stadia survey). Prior to June 16, 1959, at datum 1.00 ft (0.305 m) higher.

AVERAGE DISCHARGE.--31 years, 90.6 ft^3/s (2.566 m^3/s), 65,640 acre-ft/yr (80.9 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 17,900 ft^3/s (507 m^3/s) Apr. 19, gage height, 12.80 ft (3.901 m), from rating curve extended as explained below; minimum, 10 ft^3/s (0.28 m^3/s) Nov. 8, 9.

Period of record: Maximum discharge, 17,900 ft^3/s (507 m^3/s) Apr. 19, 1974, gage height, 12.80 ft (3.901 m), from rating curve extended above 3,200 ft^3/s (90.6 m^3/s) on basis of slope-area measurement at gage height 10.65 ft (3.246 m); minimum, 3.15 ft^3/s (0.089 m^3/s) July 19, 1951.

REMARKS.--Records good. Olokele ditch diverts all low flow from Olokele River 9 mi (14.5 km) above station for irrigation in vicinity of Makaweli. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	16	2,820	473	229	20	43	53	35	29	18	11
2	14	63	900	169	227	47	43	46	35	23	16	14
3	14	20	360	106	1,050	55	48	42	70	19	23	29
4	13	14	195	73	228	63	52	40	45	17	16	166
5	13	12	160	96	133	689	569	49	37	21	15	212
6	13	12	138	443	98	1,160	195	48	33	28	40	70
7	18	11	140	411	81	379	559	35	27	192	29	28
8	169	10	86	430	93	231	308	32	44	74	16	20
9	21	10	51	339	99	269	378	57	28	35	17	35
10	14	11	346	135	143	90	265	65	73	22	28	31
11	33	238	191	320	239	73	182	51	40	18	36	20
12	18	311	78	1,090	87	1,140	150	55	24	117	175	18
13	24	45	52	853	67	195	181	84	27	253	28	17
14	27	18	42	2,010	50	121	148	1,090	87	89	17	15
15	16	14	38	1,210	44	90	260	165	33	175	15	15
16	19	12	34	571	123	78	250	148	31	41	14	66
17	14	14	31	392	53	94	254	474	27	34	13	31
18	58	11	27	305	38	110	267	125	27	355	13	46
19	22	839	26	197	35	218	3,180	78	24	47	13	78
20	16	1,440	23	162	36	97	1,920	99	23	41	13	222
21	13	585	22	151	38	302	741	53	29	40	13	93
22	12	303	23	150	30	828	1,010	51	60	35	13	37
23	18	224	148	103	27	424	606	53	50	30	29	26
24	14	745	47	445	29	150	274	35	26	50	14	22
25	22	402	32	196	32	94	154	33	23	26	12	20
26	13	231	28	128	31	71	115	35	21	50	12	18
27	12	148	26	129	95	62	94	47	48	171	12	20
28	16	256	24	192	30	54	88	52	77	40	12	18
29	32	202	22	135	------	50	86	90	57	27	12	17
30	127	125	155	185	------	46	74	49	71	21	12	15
31	21	------	55	446	------	45	------	44	------	19	12	------
TOTAL	863	6,342	6,320	12,045	3,465	7,345	12,494	3,378	1,232	2,139	708	1,430
MEAN	27.8	211	204	389	124	237	416	109	41.1	69.0	22.8	47.7
MAX	169	1,440	2,820	2,010	1,050	1,160	3,180	1,090	87	355	175	222
MIN	12	10	22	73	27	20	43	32	21	17	12	11
AC-FT	1,710	12,580	12,540	23,890	6,870	14,570	24,780	6,700	2,440	4,240	1,400	2,840

CAL YR 1973 TOTAL 26,165 MEAN 71.7 MAX 2,820 MIN 10 AC-FT 51,900
WTR YR 1974 TOTAL 57,761 MEAN 158 MAX 3,180 MIN 10 AC-FT 114,600

PEAK DISCHARGE (BASE, 4,700 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12- 1	1530	9.65	9,300	5-14	1000	7.71	5,660
4-19	0700	12.80	17,900				

16049000 HANAPEPE RIVER BELOW MANUAHI STREAM, NEAR ELEELE

LOCATION.--Lat 21°57'29", long 159°33'13", on left bank 200 ft (61 m) downstream from Manuahi Stream and 4.0 mi (6.4 km) northeast of Eleele.

DRAINAGE AREA.--18.5 mi^2 (47.9 km^2).

PERIOD OF RECORD.--July 1917 to January 1921, December 1926 to current year. Prior to July 1952, published as "at Koula, near Eleele." Records for August 1910 to December 1916 at site 0.5 mi (0.8 km) upstream not equivalent owing to intervening inflow.

GAGE.--Water-stage recorder. Datum of gage is 222 ft (67.67 m) above mean sea level (by stadia survey). July 1, 1917, to Jan. 22, 1921, nonrecording gage and Dec. 16, 1926, to June 30, 1951, water-stage recorder, at same site at datum 1.00 ft (0.305 m) higher.

AVERAGE DISCHARGE.--50 years (1917-20, 1927-74), 87.9 ft^3/s (2.489 m^3/s), 63,680 acre-ft/yr (78.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 18,800 ft^3/s (532 m^3/s) Apr. 19, gage height, 11.54 ft (3.517 m); minimum, 16 ft^3/s (0.45 m^3/s) Nov. 7-10.

Period of record: Maximum discharge, 39,000 ft^3/s (1,100 m^3/s) Apr. 15, 1963, gage height, 14.87 ft (4.532 m), from rating curve extended above 7,600 ft^3/s (215 m^3/s) on basis of slope-area measurement of peak flow; minimum, 5.1 ft^3/s (0.14 m^3/s) May 21, 1954.

REMARKS.--Records good. Hanapepe ditch diverts 3.0 mi (4.8 km) above station for irrigation in vicinity of Makaweli. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 740: 1931. WSP 1719: 1929-31(M). WSP 1937: 1918, 1919(M), 1920, 1921(M), 1927-28(M), 1930, 1936-37(M), 1941(P), 1943-46(P), 1947(M), 1948-52(P), 1955(M), 1956-57(P), 1958(M), 1960(M). WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	23	1,800	134	97	26	79	60	35	58	26	19
2	29	23	436	46	328	29	92	54	55	38	25	24
3	26	18	233	40	709	29	86	43	42	37	36	26
4	24	17	185	45	140	31	101	39	48	32	25	212
5	22	17	148	40	78	396	709	38	44	34	24	72
6	22	17	128	297	61	655	209	36	38	35	56	39
7	61	17	158	212	51	254	595	38	33	130	39	22
8	150	17	126	124	57	148	404	40	62	70	26	20
9	27	17	108	92	66	158	400	89	32	40	35	43
10	22	17	158	39	128	56	251	54	81	29	42	35
11	56	769	96	248	138	43	230	42	39	29	69	22
12	23	480	45	476	54	998	158	50	32	165	168	19
13	26	96	34	503	44	178	195	190	27	400	43	19
14	32	33	31	1,170	38	132	150	753	97	150	31	19
15	35	21	28	676	35	112	257	118	62	239	28	18
16	28	22	26	353	57	103	257	376	42	68	26	40
17	20	38	25	251	34	120	242	498	32	72	24	40
18	60	22	24	203	31	110	281	155	42	272	24	106
19	46	686	23	150	29	318	2,670	165	75	78	28	144
20	42	1,170	22	128	43	134	1,400	124	38	48	23	227
21	22	364	22	134	33	200	585	78	38	46	23	105
22	19	160	28	116	29	384	1,280	73	76	60	22	30
23	27	200	56	106	27	242	590	51	97	43	42	29
24	22	595	26	353	27	126	297	44	68	63	24	25
25	25	304	23	188	26	108	160	40	40	39	21	22
26	19	188	22	142	26	99	112	58	35	45	20	20
27	18	183	22	158	70	92	86	87	99	138	21	19
28	21	368	21	148	26	89	70	70	404	38	20	19
29	19	357	20	152	------	87	61	57	188	34	20	22
30	58	180	62	269	------	87	55	50	188	30	20	18
31	20	------	27	297	------	84	------	40	------	29	19	------
TOTAL	1,055	6,419	4,163	7,290	2,482	5,628	12,062	3,610	2,189	2,589	1,050	1,475
MEAN	34.0	214	134	235	88.6	182	402	116	73.0	83.5	33.9	49.2
MAX	150	1,170	1,800	1,170	709	998	2,670	753	404	400	168	227
MIN	18	17	20	39	26	26	55	36	27	29	19	18
AC-FT	2,090	12,730	8,260	14,460	4,920	11,160	23,920	7,160	4,340	5,140	2,080	2,930

CAL YR 1973 TOTAL 26,781 MEAN 73.4 MAX 1,800 MIN 17 AC-FT 53,120
WTR YR 1974 TOTAL 50,012 MEAN 137 MAX 2,670 MIN 17 AC-FT 99,200

PEAK DISCHARGE (BASE, 3,600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-19	2145	6.95	4,860	4-19	0630	11.54	18,800
12- 1	1400	6.65	4,330	4-22	2100	6.80	4,580
3-12	0245	7.10	5,150	9-20	1645	7.09	5,130

16060000 SOUTH FORK WAILUA RIVER NEAR LIHUE

LOCATION.--Lat 22°02'24", long 159°22'58", on right bank 0.2 mi (0.3 km) upstream from Wailua Falls and 4.3 mi (6.9 km) north of Lihue.

DRAINAGE AREA.--22.4 mi^2 (58.0 km^2).

PERIOD OF RECORD.--December 1911 to April 1919, June 1919 to March 1921, May 1921 to June 1957, August, September 1957, November 1957 to February 1958, June 1958 to current year. Monthly discharge only for some periods, published in WSP 1319. Published as "above Waiehu Falls, near Lihue" 1912-13.

GAGE.--Water-stage recorder. Altitude of gage is 240 ft (73 m) from topographic map. Prior to Nov. 18, 1918, at site 0.3 mi (0.5 km) upstream at different datum. Nov. 18, 1918, to June 30, 1957, at site 10 ft (3 m) downstream from present site at datum 2.50 ft (0.762 m) higher and July 1, 1957, to June 23, 1958, at present datum.

AVERAGE DISCHARGE.--57 years (1912-18, 1919-20, 1921-24, 1925-56, 1958-74), 119 ft^3/s (3.370 m^3/s), 86,220 acre-ft/yr (106 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 15,600 ft^3/s (442 m^3/s) May 14, gage height, 17.14 ft (5.244 m); minimum, 2.9 ft^3/s (0.082 m^3/s) Oct. 6, 7.

Period of record: Maximum discharge, 87,300 ft^3/s (2,470 m^3/s) Apr. 15, 1963, gage height, 22.90 ft (6.980 m), from rating curve extended above 13,000 ft^3/s (368 m^3/s) on basis of slope-area measurement of peak flow; minimum, 1.69 ft^3/s (0.048 m^3/s) Sept. 21, 1953.

REMARKS.--Records good. Lihue and Hanamaulu ditches divert upstream for irrigation of sugarcane in vicinity of Lihue. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1249: 1941-47(M), 1948-51(P). WSP 1719: 1943-49. WSP 1937: 1958-60.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	21	2,870	251	396	13	118	51	52	150	10	4.2
2	6.0	43	841	116	480	47	109	38	102	90	8.7	5.1
3	7.8	13	472	95	894	37	97	26	92	60	12	69
4	5.3	9.6	354	104	498	18	97	20	58	44	9.9	146
5	3.2	5.3	273	139	222	588	846	38	56	77	7.3	34
6	3.0	4.8	226	325	196	521	308	34	62	73	46	11
7	3.2	4.4	439	381	176	259	600	16	30	245	22	6.4
8	54	4.2	319	217	174	169	528	16	48	116	8.7	5.7
9	6.4	4.0	223	220	200	248	569	31	27	53	6.6	64
10	3.7	4.4	277	120	193	122	328	31	107	24	33	18
11	30	1,030	208	197	160	107	565	17	66	10	20	7.3
12	21	1,010	196	563	48	1,190	414	52	20	146	119	6.2
13	4.6	363	157	541	33	290	432	134	12	237	49	6.8
14	23	146	139	1,210	24	189	331	2,820	100	168	21	5.5
15	26	92	124	610	18	148	424	643	58	240	16	4.8
16	44	87	113	326	46	134	419	418	71	88	7.1	116
17	24	88	107	272	42	133	440	699	31	82	6.4	14
18	317	57	65	310	37	138	436	335	12	323	6.2	264
19	479	831	22	220	15	760	1,750	289	60	79	6.2	433
20	313	2,300	21	182	21	251	1,440	198	22	62	5.7	550
21	138	707	24	260	27	209	798	88	35	38	5.3	192
22	66	371	87	242	14	546	1,390	62	60	44	5.3	114
23	39	354	115	175	13	442	689	50	100	49	85	73
24	16	637	87	358	18	186	418	36	80	75	23	55
25	25	545	85	240	20	154	239	46	60	41	12	38
26	9.6	414	77	173	10	138	171	82	50	62	8.1	31
27	6.4	439	62	347	36	126	96	253	90	179	6.6	27
28	5.5	1,200	79	243	19	118	64	119	150	47	6.0	23
29	5.1	606	78	248	------	120	69	79	300	34	5.7	36
30	19	395	130	416	------	140	48	100	220	28	5.3	13
31	6.2	------	87	706	------	126	------	54	------	13	4.8	------
TOTAL	1,724.0	11,785.7	8,357	9,807	4,030	7,667	14,233	6,875	2,231	2,977	587.9	2,373.0
MEAN	55.6	393	270	316	144	247	474	222	74.4	96.0	19.0	79.1
MAX	479	2,300	2,870	1,210	894	1,190	1,750	2,820	300	323	119	550
MIN	3.0	4.0	21	95	10	13	48	16	12	10	4.8	4.2
AC-FT	3,420	23,380	16,580	19,450	7,990	15,210	28,230	13,640	4,430	5,900	1,170	4,710

CAL YR 1973 TOTAL 29,336.8 MEAN 80.4 MAX 2,870 MIN 2.7 AC-FT 58,190
WTR YR 1974 TOTAL 72,647.6 MEAN 199 MAX 2,870 MIN 3.0 AC-FT 144,100

PEAK DISCHARGE (BASE, 5,800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-20	1600	14.89	6,740	4-19	0730	14.98	6,950
12- 1	1300	15.01	7,030	5-14	1030	17.14	15,600
3-12	0400	14.70	6,280				

16061000 NORTH WAILUA DITCH NEAR LIHUE

LOCATION.--Lat 22°03'56", long 159°28'14", on left bank 300 ft (91 m) downstream from intake, 7.9 mi (12.7 km) west of Wailua House Lots, and 8.8 mi (14.2 km) northwest of Lihue.

PERIOD OF RECORD.--July 1932 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Datum of gage is 1,105.45 ft (336.941 m) above mean sea level (levels by Lihue Plantation Co.).

AVERAGE DISCHARGE.--42 years, 18.9 ft^3/s (0.535 m^3/s), 13,690 acre-ft/yr (16.9 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 59 ft^3/s (1.67 m^3/s) Dec. 21, 1933, Apr. 24, 1934; no flow at times.

REMARKS.--Records good. Ditch diverts from North Fork Wailua River for power and irrigation in vicinity of Lihue. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEAR).--WSP 770: 1933.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	16	21	18	15	17	15	15	16	15	16	16
2	16	16	17	16	16	16	15	15	17	14	16	18
3	17	16	15	16	16	16	15	15	16	14	17	19
4	16	17	16	16	15	16	16	15	16	14	16	19
5	16	16	16	16	14	16	19	15	16	14	16	17
6	16	16	16	18	14	15	16	15	15	15	17	17
7	18	16	17	17	14	15	19	15	16	16	17	17
8	18	16	16	18	15	15	17	15	16	15	17	17
9	17	16	16	17	15	16	17	16	15	14	17	19
10	17	17	17	16	16	14	15	16	16	14	17	17
11	18	22	16	18	15	14	17	16	15	14	18	17
12	16	19	16	18	14	16	16	16	15	17	19	17
13	17	16	16	19	14	15	16	18	15	17	17	17
14	17	16	16	18	14	16	15	20	17	16	17	17
15	18	16	16	16	15	16	16	17	16	16	17	17
16	17	16	16	15	16	15	16	18	16	15	16	18
17	17	17	16	16	14	16	18	19	15	16	16	18
18	18	16	16	16	15	16	18	17	15	17	16	18
19	18	16	17	16	15	17	18	17	16	16	16	18
20	16	16	16	15	15	15	19	17	15	15	16	18
21	15	16	16	15	15	15	17	17	16	15	16	17
22	16	17	16	14	15	17	18	17	16	16	16	16
23	17	17	16	16	15	16	16	16	16	16	19	16
24	17	18	16	17	15	15	16	16	15	16	17	16
25	17	17	16	16	15	15	15	16	15	16	17	16
26	16	16	16	16	15	15	16	16	15	18	17	16
27	16	15	16	17	16	15	15	16	16	18	16	16
28	17	17	16	16	15	15	15	16	16	16	16	16
29	17	16	15	15	------	16	15	16	17	16	16	16
30	17	16	15	17	------	15	15	16	17	16	16	16
31	16	------	16	16	------	15	------	16	------	16	16	------
TOTAL	520	497	503	510	418	481	491	505	473	483	516	512
MEAN	16.8	16.6	16.2	16.5	14.9	15.5	16.4	16.3	15.8	15.6	16.6	17.1
MAX	18	22	21	19	16	17	19	20	17	18	19	19
MIN	15	15	15	14	14	14	15	15	15	14	16	16
AC-FT	1,030	986	998	1,010	829	954	974	1,000	938	958	1,020	1,020

CAL YR 1973 TOTAL 6,881 MEAN 18.9 MAX 28 MIN 14 AC-FT 13,650
WTR YR 1974 TOTAL 5,909 MEAN 16.2 MAX 22 MIN 14 AC-FT 11,720

16061200 NORTH WAILUA DITCH BELOW WAIKOKO STREAM, NEAR LIHUE

LOCATION.--Lat 22°03'34", long 159°28'00", on left bank 380 ft (116 m) downstream from Waikoko Stream, 8.1 mi (13.0 km) west of Wailua, and 8.4 mi (13.5 km) northwest of Lihue.

PERIOD OF RECORD.--January 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 1,070 ft (326 m) from topographic map.

AVERAGE DISCHARGE.--9 years, 25.6 ft^3/s (0.725 m^3/s), 18,550 acre-ft/yr (22.9 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 58 ft^3/s (1.64 m^3/s) Oct. 11, 1966; no flow Jan. 1-18, 1965.

REMARKS.--Records good. Ditch diverts from North Fork Wailua River and Waikoko Stream for power and irrigation in vicinity of Lihue. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	25	38	28	28	24	21	23	22	23	20	19
2	25	25	30	23	30	26	22	22	25	22	20	22
3	25	24	25	21	31	24	21	21	25	21	20	24
4	23	23	24	24	25	24	23	21	25	20	20	25
5	23	22	23	23	24	31	33	21	24	20	20	22
6	22	22	22	28	24	31	26	21	23	21	22	21
7	25	22	26	28	23	29	32	21	23	25	21	20
8	27	21	23	29	24	28	29	21	24	22	20	20
9	24	21	22	27	24	29	29	23	23	21	21	23
10	24	22	25	25	25	25	26	24	26	20	22	21
11	28	33	23	28	26	23	31	23	23	20	22	20
12	25	34	23	32	23	31	27	24	22	27	25	20
13	25	27	22	32	22	25	28	29	22	26	21	20
14	26	24	22	35	22	24	26	36	27	24	20	20
15	26	23	21	31	23	23	29	26	27	24	20	19
16	27	23	20	27	26	23	28	26	25	22	20	23
17	25	24	21	28	23	23	29	30	23	23	19	22
18	30	22	20	28	22	23	30	25	22	27	19	24
19	32	29	21	26	22	34	35	26	23	22	20	25
20	28	35	20	25	22	26	35	25	22	21	19	27
21	25	28	20	26	22	25	31	23	23	21	19	25
22	26	27	20	24	22	30	32	23	24	21	19	25
23	26	27	22	24	21	27	28	22	26	21	24	23
24	25	30	20	30	22	24	26	22	23	23	21	23
25	25	28	20	27	22	23	25	22	23	21	20	23
26	24	28	20	26	21	23	24	22	23	23	20	22
27	24	27	21	28	25	22	24	24	28	25	20	22
28	24	34	20	27	23	22	23	23	32	21	20	22
29	24	28	19	25	------	22	23	24	31	21	20	23
30	25	27	23	29	------	22	22	23	29	20	19	22
31	24	------	21	31	------	21	------	22	------	21	19	------
TOTAL	787	785	697	845	667	787	818	738	738	689	632	667
MEAN	25.4	26.2	22.5	27.3	23.8	25.4	27.3	23.8	24.6	22.2	20.4	22.2
MAX	32	35	38	35	31	34	35	36	32	27	25	27
MIN	22	21	19	21	21	21	21	21	22	20	19	19
AC-FT	1,560	1,560	1,380	1,680	1,320	1,560	1,620	1,460	1,460	1,370	1,250	1,320

CAL YR 1973 TOTAL 8,234 MEAN 22.6 MAX 38 MIN 15 AC-FT 16,330
WTR YR 1974 TOTAL 8,850 MEAN 24.2 MAX 38 MIN 19 AC-FT 17,550

16062000 STABLE STORM DITCH NEAR LIHUE

LOCATION.--Lat 22°04'09", long 159°26'46", on left bank 100 ft (30 m) downstream from intake 7.8 mi (12.6 km) northwest of Lihue, and 7.9 mi (12.7 km) west of Kapaa.

PERIOD OF RECORD.--December 1936 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Altitude of gage is 710 ft (216 m) by barometer.

AVERAGE DISCHARGE.--37 years (1937-74), 10.9 ft^3/s (0.309 m^3/s), 7,900 acre-ft/yr (9.74 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 71 ft^3/s (2.01 m^3/s) Apr. 3, 1948; no flow at times each year.

REMARKS.--Records good. Ditch diverts from North Fork Wailua River for irrigation of sugarcane in vicinity of Lihue. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	.22	1.4	.01	.04	.04	.06	.28	0	.28	.06	.42
2	39	.12	.12	0	.04	.04	.06	.28	0	.18	.06	.42
3	12	.12	.04	0	.12	.04	.06	.28	0	.18	.06	20
4	.59	.12	.04	0	.12	.04	.06	.28	0	.18	.06	28
5	.59	.12	.01	0	.12	.06	.06	.28	0	.18	20	26
6	.59	.22	.01	.04	.12	.04	.06	.28	0	.18	14	25
7	.59	.22	.01	.01	.12	.04	.06	.28	0	.18	.01	24
8	.59	.22	.01	.01	.12	.04	.06	.18	0	.18	.01	24
9	.45	16	.01	.01	.12	.04	.06	.18	0	.18	.01	28
10	.45	23	.01	.33	.12	.04	.06	.18	.01	.18	.12	25
11	.33	6.7	.01	.33	.12	.04	.12	.18	0	.18	.12	25
12	.33	.12	.01	.22	.12	.16	.12	.18	0	.18	.02	24
13	.12	.12	.01	.22	.12	.04	.12	.18	0	.18	.01	14
14	.12	.04	.01	.22	.12	.04	.12	1.3	0	.18	.01	.57
15	.12	.04	.01	.22	.04	.04	.12	.06	0	.18	.01	.57
16	.12	.04	0	.22	.04	.04	.12	.06	0	.18	.06	19
17	.12	.04	0	.12	.04	.04	.12	.06	0	.18	.12	28
18	.12	.04	0	.12	.04	.04	.12	.06	.24	.18	.12	18
19	.12	.33	0	.12	.04	.07	.76	.06	.42	.18	.20	.18
20	.12	.17	0	.12	.04	.04	.25	.06	.42	.18	.18	.35
21	.12	.12	0	.12	.04	.04	.12	.02	.42	.18	.18	.12
22	.12	.04	0	.12	.04	.04	.12	.01	.28	.18	18	.12
23	.12	.04	0	.04	.04	.04	.12	0	.28	.12	12	.06
24	.12	.04	0	.04	.04	.04	.12	0	.28	.12	.18	.06
25	.12	.04	0	.04	.04	.04	.06	0	.28	.12	.28	.06
26	.12	.04	0	.04	.04	.04	1.2	0	.28	.12	.28	.06
27	.12	.04	0	.04	.04	.04	.42	0	.28	.12	18	.06
28	.12	.59	0	.04	.04	.04	.28	0	.28	.06	28	.12
29	.12	.04	0	.04	------	.06	.28	0	.28	.06	26	7.2
30	.22	.04	0	.12	------	.06	.28	0	.28	.06	14	28
31	.22	------	0	.12	------	.06	------	0	------	.06	.42	------
TOTAL	97.99	49.03	1.71	3.08	2.08	1.47	5.57	4.73	4.03	4.90	152.58	366.37
MEAN	3.16	1.63	.055	.099	.074	.047	.19	.15	.13	.16	4.92	12.2
MAX	40	23	1.4	.33	.12	.16	1.2	1.3	.42	.28	28	28
MIN	.12	.04	0	0	.04	.04	.06	0	0	.06	.01	.06
AC-FT	194	97	3.4	6.1	4.1	2.9	11	9.4	8.0	9.7	303	727

CAL YR 1973 TOTAL 5,572.55 MEAN 15.3 MAX 59 MIN 0 AC-FT 11,050
WTR YR 1974 TOTAL 693.54 MEAN 1.90 MAX 40 MIN 0 AC-FT 1,380

HAWAII, ISLAND OF KAUAI

16063000 NORTH FORK WAILUA RIVER AT ALTITUDE 650 FT (198 M), NEAR LIHUE

LOCATION.--Lat 22°04'02", long 159°26'21", on right bank 0.5 mi (0.8 km) downstream from intake of Stable storm ditch and 7.6 mi (12.2 km) northwest of Lihue.

DRAINAGE AREA.--5.29 mi^2 (13.70 km^2).

PERIOD OF RECORD.--September 1914 to March 1915, May 1915 to October 1918, December 1918, March 1919, June 1919 to current year. Monthly discharge only for some periods, published in WSP 1319.

GAGE.--Water-stage recorder. Altitude of gage is 650 ft (198 m) from topographic map. Prior to Sept. 9, 1944, at datum 2.0 ft (0.61 m) higher.

AVERAGE DISCHARGE.--58 years (1915-18, 1919-74), 73.4 ft^3/s (2.079 m^3/s), 53,180 acre-ft/yr (65.6 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 6,060 ft^3/s (172 m^3/s) May 14, gage height, 9.96 ft (3.036 m); minimum recorded, 8.5 ft^3/s (0.24 m^3/s) Sept. 16, but may have been less during period of no gage-height record Aug. 27-30.

Period of record: Maximum discharge, 13,200 ft^3/s (374 m^3/s) Nov. 12, 1955, gage height, 13.53 ft (4.124 m), from rating curve extended above 2,300 ft^3/s (65.1 m^3/s) on basis of slope-area measurement at gage height 10.65 ft (3.246 m); minimum, 0.23 ft^3/s (0.007 m^3/s) June 5, 1968.

REMARKS.--Records fair. Since 1925, Hanalei tunnel (see sta 16100000) has diverted from Hanalei River basin into North Fork Wailua River above station; North Wailua and Stable storm ditches (see sta 16061000 and 16062000) divert water above station for power development and irrigation in vicinity of Lihue. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 555: 1921. WSP 1569: 1915-27(M), 1943-47(M), 1948-56(P). WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	74	1,000	199	188	69	27	36	45	118	45	36
2	18	58	300	44	229	48	33	29	87	91	43	91
3	13	51	150	32	267	35	27	25	80	75	51	99
4	49	49	111	39	87	43	55	23	73	59	41	71
5	43	44	89	35	64	296	336	23	75	56	20	35
6	40	42	75	232	53	209	109	22	64	79	62	19
7	75	40	175	92	48	134	294	23	84	199	56	14
8	120	38	87	130	58	99	152	20	106	99	43	12
9	49	22	67	54	48	222	171	42	64	59	58	81
10	49	10	167	32	58	59	101	43	177	52	59	25
11	137	536	70	77	67	44	283	50	68	47	83	16
12	70	535	73	139	39	343	173	34	64	166	128	13
13	79	150	53	207	38	72	190	158	57	231	67	25
14	93	69	51	266	37	54	130	853	166	134	57	40
15	114	54	44	124	45	46	179	204	137	112	55	38
16	100	50	41	58	84	40	179	258	104	69	49	108
17	62	47	36	84	37	43	221	287	69	117	47	32
18	234	45	35	74	31	63	182	120	62	208	48	167
19	304	500	33	55	29	441	765	118	91	88	60	158
20	169	800	30	41	31	82	600	100	62	62	48	297
21	101	250	30	129	27	72	284	73	96	55	47	122
22	93	150	34	52	26	285	374	107	80	65	23	87
23	88	140	100	43	25	117	178	65	112	66	94	72
24	87	200	29	152	30	58	106	52	76	82	48	64
25	80	130	31	70	31	46	70	68	71	50	43	59
26	58	120	29	73	33	40	55	53	59	106	43	62
27	58	120	30	185	79	36	47	81	214	165	21	55
28	67	450	26	88	26	36	42	66	341	55	3.7	54
29	101	160	24	55	------	39	37	91	406	58	6.1	60
30	103	150	58	279	------	32	34	87	350	48	18	6.5
31	59	------	30	325	------	30	------	54	------	49	37	------
TOTAL	2,734	5,084	3,108	3,465	1,815	3,233	5,434	3,265	3,540	2,920	1,503.8	2,018.5
MEAN	88.2	169	100	112	64.8	104	181	105	118	94.2	48.5	67.3
MAX	304	800	1,000	325	267	441	765	853	406	231	128	297
MIN	13	10	24	32	25	30	27	20	45	47	3.7	6.5
AC-FT	5,420	10,080	6,160	6,870	3,600	6,410	10,780	6,480	7,020	5,790	2,980	4,000

CAL YR 1973 TOTAL 20,300.14 MEAN 55.6 MAX 1,000 MIN .62 AC-FT 40,270
WTR YR 1974 TOTAL 38,120.3 MEAN 104 MAX 1,000 MIN 3.7 AC-FT 75,610

PEAK DISCHARGE (BASE, 2,800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
#12- 1	/1300	8.71	4,310	5-14	0530	9.96	6,060
4-19	0700	8.95	4,650	9-18	1430	8.15	3,600

/ About.
Probably.

HAWAII, ISLAND OF KAUAI

16068000 EAST BRANCH OF NORTH FORK WAILUA RIVER NEAR LIHUE

LOCATION.--Lat 22°04'19", long 159°25'05", on right bank 1,200 ft (366 m) upstream from mouth and 7.2 mi (11.6 km) northwest of Lihue.

DRAINAGE AREA.--6.27 mi^2 (16.24 km^2).

PERIOD OF RECORD.--July 1912 to September 1914, December 1914 to March 1915, May 1915 to March 1919, June 1919 to current year. Monthly discharge only for some periods, published in WSP 1319.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 500 ft (152 m) from topographic map. Prior to Dec. 31, 1914, nonrecording gage at site 725 ft (221 m) downstream at different datum. Dec. 31, 1914, to May 10, 1934, water-stage recorder at site 75 ft (23 m) upstream at present datum.

AVERAGE DISCHARGE.--59 years (1912-14, 1915-17, 1919-74), 48.7 ft^3/s (1.379 m^3/s), 35,280 acre-ft/yr (43.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 3,510 ft^3/s (99.4 m^3/s) Apr. 19, gage height, 7.22 ft (2.201 m); minimum, 16 ft^3/s (0.45 m^3/s) Oct. 6.

Period of record: Maximum discharge, 18,400 ft^3/s (521 m^3/s) Nov. 12, 1955, gage height, 14.7 ft (4.48 m), from floodmarks, from rating curve extended above 2,700 ft^3/s (76.5 m^3/s); minimum, 6.8 ft^3/s (0.19 m^3/s) July 3, 13, 1926.

REMARKS.--Records good. No diversion above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 770: 1932-33. WSP 1719: 1916. WSP 1937: 1918. WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	27	779	47	129	33	26	42	37	70	34	20
2	23	31	214	27	96	39	31	39	49	53	32	27
3	21	24	116	25	122	26	28	35	42	48	33	80
4	18	23	91	27	66	32	56	35	60	43	29	42
5	17	21	77	26	53	152	273	33	42	39	27	31
6	16	20	66	68	46	88	98	32	39	43	32	24
7	20	19	134	51	44	65	251	34	35	65	37	22
8	50	18	81	29	55	52	117	32	40	43	29	21
9	20	18	59	27	43	72	83	41	35	36	30	43
10	20	18	97	24	42	42	62	42	68	33	34	27
11	44	220	59	30	47	39	178	43	39	32	36	23
12	30	303	52	30	36	192	149	39	33	59	56	21
13	34	92	47	46	35	52	151	70	32	73	32	24
14	43	52	46	39	33	44	126	523	47	71	28	21
15	30	41	42	32	32	39	126	150	42	58	27	21
16	34	39	39	29	32	36	124	120	47	44	26	22
17	27	36	38	35	30	36	169	157	37	61	25	22
18	99	33	36	38	28	39	117	84	57	78	25	109
19	204	316	35	30	31	102	496	83	46	45	25	163
20	76	590	33	30	30	42	315	70	32	40	24	156
21	46	203	32	94	27	35	239	56	39	38	24	81
22	40	111	31	38	27	46	212	51	36	85	23	56
23	43	109	30	32	25	47	131	46	51	101	55	44
24	37	136	29	82	25	32	101	41	36	51	27	39
25	35	107	30	48	25	31	71	47	35	36	24	37
26	30	95	30	39	24	30	63	71	32	63	22	35
27	27	91	28	85	28	29	55	43	38	96	22	33
28	27	311	26	50	24	30	48	44	118	41	21	32
29	25	121	26	38	------	30	44	59	270	82	21	33
30	29	112	28	212	------	27	41	53	189	43	20	30
31	25	------	27	260	------	27	------	41	------	37	20	------
TOTAL	1,217	3,337	2,458	1,668	1,235	1,586	3,981	2,256	1,703	1,707	900	1,339
MEAN	39.3	111	79.3	53.8	44.1	51.2	133	72.8	56.8	55.1	29.0	44.6
MAX	204	590	779	260	129	192	496	523	270	101	56	163
MIN	16	18	26	24	24	26	26	32	32	32	20	20
AC-FT	2,410	6,620	4,880	3,310	2,450	3,150	7,900	4,470	3,380	3,390	1,790	2,660

CAL YR 1973 TOTAL 15,956 MEAN 43.7 MAX 779 MIN 14 AC-FT 31,650
WTR YR 1974 TOTAL 23,387 MEAN 64.1 MAX 779 MIN 16 AC-FT 46,390

PEAK DISCHARGE (BASE, 1,900 CFS).--Apr. 19 (0730) 3,510 cfs (7.22 ft); May 14 (1030) 2,920 cfs (6.72 ft).

HAWAII, ISLAND OF KAUAI

16069000 WAILUA DITCH NEAR KAPAA

LOCATION.--Lat 22°04'34", long 159°24'04", on right bank 2,000 ft (610 m) downstream from Wailua Reservoir, 5.2 mi (8.4 km) west of Kapaa, and 7.0 mi (11.3 km) north of Lihue.

PERIOD OF RECORD.--November 1936 to current year.

GAGE.--Water-stage recorder. Sharp-crested weir since Feb. 4, 1965. Datum of gage is 462.3 ft (140.91 m) above mean sea level (by stadia survey).

AVERAGE DISCHARGE.--37 years (1937-74), 14.6 ft^3/s (0.413 m^3/s), 10,580 acre-ft/yr (13.0 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 63 ft^3/s (1.78 m^3/s) June 4, 1937; no flow at times.

REMARKS.--Records good. Ditch diverts water from North Fork Wailua River to reservoir 2,000 ft (610 m) above station and thence to fields for irrigation of sugarcane in vicinity of Kapaa. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	24	2.7	3.5	1.5	22	4.7	24	6.1	12	15	35
2	27	24	2.4	3.5	1.5	12	4.7	24	6.1	.50	14	36
3	27	23	1.9	3.4	1.6	6.7	4.7	22	11	10	14	38
4	26	23	1.6	3.2	1.4	6.7	4.7	20	16	12	14	39
5	26	23	1.0	2.5	1.5	6.5	4.7	20	17	8.9	14	32
6	27	25	.50	2.4	1.4	6.3	4.7	19	18	8.9	17	28
7	27	26	2.9	2.4	1.4	6.1	4.7	16	18	8.7	15	27
8	27	32	5.1	2.4	1.5	5.9	4.7	15	18	11	11	27
9	27	35	4.7	2.4	1.5	5.9	4.7	16	18	14	11	27
10	28	33	4.3	2.4	1.5	5.9	4.7	16	18	15	10	28
11	28	32	4.3	2.4	1.5	5.7	4.9	16	18	15	10	29
12	28	29	4.1	2.4	1.4	5.9	5.3	16	18	15	19	29
13	26	28	3.7	2.4	1.4	6.1	5.3	14	18	14	23	29
14	27	30	3.7	2.2	1.4	6.1	5.5	6.4	16	14	23	29
15	27	32	3.4	2.2	1.5	6.1	5.5	1.7	15	13	32	30
16	27	29	3.1	2.2	1.6	5.9	5.5	1.4	15	14	37	30
17	27	27	3.1	2.2	1.7	5.9	5.7	1.0	15	14	25	35
18	28	28	4.3	2.4	16	5.9	5.7	.80	16	14	9.5	30
19	27	18	4.1	2.2	32	5.7	5.9	.75	18	14	9.5	8.5
20	27	3.9	3.7	2.2	37	5.7	6.1	5.4	20	14	13	8.3
21	25	3.6	3.4	2.1	36	5.3	6.3	9.7	20	14	15	7.9
22	25	3.1	3.2	1.7	36	4.7	5.7	11	20	14	15	5.1
23	20	2.9	3.2	1.4	35	4.9	5.5	11	20	14	10	7.5
24	15	2.4	3.4	1.4	34	4.9	5.5	8.8	20	15	3.2	15
25	15	2.6	3.4	1.3	34	6.1	5.7	7.7	22	15	8.2	17
26	15	2.6	3.4	1.3	33	5.7	5.7	7.7	23	15	21	18
27	15	2.6	3.4	1.3	33	5.5	5.7	8.1	24	14	32	18
28	16	2.6	3.5	1.2	33	5.5	5.7	7.3	24	14	36	17
29	15	2.7	3.4	1.2	------	5.3	15	6.7	24	14	35	17
30	20	2.7	3.2	1.4	------	5.3	22	6.5	24	15	34	22
31	24	------	3.4	1.5	------	4.9	------	6.3	------	15	34	------
TOTAL	746	552.7	101.50	66.7	384.3	201.1	185.2	346.25	536.2	401.00	579.4	719.3
MEAN	24.1	18.4	3.27	2.15	13.7	6.49	6.17	11.2	17.9	12.9	18.7	24.0
MAX	28	35	5.1	3.5	37	22	22	24	24	15	37	39
MIN	15	2.4	.50	1.2	1.4	4.7	4.7	.75	6.1	.50	3.2	5.1
AC-FT	1,480	1,100	201	132	762	399	367	687	1,060	795	1,150	1,430

CAL YR 1973 TOTAL 7,200.7 MEAN 19.7 MAX 41 MIN .50 AC-FT 14,280
WTR YR 1974 TOTAL 4,819.65 MEAN 13.2 MAX 39 MIN .50 AC-FT 9,560

16071000 NORTH FORK WAILUA RIVER NEAR KAPAA

LOCATION.--Lat 22°03'08", long 159°22'22", on right bank 1.1 mi (1.8 km) upstream from confluence with South Fork, 3.7 mi (6.0 km) southwest of Kapaa, and 5.0 mi (8.0 km) north of Lihue.

DRAINAGE AREA.--17.9 mi^2 (46.4 km^2).

PERIOD OF RECORD.--July 1952 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 18 ft (5.5 m) from topographic map.

AVERAGE DISCHARGE.--22 years, 131 ft^3/s (3.710 m^3/s), 94,910 acre-ft/yr (117 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 7,520 ft^3/s (213 m^3/s) May 14, gage height, 8.94 ft (2.725 m); minimum, 8.9 ft^3/s (0.25 m^3/s) Nov. 6, 7.

Period of record: Maximum discharge, 53,200 ft^3/s (1,510 m^3/s) Nov. 12, 1955, gage height, 19.88 ft (6.059 m) in gage well, 20.8 ft (6.34 m), from floodmarks, from rating curve extended above 3,700 ft^3/s (105 m^3/s) on basis of slope-area measurement of peak flow; minimum, 2.12 ft^3/s (0.060 m^3/s) Oct. 28, 1953.

REMARKS.--Records good. Wailua and Aahoaka ditches (see sta 16069000 and 16070000) divert above station for irrigation of sugarcane in vicinities of Kapaa and Wailua, respectively. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	84	2,040	218	391	83	58	52	89	180	100	16
2	24	95	722	111	327	128	67	77	131	165	94	28
3	49	61	366	105	459	94	65	84	96	155	104	80
4	41	57	260	76	201	103	93	77	64	123	87	94
5	28	43	204	84	158	433	620	73	51	117	62	80
6	26	11	175	259	133	345	227	70	68	129	69	45
7	39	11	330	214	123	236	526	53	98	260	96	38
8	144	14	222	164	134	184	301	47	125	133	66	13
9	41	31	152	121	131	317	255	76	89	49	95	72
10	35	28	272	82	119	131	180	79	207	52	134	38
11	127	672	164	110	148	105	480	91	121	64	122	15
12	78	931	146	203	100	574	377	76	79	210	201	13
13	93	285	123	258	96	152	476	190	55	323	92	13
14	117	129	114	326	77	117	290	1,560	160	240	66	26
15	93	90	102	190	61	101	328	570	133	202	46	26
16	99	96	93	125	102	91	326	433	145	116	32	79
17	60	85	79	135	60	89	247	469	91	144	42	29
18	277	73	65	157	36	109	315	232	77	298	73	197
19	489	756	61	115	14	505	1,210	213	117	141	84	353
20	280	1,530	57	96	30	145	871	168	57	136	75	566
21	158	647	55	192	40	115	562	109	82	117	75	225
22	112	399	54	131	35	280	591	121	119	88	53	153
23	137	320	69	96	35	228	400	85	143	211	129	96
24	98	497	51	251	35	105	264	73	89	141	91	58
25	123	365	54	156	31	87	190	85	65	107	78	55
26	81	314	53	133	21	77	160	101	57	182	35	58
27	70	239	57	298	51	71	135	123	165	282	16	74
28	82	937	50	169	38	70	121	165	388	128	15	74
29	77	403	50	124	------	73	79	170	688	145	15	86
30	151	308	80	399	------	71	37	153	580	100	15	34
31	70	------	54	670	------	61	------	109	------	91	15	------
TOTAL	3,317	9,511	6,374	5,768	3,186	5,280	9,851	5,984	4,429	4,829	2,277	2,734
MEAN	107	317	206	186	114	170	328	193	148	156	73.5	91.1
MAX	489	1,530	2,040	670	459	574	1,210	1,560	688	323	201	566
MIN	18	11	50	76	14	61	37	47	51	49	15	13
AC-FT	6,580	18,870	12,640	11,440	6,320	10,470	19,540	11,870	8,780	9,580	4,520	5,420

CAL YR 1973 TOTAL 32,306.1 MEAN 88.5 MAX 2,040 MIN 6.0 AC-FT 64,080
WTR YR 1974 TOTAL 63,540.0 MEAN 174 MAX 2,040 MIN 11 AC-FT 126,000

PEAK DISCHARGE (BASE, 4,100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-28	1400	7.83	5,320	4-19	0700	8.14	5,910
12- 1	1400	7.20	4,300	5-14	0700	8.94	7,520

16071500 LEFT BRANCH OPAEKAA STREAM NEAR KAPAA

LOCATION.--Lat 22°04'43", long 159°23'55", on left bank 0.4 mi (0.6 km) upstream from mouth, 0.6 mi (1.0 km) northeast of Wailua Reservoir, and 4.9 mi (7.9 km) west of Kapaa.

DRAINAGE AREA.--0.65 mi^2 (1.68 km^2).

PERIOD OF RECORD.--May 1960 to current year. Prior to July 1960, published as Left Branch Opaikaa Stream near Kapaa.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 458.4 ft (139.72 m) above mean sea level (by stadia survey).

AVERAGE DISCHARGE.--14 years, 2.80 ft^3/s (0.0793 m^3/s), 2,030 acre-ft/yr (2.50 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 208 ft^3/s (5.89 m^3/s) July 23, gage height, 3.39 ft (1.033 m); minimum, 0.78 ft^3/s (0.022 m^3/s) Oct. 4-7, 10.

Period of record: Maximum discharge, 365 ft^3/s (10.3 m^3/s) Apr. 15, 1963, gage height, 5.21 ft (1.588 m), from rating curve extended above 13 ft^3/s (0.37 m^3/s); minimum, 0.09 ft^3/s (0.003 m^3/s) Sept. 27-30, 1968.

REMARKS.--Records good. No diversion above station. Recording rain gage located at station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	5.4	45	1.9	4.0	1.6	2.1	4.1	2.9	3.5	3.0	1.5
2	.86	3.4	14	1.7	4.9	2.8	2.1	4.0	2.9	2.9	3.0	1.5
3	.90	1.8	8.9	1.5	4.9	1.7	2.0	3.8	2.8	2.8	2.9	3.7
4	.82	1.4	7.5	1.6	3.6	1.6	2.1	3.6	2.8	2.6	2.8	2.8
5	.78	1.4	6.5	1.6	3.1	4.6	6.4	3.6	2.5	2.5	2.8	1.9
6	.78	1.4	5.9	2.1	2.8	3.7	3.2	3.5	2.5	2.4	2.8	1.8
7	.78	1.3	9.1	2.3	2.6	3.0	5.5	3.3	2.4	2.5	2.8	1.7
8	.90	1.3	6.1	1.4	2.6	2.8	4.9	3.2	2.4	2.5	2.5	1.6
9	.82	1.3	5.0	1.4	2.5	2.6	4.0	3.2	2.3	2.4	2.5	1.8
10	.78	1.2	5.5	1.3	2.4	2.4	3.7	3.0	2.5	2.3	2.4	1.7
11	1.1	14	4.8	1.6	2.4	2.3	5.0	2.9	2.4	2.2	2.4	1.6
12	1.0	8.0	4.4	1.5	2.2	6.2	5.9	2.9	2.4	2.8	2.5	1.6
13	.90	3.8	4.2	1.9	2.2	3.2	5.5	3.2	2.4	2.6	2.4	1.6
14	1.1	2.8	4.0	1.7	2.1	3.0	5.4	18	2.6	2.6	2.3	1.6
15	1.0	2.5	3.7	1.6	2.0	2.8	5.2	14	2.4	2.5	2.3	1.5
16	.96	2.3	3.2	1.6	1.9	2.6	5.2	7.1	2.5	2.2	2.2	1.6
17	1.0	2.1	3.1	1.7	1.9	2.6	6.0	5.7	2.6	2.5	2.2	1.6
18	2.8	2.0	3.0	2.0	1.8	2.5	5.2	4.8	2.6	2.5	2.1	5.2
19	3.6	14	2.8	1.7	2.1	4.2	20	4.6	2.8	2.3	2.1	7.8
20	2.2	31	2.6	1.6	1.8	2.6	16	4.4	2.5	2.3	2.0	20
21	1.5	15	2.5	1.5	1.7	2.5	12	4.1	2.4	2.2	1.9	4.6
22	1.4	7.5	2.5	1.6	1.7	2.5	10	3.8	2.4	2.3	1.9	3.6
23	1.4	6.1	2.4	1.5	1.6	2.5	8.0	3.6	2.8	18	2.4	3.3
24	1.3	6.1	2.4	2.2	1.6	2.3	7.1	3.6	2.6	4.0	2.0	3.0
25	1.2	5.4	2.3	1.8	1.5	2.3	5.9	3.5	2.4	3.3	1.8	2.9
26	1.1	4.8	2.1	1.6	1.5	2.3	5.5	3.5	2.4	3.5	1.8	2.8
27	1.1	4.8	2.1	1.6	1.6	2.2	5.3	3.3	2.6	4.1	1.8	2.6
28	1.1	8.7	2.0	1.5	1.5	2.2	4.8	3.2	3.5	3.3	1.7	2.5
29	1.1	5.9	1.9	1.4	------	2.2	4.6	3.3	6.7	3.3	1.6	2.4
30	1.1	5.9	2.0	2.7	------	2.1	4.1	3.3	6.6	3.3	1.5	2.4
31	1.1	------	1.8	7.2	------	2.1	------	3.0	------	3.2	1.5	------
TOTAL	37.38	172.6	173.3	58.3	66.5	84.0	182.7	141.1	85.6	101.4	69.9	94.2
MEAN	1.21	5.75	5.59	1.88	2.38	2.71	6.09	4.55	2.85	3.27	2.25	3.14
MAX	3.6	31	45	7.2	4.9	6.2	20	18	6.7	18	3.0	20
MIN	.78	1.2	1.8	1.3	1.5	1.6	2.0	2.9	2.3	2.2	1.5	1.5
AC-FT	74	342	344	116	132	167	362	280	170	201	139	187

CAL YR 1973 TOTAL 674.58 MEAN 1.85 MAX 45 MIN .70 AC-FT 1,340
WTR YR 1974 TOTAL 1,266.98 MEAN 3.47 MAX 45 MIN .78 AC-FT 2,510

PEAK DISCHARGE (BASE, 70 CFS, REVISED)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-19	2230	2.84	97	7-23	0200	3.39	208
12- 1	1330	3.22	144	9-20	0100	2.72	116
4-19	0700	2.62	104				

16077000 MAKALEHA DITCH NEAR KEALIA

LOCATION.--Lat 22°07'06", long 159°22'04", on left bank at end of last tunnel from which flow enters Mimino Reservoir, 3.9 mi (6.3 km) northwest of Kealia, and 4.0 mi (6.4 km) northwest of Kapaa.

PERIOD OF RECORD.--December 1936 to current year.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 518 ft (158 m) above mean sea level (by stadia survey).

AVERAGE DISCHARGE.--37 years (1937-74), 6.73 ft^3/s (0.191 m^3/s), 4,880 acre-ft/yr (6.02 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 31 ft^3/s (0.88 m^3/s) Aug. 1, 1961; no flow at times.

REMARKS.--Records good. Ditch diverts from Makaleha Stream for irrigation of sugarcane in vicinity of Kealia. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	8.4	9.6	.33	2.6	11	.14	8.7	11	8.3	7.1	7.4
2	11	13	5.3	.28	2.2	17	.14	8.3	13	7.5	6.6	8.2
3	12	8.6	2.0	.24	2.2	13	.14	7.9	12	7.0	9.8	10
4	8.3	7.9	1.2	.24	1.5	12	.14	7.5	13	6.2	7.4	14
5	7.3	6.6	.81	.24	.99	12	1.5	6.7	13	6.2	7.6	13
6	6.8	6.3	.58	.28	.69	1.8	1.1	7.3	13	6.8	11	10
7	8.3	6.1	.99	.38	.52	1.2	2.3	11	8.2	8.5	12	8.4
8	13	5.8	1.9	.28	.47	.93	2.4	9.4	.47	7.9	9.0	8.0
9	7.6	5.8	1.1	.24	.38	.74	1.5	12	.42	7.3	8.7	11
10	7.3	6.1	.87	.21	.33	.58	.93	15	6.6	6.4	13	10
11	14	16	.63	.21	.33	.47	1.4	15	11	6.1	12	8.7
12	12	19	.52	.21	.28	1.6	2.4	14	8.9	9.5	16	8.3
13	14	17	.38	.21	2.9	1.1	1.8	15	6.7	14	12	8.0
14	13	12	.33	.24	10	.74	1.7	14	11	14	11	7.3
15	10	9.7	.28	.24	9.9	.58	1.4	4.4	10	14	10	7.3
16	13	9.4	.24	.21	10	.47	1.4	2.7	13	11	6.6	7.5
17	10	10	.21	.21	8.3	.47	1.4	1.4	11	13	7.8	9.8
18	15	7.9	.17	.24	8.0	.42	1.4	.93	12	14	8.1	12
19	15	10	.14	.24	7.2	.42	4.5	.63	12	11	9.7	15
20	14	12	.14	.21	7.5	.42	2.7	8.7	9.7	11	7.9	12
21	11	5.6	.14	.21	7.4	.42	1.9	13	9.6	11	9.2	5.9
22	10	2.1	.11	.21	7.3	.33	1.5	12	9.4	10	7.4	8.6
23	16	1.1	.14	.31	7.3	.24	.99	11	9.9	13	12	9.9
24	13	.81	3.2	.24	7.3	.24	.74	11	9.6	13	9.6	11
25	14	.69	12	.24	7.4	.21	.58	12	9.4	13	8.2	12
26	9.3	.58	10	.24	7.3	.17	4.3	12	9.0	15	8.0	10
27	7.9	.47	9.3	.24	12	.17	9.4	13	9.0	16	8.0	9.6
28	7.9	.74	4.3	.24	8.6	.14	8.7	10	10	11	8.0	10
29	7.4	1.6	.42	.24	------	.14	8.3	11	10	12	7.8	11
30	10	1.1	.38	.72	------	.14	8.3	16	9.4	11	7.5	9.0
31	7.3	------	.28	4.4	------	.14	------	14	------	8.0	7.5	------
TOTAL	337.4	212.39	67.66	12.23	140.89	79.28	75.10	305.56	291.29	322.7	286.5	292.9
MEAN	10.9	7.08	2.18	.39	5.03	2.56	2.50	9.86	9.71	10.4	9.24	9.76
MAX	16	19	12	4.4	12	17	9.4	16	13	16	16	15
MIN	6.8	.47	.11	.21	.28	.14	.14	.63	.42	6.1	6.6	5.9
AC-FT	669	421	134	24	279	157	149	606	578	640	568	581

CAL YR 1973 TOTAL 2,975.86 MEAN 8.15 MAX 19 MIN .11 AC-FT 5,900
WTR YR 1974 TOTAL 2,423.90 MEAN 6.64 MAX 19 MIN .11 AC-FT 4,810

16079000 KAPAHI DITCH NEAR KEALIA

LOCATION.--Lat 22°06'09", long 159°22'28", on righ bank 500 ft (152 m) downstream from intake and 4.0 mi (6.4 km) west of Kealia.

PERIOD OF RECORD.--April 1909 to February 1911, May 1911, July 1911 to May 1914, July 1915 to April 1917, June 1917 to current year. Published as "at Kapahi, near Kapaa" prior to January 1913 and as "at Kapahi, near Kealia" January to December 1913.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 377.1 ft (114.94 m) above mean sea level (by stadia survey). Prior to Nov. 26, 1936, at site 61 ft (19 m) upstream at datum 2.52 ft (0.768 m) higher.

AVERAGE DISCHARGE.--56 years (1917-20, 1921-74), 6.41 ft^3/s (0.182 m^3/s), 4,640 acre-ft/yr (5.72 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 138 ft^3/s (3.91 m^3/s) Feb. 6, 1913; no flow at times.

REMARKS.--Records good. Ditch diverts from Kapaa Stream for irrigation of sugarcane in vicinity of Kapaa. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	6.9	4.5	1.2	1.0	1.6	.66	7.7	.25	20	10	3.8
2	4.7	17	.90	1.2	.93	1.4	3.0	.99	.25	11	9.4	3.6
3	8.8	6.4	.74	1.1	.96	.99	.82	.74	.25	.74	11	11
4	4.1	5.6	.66	1.2	.90	.99	.74	.31	10	.51	8.2	15
5	3.3	4.9	.51	1.3	.82	1.6	2.1	.31	9.6	.51	7.0	5.4
6	3.2	4.2	.38	1.5	.82	.99	.45	.31	9.8	.45	9.0	.45
7	3.9	3.9	.90	.82	1.1	.99	1.3	3.6	3.1	.51	11	.31
8	18	3.8	.74	.74	1.6	.90	.66	.38	.58	.45	7.0	.31
9	2.2	3.8	.66	.82	1.4	.90	.51	.38	.58	11	7.0	.25
10	1.4	3.6	.82	.90	1.3	.90	.51	.38	.58	12	8.6	4.0
11	1.2	27	.74	.90	1.2	.90	1.0	.51	3.5	11	9.2	4.1
12	1.1	30	.74	.90	1.2	1.3	.64	.66	.45	6.4	17	3.8
13	.99	20	.74	.99	3.4	.74	.58	.90	.38	.82	7.0	3.8
14	.99	12	.82	.99	6.8	.82	.51	3.4	.38	.74	5.9	4.1
15	.99	9.0	.74	.99	6.6	.90	.45	1.2	.38	.58	6.3	4.1
16	.99	8.0	.74	.99	5.6	.90	.51	.82	.38	3.0	8.0	4.1
17	.99	7.0	.74	.99	5.6	.99	.76	.82	.31	.58	4.2	5.2
18	1.2	6.2	.74	1.1	5.9	1.2	.31	.74	4.2	.51	.74	7.6
19	1.1	6.6	.82	1.1	7.9	1.4	1.0	.74	.55	.51	4.6	1.2
20	.66	3.8	.90	1.1	7.0	.66	.31	.58	.03	.51	6.4	.60
21	.74	.99	.90	1.1	6.4	.66	.38	5.6	.01	.51	6.8	.19
22	.74	.74	.90	1.1	5.9	.74	.19	8.7	.01	.51	6.1	.19
23	7.1	.74	.90	.99	5.6	.90	.19	8.4	.03	11	14	.14
24	1.4	.66	.90	1.1	5.6	.90	.19	7.6	.01	18	6.4	.10
25	2.3	.45	.90	1.1	5.6	.82	.19	9.3	11	9.6	5.6	.10
26	1.5	.38	.90	1.1	5.4	.82	1.5	9.6	13	18	4.7	3.9
27	1.1	.45	.90	1.2	6.5	.82	1.6	9.9	17	9.2	4.2	5.7
28	.90	1.0	.99	1.2	4.2	.90	1.2	5.1	24	.66	4.2	5.6
29	2.5	.58	.99	1.2	------	.82	6.1	.38	29	9.8	4.1	6.4
30	5.0	.58	1.1	1.7	------	.74	7.4	.38	29	14	3.9	4.9
31	3.9	------	1.1	2.1	------	.58	------	.31	------	11	3.8	------
TOTAL	93.19	196.27	29.01	34.72	107.23	29.77	35.76	90.74	168.61	184.10	221.34	109.94
MEAN	3.01	6.54	.94	1.12	3.83	.96	1.19	2.93	5.62	5.94	7.14	3.66
MAX	18	30	4.5	2.1	7.9	1.6	7.4	9.9	29	20	17	15
MIN	.66	.38	.38	.74	.82	.58	.19	.31	.01	.45	.74	.10
AC-FT	185	389	58	69	213	59	71	180	334	365	439	218

CAL YR 1973 TOTAL 1,928.45 MEAN 5.28 MAX 41 MIN .10 AC-FT 3,830
WTR YR 1974 TOTAL 1,300.68 MEAN 3.56 MAX 30 MIN .01 AC-FT 2,580

16080000 KAPAA STREAM AT KAPAHI DITCH INTAKE, NEAR KAPAA

LOCATION.--Lat 22°06'15", long 159°22'29", on right bank at Kapahi ditch intake, 3.8 mi (6.1 km) northwest of Kapaa, and 4.3 mi (6.9 km) northwest of Wailua.

DRAINAGE AREA.--3.86 mi^2 (10.00 km^2).

PERIOD OF RECORD.--July 1936 to current year. Prior to July 1959, published as Kapaa River at Kapahi ditch intake, near Kapaa.

GAGE.--Water-stage recorder and concrete-masonry control. Datum of gage is 381.8 ft (116.37 m) above mean sea level (by stadia survey). Prior to July 1, 1962, at datum 0.07 ft (0.021 m) higher.

AVERAGE DISCHARGE.--38 years, 21.3 ft^3/s (0.603 m^3/s), 15,430 acre-ft/yr (19.0 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 2,570 ft^3/s (72.8 m^3/s) Apr. 19, gage height, 3.38 ft (1.030 m); no flow for many days.

Period of record: Maximum discharge, 7,670 ft^3/s (217 m^3/s) Jan. 25, 1956, gage height, 5.41 ft (1.649 m), present datum, from rating curve extended above 2,800 ft^3/s (79.3 m^3/s); no flow at times.

REMARKS.--Records good. Entire low flow is diverted above station at times for irrigation of sugarcane. Records do not include flow of Kapahi ditch (see sta 16079000). Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	529	28	84	14	9.9	3.5	7.6	1.2	0	0
2	0	3.0	71	13	59	44	9.7	6.2	16	3.4	0	0
3	0	0	37	12	65	9.1	11	6.2	8.3	12	0	32
4	0	0	31	13	32	7.6	44	6.2	5.6	11	0	12
5	0	0	31	14	24	93	236	6.9	.01	13	0	2.1
6	0	0	25	32	21	57	55	6.9	.04	16	0	5.6
7	0	0	95	31	23	41	159	2.8	5.7	28	2.0	4.5
8	.78	0	42	14	30	28	63	5.6	18	17	0	4.0
9	.83	0	24	13	23	29	36	13	17	3.3	0	15
10	1.2	0	45	13	20	19	24	14	25	0	.42	1.2
11	11	212	27	16	24	14	123	14	6.8	0	.31	0
12	4.0	129	24	16	18	96	97	8.3	6.2	24	11	0
13	6.8	9.2	20	20	11	24	82	16	7.6	23	0	0
14	10	.07	23	18	0	19	63	275	18	31	0	0
15	3.0	0	18	14	.20	17	60	129	9.9	20	0	0
16	3.5	0	14	13	.78	14	59	62	30	5.5	0	0
17	3.5	0	14	20	.59	14	83	67	18	19	3.9	0
18	79	0	13	22	.15	28	42	38	14	23	7.6	77
19	87	240	13	14	0	80	245	37	110	9.9	2.8	283
20	20	322	13	14	0	24	78	26	13	10	0	143
21	9.1	69	12	17	0	18	91	4.6	15	9.1	0	32
22	7.1	40	12	17	0	17	68	.54	16	98	0	18
23	4.0	47	13	13	0	19	38	0	30	42	5.4	9.9
24	5.3	48	9.2	34	0	13	37	0	16	9.3	0	6.9
25	2.6	38	10	23	0	12	27	.15	3.8	0	0	6.9
26	1.5	31	6.9	20	0	11	14	19	0	6.2	0	2.0
27	1.5	34	5.6	35	0	9.9	8.3	.94	.32	38	0	0
28	1.8	126	8.7	29	1.8	9.9	7.6	1.6	25	14	0	0
29	.74	172	13	20	------	12	1.7	17	65	21	0	0
30	0	38	14	126	------	12	0	33	15	0	0	0
31	0	------	13	196	------	12	------	12	------	0	0	------
TOTAL	264.25	1,558.27	1,226.4	880	437.52	817.5	1,872.2	832.43	522.87	507.9	33.43	655.1
MEAN	8.52	51.9	39.6	28.4	15.6	26.4	62.4	26.9	17.4	16.4	1.08	21.8
MAX	87	322	529	196	84	96	245	275	110	98	11	283
MIN	0	0	5.6	12	0	7.6	0	0	0	0	0	0
AC-FT	524	3,090	2,430	1,750	868	1,620	3,710	1,650	1,040	1,010	66	1,300

CAL YR 1973 TOTAL 4,090.51 MEAN 11.2 MAX 529 MIN 0 AC-FT 8,110
WTR YR 1974 TOTAL 9,607.87 MEAN 26.3 MAX 529 MIN 0 AC-FT 19,060

PEAK DISCHARGE (BASE, 1,900 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12- 1	0600	3.14	2,160	7-22	2300	3.29	2,410
4-19	0730	3.38	2,570	9-19	2230	3.28	2,400
5-14	1230	3.07	2,060				

16087000 ANAHOLA DITCH WASTEWAY NEAR KEALIA

LOCATION.--Lat 22°08'16", long 159°22'28", on right bank 300 ft (91 m) downstream from wasteway gates on Anahola ditch, 500 ft (152 m) north of Kaneha Reservoir, 3.8 mi (6.1 km) west of Anahola, and 4.9 mi (7.9 km) northwest of Kealia.

PERIOD OF RECORD.--July 1936 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Datum of gage is 825 ft (251 m) above mean sea level (by stadia survey).

AVERAGE DISCHARGE.--38 years, 4.89 ft^3/s (0.138 m^3/s), 3,540 acre-ft/yr (4.36 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 84 ft^3/s (2.38 m^3/s) Nov. 12, 1955; no flow at times.

REMARKS.--Records good. Water that passes station flows into Kaupaku Stream and thence into Anahola Stream 2 mi (3 km) below gaging station 16089000 on Anahola Stream. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.03	38	6.5	17	1.1	4.1	.94	.11	.19	.19	.04
2	.01	.40	20	4.4	12	.78	7.3	.78	.19	.19	.11	.04
3	.02	.94	13	3.8	9.9	.62	5.7	.78	.19	.19	.11	.04
4	.02	1.1	12	4.1	6.8	.62	15	.78	.19	.19	.11	.19
5	0	1.1	9.9	5.1	5.7	.62	31	.78	.11	.19	.11	.04
6	.01	1.3	9.3	6.7	5.4	7.2	17	.78	.04	.19	.11	.02
7	.01	.94	22	8.8	10	14	32	.78	.04	.33	.11	0
8	.02	.94	16	4.4	14	10	22	.78	.04	.33	.19	0
9	0	.62	9.9	3.6	9.3	9.6	14	.94	.11	.33	.19	0
10	0	.62	14	3.1	6.5	6.8	11	.78	.11	.33	.19	0
11	0	.01	9.3	3.3	11	6.0	18	.94	.11	.33	.19	0
12	.01	0	8.3	3.3	5.7	19	22	1.1	.19	.33	.11	0
13	.01	0	7.4	4.1	5.1	9.5	24	.94	.19	.47	.11	0
14	0	0	7.4	3.8	4.9	8.8	26	1.1	.11	.47	.11	0
15	0	0	6.8	3.1	3.3	7.4	22	.11	.11	.47	.11	0
16	0	0	6.0	2.8	1.5	6.0	19	.11	.11	.33	.11	0
17	0	0	5.7	4.6	1.3	6.0	18	.11	.33	.19	.19	0
18	0	0	5.4	6.8	1.3	14	15	.11	.33	.19	.19	.65
19	.01	14	5.1	3.1	1.3	15	25	.11	.11	.19	.19	2.0
20	0	34	4.9	2.6	1.1	9.0	19	.04	.04	.19	.19	1.6
21	.39	20	4.9	2.6	1.1	6.8	18	.04	.04	.19	.33	1.1
22	.62	13	4.9	3.9	1.1	6.3	18	.04	.04	.19	.19	.47
23	.33	14	5.4	3.3	1.1	6.0	12	.11	.11	.02	.47	.33
24	.33	18	5.4	8.6	1.1	4.9	12	.11	.19	0	.11	.33
25	.21	17	11	6.2	1.1	4.6	8.3	.04	.11	0	.04	.19
26	.01	14	8.5	6.9	1.1	4.4	7.4	.11	.19	.03	.04	.11
27	0	16	6.6	8.9	1.1	4.4	7.1	.04	.19	.04	.04	.04
28	.01	25	5.1	3.8	1.1	4.1	6.3	.11	.19	.04	.04	.04
29	.02	20	4.9	3.3	------	9.0	4.0	.11	.19	.04	.04	.04
30	.09	16	4.6	13	------	5.1	1.3	.19	.19	.04	.04	.04
31	.04	------	4.4	25	------	4.4	------	.11	------	.11	.04	------
TOTAL	2.17	229.00	296.1	173.5	141.9	212.04	461.5	13.80	4.20	6.32	4.30	7.31
MEAN	.070	7.63	9.55	5.60	5.07	6.84	15.4	.45	.14	.20	.14	.24
MAX	.62	34	38	25	17	19	32	1.1	.33	.47	.47	2.0
MIN	0	0	4.4	2.6	1.1	.62	1.3	.04	.04	0	.04	0
AC-FT	4.3	454	587	344	281	421	915	27	8.3	13	8.5	14

CAL YR 1973 TOTAL 705.92 MEAN 1.93 MAX 38 MIN 0 AC-FT 1,400
WTR YR 1974 TOTAL 1,552.14 MEAN 4.25 MAX 38 MIN 0 AC-FT 3,080

16088000 ANAHOLA DITCH ABOVE KANEHA RESERVOIR, NEAR KEALIA

LOCATION.--Lat 22°08'10", long 159°22'28", on left bank at point of discharge into Kaneha Reservoir, 500 ft (152 m) below wasteway gates, and 4.8 mi (7.7 km) northwest of Kealia.

PERIOD OF RECORD.--December 1921 to current year. Records for May 1915 to December 1921 at site 520 ft (158 m) upstream not equivalent owing to intervening diversion.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 821.8 ft (250.48 m) above mean sea level (Lihue Plantation bench mark). Dec. 9, 1921, to June 2, 1934, at site 480 ft (146 m) upstream at different datum.

AVERAGE DISCHARGE.--50 years (1922-25, 1927-74), 4.13 ft^3/s (0.117 m^3/s), 2,990 acre-ft/yr (3.69 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 62 ft^3/s (1.76 m^3/s) Nov. 12, 1947; no flow at times.

REMARKS.--Records good. Ditch diverts water from Anahola Stream to Kaneha Reservoir, where it is stored for irrigation. Flow sometimes diverted above station by Anahola ditch wasteway (see sta 16087000). Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	7.5	2.7	.57	1.9	13	.13	6.2	5.3	8.7	4.3	1.8
2	3.2	12	1.6	.38	1.7	25	.16	5.3	10	5.9	4.1	1.8
3	5.6	3.9	1.2	.38	1.6	7.7	.16	4.1	5.3	5.9	5.5	2.4
4	2.4	3.6	1.2	.38	1.2	8.7	.38	3.8	11	4.8	3.8	11
5	2.0	2.9	1.0	.44	1.0	20	.45	3.6	7.0	5.0	3.3	6.3
6	1.9	2.6	.97	.62	.97	7.2	.16	3.6	5.9	6.7	6.8	3.3
7	4.2	2.3	1.7	.79	1.4	.33	.33	4.8	5.7	12	5.8	2.2
8	11	2.2	1.2	.50	1.7	.28	.20	4.1	6.3	6.6	3.5	2.3
9	2.6	2.2	.97	.44	1.2	.24	.16	6.7	4.1	7.3	3.5	3.0
10	2.2	2.0	1.2	.44	1.2	.20	.16	6.8	14	5.1	8.8	2.4
11	5.3	30	.88	.44	1.4	.20	.24	8.8	5.9	3.8	4.9	2.0
12	7.1	31	.79	.44	1.0	.33	.20	9.8	4.1	12	9.5	1.8
13	10	18	.72	.50	.97	.20	.20	13	3.6	10	4.1	1.7
14	9.5	9.3	.72	.50	.88	.20	.20	42	7.4	12	3.3	1.6
15	4.1	6.8	.64	.44	2.3	.20	.16	26	6.5	13	3.2	1.6
16	3.8	6.1	.64	.38	4.1	.20	.13	15	6.6	7.8	2.9	1.6
17	3.2	8.8	.57	.57	3.2	.20	.16	20	6.8	14	2.9	1.7
18	15	4.8	.50	.72	2.9	.24	.13	13	7.1	10	2.6	17
19	22	4.1	.44	.44	2.6	.28	.24	13	15	7.6	2.8	36
20	12	2.3	.44	.38	2.6	.20	.13	11	5.3	5.9	2.4	27
21	6.8	1.4	.38	.38	2.6	.20	.13	7.6	5.7	4.8	3.6	9.8
22	5.0	1.2	.38	.50	2.4	.16	.13	7.7	5.9	5.5	2.4	6.6
23	11	1.2	.44	.44	2.3	.20	.13	6.6	7.2	13	10	5.0
24	7.9	1.4	.44	.88	2.3	.20	.13	5.5	5.9	8.1	3.2	4.3
25	8.6	1.2	.88	.79	2.3	.20	.13	7.6	5.3	4.6	2.4	4.4
26	4.4	1.2	.79	.88	2.2	.20	.13	14	5.1	11	2.2	3.6
27	3.9	1.2	.64	.97	2.3	.20	.13	8.6	9.5	15	2.0	3.6
28	3.9	1.7	.50	.57	2.3	.20	.13	5.9	12	5.7	2.0	3.2
29	3.5	1.4	.44	.50	------	.20	2.1	8.7	21	11	1.9	3.3
30	3.8	1.2	.44	1.4	------	.16	4.4	16	16	6.2	1.9	2.8
31	3.0	------	.38	2.5	------	.13	------	7.0	------	5.1	1.8	------
TOTAL	193.3	175.5	25.79	19.56	54.52	86.95	11.62	315.8	236.5	254.1	121.4	175.1
MEAN	6.24	5.85	.83	.63	1.95	2.80	.39	10.2	7.88	8.20	3.92	5.84
MAX	22	31	2.7	2.5	4.1	25	4.4	42	21	15	10	36
MIN	1.9	1.2	.38	.38	.88	.13	.13	3.6	3.6	3.8	1.8	1.6
AC-FT	383	348	51	39	108	172	23	626	469	504	241	347

CAL YR 1973 TOTAL 1,849.49 MEAN 5.07 MAX 32 MIN .38 AC-FT 3,670
WTR YR 1974 TOTAL 1,670.14 MEAN 4.58 MAX 42 MIN .13 AC-FT 3,310

16089000 ANAHOLA STREAM NEAR KEALIA

LOCATION.--Lat 22°09'05", long 159°21'17", on right bank at intake of Lower Anahola ditch and 4.7 mi (7.6 km) northwest of Kealia.

DRAINAGE AREA.--4.27 mi^2 (11.06 km^2).

PERIOD OF RECORD.--August to December 1910, January 1913 to November 1918, January 1919, March 1919 to current year. Monthly discharge only for some periods, published in WSP 1319. Published as Anahola River above dam at Kiokala, near Kealia prior to July 1913 and as Anahola River near Kealia July 1913 to June 1958.

GAGE.--Water-stage recorder and combination concrete dam and orifice control. Datum of gage is 295.11 ft (89.950 m) above mean sea level (Highway Department bench mark). Prior to May 4, 1934, at site 0.1 mi (0.2 km) upstream at different datum.

AVERAGE DISCHARGE.--59 years (1913-17, 1919-74), 22.8 ft^3/s (0.646 m^3/s), 16,520 acre-ft/yr (20.4 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 2,180 ft^3/s (61.7 m^3/s) Dec. 1, gage height, 5.87 ft (1.789 m), from rating curve extended above 240 ft^3/s (6.80 m^3/s) on basis of slope-area measurement at gage height 10.6 ft (3.23 m); minimum, 1.9 ft^3/s (0.054 m^3/s) Oct. 30 to Nov. 1, Nov. 7-11.

Period of record: Maximum discharge, 19,600 ft^3/s (555 m^3/s) Jan. 25, 1956, gage height, 14.6 ft (4.45 m), from floodmarks, from rating curve extended above 590 ft^3/s (16.7 m^3/s); minimum, 1.9 ft^3/s (0.054 m^3/s) Oct. 30 to Nov. 1, Nov. 7-11, 1973.

REMARKS.--Records poor. Records include flow in Lower Anahola ditch (see sta 16091000). Anahola ditch (see sta 16088000) diverts 3 mi (5 km) above station for irrigation in vicinity of Kealia. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1719: 1915, 1916-18(M). (WATER YEAR).--WSP 2137: 1965(P), drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	8.0	564	8.0	60	14	8.0	13	11	18	5.3	4.9
2	4.3	26	85	6.6	40	158	7.6	12	18	15	5.2	4.9
3	7.5	3.0	41	6.1	31	32	9.2	11	12	15	5.8	9.7
4	4.2	2.4	30	6.4	24	22	38	10	14	13	5.5	28
5	3.3	2.1	26	6.8	20	56	289	11	12	13	5.3	11
6	3.0	2.0	24	17	19	34	42	9.8	10	14	8.6	8.2
7	3.3	1.9	179	20	20	28	163	9.8	9.0	21	8.8	5.6
8	11	1.9	56	8.8	30	24	71	9.6	9.2	14	7.0	6.2
9	4.0	2.2	30	7.2	19	20	34	11	8.0	12	7.2	5.6
10	3.2	1.9	40	6.6	16	18	26	11	18	12	14	5.6
11	3.9	219	24	7.6	19	16	140	11	11	10	8.0	5.5
12	5.0	113	21	7.2	14	66	93	13	8.4	18	17	4.9
13	9.2	32	19	7.8	13	24	67	23	7.6	16	8.8	5.3
14	10	14	19	8.6	12	20	66	334	10	16	6.4	4.9
15	4.8	9.6	18	6.6	11	19	52	123	11	19	6.1	4.8
16	3.6	7.4	16	6.1	11	16	50	37	12	11	5.6	4.7
17	3.4	7.1	15	8.9	9.8	17	42	36	25	17	6.6	4.5
18	34	5.5	12	18	9.4	27	32	23	17	12	5.6	99
19	55	241	11	7.2	8.8	39	165	22	81	11	5.6	235
20	9.6	393	10	7.0	8.4	20	54	20	6.0	8.8	5.3	147
21	4.6	82	9.8	6.4	8.0	16	44	15	5.6	7.4	6.6	18
22	3.2	34	9.0	6.1	7.8	15	38	14	5.6	7.1	5.8	17
23	6.7	27	9.2	5.8	7.6	14	26	14	6.6	17	17	15
24	4.3	33	9.2	12	7.0	12	25	13	6.0	7.7	9.2	13
25	4.5	21	11	7.5	6.8	11	19	18	6.0	5.2	6.1	12
26	2.6	17	9.8	10	6.5	9.8	16	39	5.3	11	5.6	11
27	2.3	19	9.3	10	6.4	8.8	15	17	7.6	15	5.5	10
28	2.3	127	7.6	8.3	6.2	8.2	13	12	11	6.1	5.3	8.4
29	2.2	56	7.0	8.4	------	16	13	13	25	13	5.1	7.1
30	1.9	34	7.1	71	------	10	12	26	33	7.7	5.0	5.8
31	2.0	------	6.6	198	------	8.4	------	14	------	5.6	4.8	------
TOTAL	225.3	1,543.0	1,335.6	522.0	451.7	799.2	1,669.8	945.2	421.9	388.6	223.7	722.6
MEAN	7.27	51.4	43.1	16.8	16.1	25.8	55.7	30.5	14.1	12.5	7.22	24.1
MAX	55	393	564	198	60	158	289	334	81	21	17	235
MIN	1.9	1.9	6.6	5.8	6.2	8.2	7.6	9.6	5.3	5.2	4.8	4.5
AC-FT	447	3,060	2,650	1,040	896	1,590	3,310	1,870	837	771	444	1,430

CAL YR 1973 TOTAL 5,386.9 MEAN 14.8 MAX 564 MIN 1.9 AC-FT 10,680
WTR YR 1974 TOTAL 9,248.6 MEAN 25.3 MAX 564 MIN 1.9 AC-FT 18,340

PEAK DISCHARGE (BASE, 2,200 CFS).--No peak above base.

16091000 LOWER ANAHOLA DITCH NEAR KEALIA

LOCATION.--Lat 22°08'14", long 159°19'31", on left bank 100 ft (30 m) downstream from last wasteway, 1.5 mi (2.4 km) southwest of mouth of Anahola Stream, and 2.8 mi (4.5 km) northwest of Kealia.

PERIOD OF RECORD.--December 1936 to current year.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 276.11 ft (84.158 m) above mean sea level (Highway Department bench mark).

AVERAGE DISCHARGE.--37 years (1937-74), 3.12 ft^3/s (0.0884 m^3/s), 2,260 acre-ft/yr (2.79 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 18.6 ft^3/s (0.53 m^3/s) June 1, 1938; no flow at times each year.

REMARKS.--Records good. Ditch diverts from Anahola Stream for irrigation of sugarcane in vicinity of Anahola. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	.28	1.1	.06	.09	5.4	.06	5.2	9.7	8.5	7.1	4.2
2	2.2	3.3	.31	.04	.09	9.5	3.2	5.1	9.8	9.1	6.8	4.2
3	2.4	6.7	.13	.04	.09	6.1	4.9	5.0	10	7.9	5.7	4.4
4	2.2	5.4	.13	.04	.06	5.3	5.2	3.9	9.4	6.1	6.1	5.1
5	2.1	5.6	.06	.06	.04	5.6	7.6	5.4	9.3	5.8	5.9	4.6
6	2.3	8.4	.04	.10	.04	5.3	6.3	5.6	9.2	5.9	6.3	4.1
7	2.3	5.9	.20	.13	.04	3.7	7.0	8.4	8.8	6.2	6.7	3.7
8	2.9	7.0	.13	.04	.04	.75	7.4	11	8.5	6.4	6.3	3.6
9	2.7	4.5	.09	.04	.04	.70	6.7	11	8.1	6.1	6.2	3.5
10	3.0	4.1	.17	.02	.04	.61	6.4	11	8.6	6.1	6.9	3.6
11	4.0	7.5	.17	.06	.02	.56	7.3	11	8.9	5.9	6.6	3.4
12	4.3	9.3	.20	.04	.02	.46	4.5	11	8.8	6.1	6.7	3.5
13	5.3	11	.20	.04	.02	.35	4.0	11	8.0	6.2	6.9	3.6
14	6.1	13	.28	.10	4.3	.35	3.8	13	8.2	6.1	6.5	3.3
15	5.8	8.8	.17	0	8.4	.31	3.7	13	8.2	6.3	6.0	3.2
16	4.7	7.5	.17	0	7.6	.31	3.3	13	8.4	6.0	5.8	3.4
17	4.3	6.9	.13	.12	6.7	.31	2.8	13	8.9	6.1	5.8	3.8
18	4.9	12	.13	.04	7.0	.31	2.6	13	9.5	6.1	5.6	6.2
19	9.0	11	.13	.01	7.3	.35	3.7	12	6.7	6.1	5.2	9.5
20	9.1	9.4	.09	.07	6.6	.35	3.0	12	.82	5.9	4.9	7.1
21	6.9	7.2	.34	.01	6.4	.31	2.9	11	4.1	5.6	5.1	7.1
22	7.9	6.7	.19	0	6.5	.24	2.9	10	8.9	5.7	5.0	7.8
23	8.7	6.7	.09	0	6.2	.24	2.7	10	8.5	6.0	5.7	7.2
24	8.3	6.7	.09	0	5.9	.17	2.6	11	8.6	6.1	5.7	5.0
25	6.4	6.6	.13	0	6.2	.17	2.6	12	8.5	6.9	5.0	6.5
26	.56	3.4	.17	.02	5.8	.09	4.2	13	8.6	8.2	4.7	5.0
27	.31	.17	.17	.02	5.8	.06	5.3	12	8.2	8.8	4.7	4.7
28	.31	.17	.17	.02	5.7	.06	5.1	10	8.1	8.0	4.6	4.8
29	.35	.17	.13	.02	------	.06	5.1	9.8	8.0	8.9	4.5	3.7
30	.35	.09	.13	.09	------	.09	5.1	11	6.9	8.4	4.3	3.9
31	.28	------	.06	.24	------	.09	------	10	------	7.7	4.2	------
TOTAL	122.16	185.48	5.70	1.47	97.03	48.20	131.96	313.4	246.22	209.2	177.5	143.7
MEAN	3.94	6.18	.18	.047	3.47	1.55	4.40	10.1	8.21	6.75	5.73	4.79
MAX	9.1	13	1.1	.24	8.4	9.5	7.6	13	10	9.1	7.1	9.5
MIN	.28	.09	.04	0	.02	.06	.06	3.9	.82	5.6	4.2	3.2
AC-FT	242	368	11	2.9	192	96	262	622	488	415	352	285

CAL YR 1973 TOTAL 1,413.79 MEAN 3.87 MAX 13 MIN 0 AC-FT 2,800
WTR YR 1974 TOTAL 1,682.02 MEAN 4.61 MAX 13 MIN 0 AC-FT 3,340

16093200 ANAHOLA STREAM AT ANAHOLA

LOCATION.--Lat 22°08'42", long 159°18'59", on downstream side of old highway bridge at Anahola, 0.1 mi (0.2 km) upstream from Highway 56, and 0.9 mi (1.4 km) upstream from mouth.

DRAINAGE AREA.--9.24 mi^2 (23.93 km^2).

PERIOD OF RECORD.--Annual maximum, water years 1962-65, November 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (by stadia survey). Apr. 12, 1962, to Nov. 19, 1964, crest-stage gage at same site and datum.

AVERAGE DISCHARGE.--9 years (1965-74), 38.3 ft^3/s (1.085 m^3/s), 27,750 acre-ft/yr (34.2 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 3,060 ft^3/s (86.7 m^3/s) Dec. 1, gage height, 10.56 ft (3.219 m); minimum, 2.8 ft^3/s (0.08 m^3/s) Oct. 16, 17.

Period of record: Maximum discharge, 13,000 ft^3/s (368 m^3/s) May 15, 1965, gage height, 16.0 ft (4.88 m), from rating curve extended above 5,800 ft^3/s (164 m^3/s) on basis of contracted-opening measurement of peak flow; minimum, 2.8 ft^3/s (0.08 m^3/s) Oct. 16, 17, 1973.

REMARKS.--Records fair. Anahola and Lower Anahola ditches (see sta 16088000 and 16091000) divert above station for irrigation of sugarcane in vicinities of Kealia and Anahola, respectively. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	15	835	11	107	14	17	25	12	14	10	6.1
2	10	66	124	9.0	77	193	15	23	18	11	9.1	6.1
3	20	9.6	50	8.0	66	38	18	21	17	11	9.1	8.2
4	13	7.2	34	9.0	40	20	48	21	14	8.7	8.0	29
5	7.2	6.5	28	10	37	63	368	18	14	8.4	7.6	8.0
6	5.8	6.5	23	15	32	75	72	18	10	9.1	8.7	5.4
7	5.4	6.5	187	27	33	48	213	18	9.6	16	9.6	4.0
8	24	7.2	83	15	55	39	128	17	9.6	10	8.7	5.1
9	9.6	6.9	38	10	40	34	61	17	8.7	8.4	8.4	6.1
10	4.8	6.9	43	9.0	34	28	44	20	18	9.1	12	5.1
11	3.7	224	26	10	39	25	192	19	12	7.2	8.4	4.8
12	4.2	134	21	9.4	25	111	151	21	9.1	14	11	4.5
13	8.5	44	18	10	21	45	110	32	8.4	14	9.1	4.8
14	15	20	17	11	18	34	109	382	9.1	14	7.2	4.8
15	7.0	9.1	15	10	17	33	89	145	10	17	6.9	4.8
16	3.4	6.9	14	9.0	13	26	85	64	11	8.4	7.2	5.1
17	3.4	6.5	13	8.1	11	25	68	59	28	15	8.0	5.1
18	85	14	12	19	11	45	55	39	18	12	7.2	108
19	109	366	11	8.4	11	65	219	37	88	11	7.2	265
20	14	521	11	8.1	10	39	102	32	13	9.5	6.9	161
21	4.5	136	11	7.6	10	28	83	25	10	7.2	7.6	34
22	3.7	50	11	6.9	10	25	75	21	8.7	8.0	7.2	20
23	6.5	43	19	6.9	10	24	114	21	10	23	15	11
24	4.0	59	16	12	9.6	20	52	21	9.1	11	9.1	6.1
25	6.9	42	20	14	9.6	18	48	33	8.7	10	6.1	6.1
26	11	38	15	15	9.6	18	41	83	8.0	15	5.8	4.8
27	5.8	40	12	19	9.1	17	36	38	12	20	5.8	5.8
28	5.8	165	10	14	8.7	17	34	13	19	10	5.8	5.4
29	7.6	121	9.0	9.7	------	30	31	12	47	18	5.8	5.4
30	9.5	65	10	36	------	20	25	30	32	14	5.8	7.6
31	8.8	------	9.0	296	------	18	------	16	------	11	5.8	------
TOTAL	442.1	2,242.8	1,745.0	663.1	773.6	1,235	2,703	1,341	502.0	375.0	250.1	757.2
MEAN	14.3	74.8	56.3	21.4	27.6	39.8	90.1	43.3	16.7	12.1	8.07	25.2
MAX	109	521	835	296	107	193	368	382	88	23	15	265
MIN	3.4	6.5	9.0	6.9	8.7	14	15	12	8.0	7.2	5.8	4.0
AC-FT	877	4,450	3,460	1,320	1,530	2,450	5,360	2,660	996	744	496	1,500

CAL YR 1973 TOTAL 8,638.6 MEAN 23.7 MAX 835 MIN 3.4 AC-FT 17,130
WTR YR 1974 TOTAL 13,029.9 MEAN 35.7 MAX 835 MIN 3.4 AC-FT 25,840

PEAK DISCHARGE (BASE, 2,200 CFS).--Nov. 19 (2300) 2,720 cfs (10.22 ft); Dec. 1 (0630) 3,060 cfs (10.56 ft).

16097500 HALAULANI STREAM AT ALTITUDE 400 FT (122 M), NEAR KILAUEA

LOCATION.--Lat 22°10'54", long 159°25'17", on left bank 0.5 mi (0.8 km) upstream from confluence with Pohakuhonu Stream and 2.3 mi (3.7 km) south of Kilauea.

DRAINAGE AREA.--1.19 mi^2 (3.08 km^2).

PERIOD OF RECORD.--November 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 391.8 ft (119.42 m) above mean sea level (by stadia survey).

AVERAGE DISCHARGE.--16 years (1958-74), 11.5 ft^3/s (0.326 m^3/s), 8,330 acre-ft/yr (10.3 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 822 ft^3/s (23.3 m^3/s) May 14, gage height, 5.32 ft (1.622 m), from rating curve extended as explained below; minimum, 3.6 ft^3/s (0.102 m^3/s) Oct. 6.

Period of record: Maximum discharge, 2,070 ft^3/s (58.6 m^3/s) Aug. 6, 1959, gage height, 8.30 ft (2.530 m), from rating curve extended above 190 ft^3/s (5.38 m^3/s) on basis of slope-area measurement of peak flow; minimum, 1.8 ft^3/s (0.051 m^3/s) Sept. 6-8, 1968.

REMARKS.--Records good. No diversion above station. Periodic determination of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	5.3	121	4.9	23	7.0	5.0	8.9	8.4	12	6.8	4.9
2	5.0	10	28	4.8	14	13	7.0	10	22	9.3	6.4	4.9
3	4.8	5.2	16	4.6	11	6.1	5.9	7.3	9.3	8.7	6.8	5.9
4	4.2	4.6	12	5.3	8.4	5.9	20	6.7	16	7.6	5.9	14
5	3.9	4.4	10	5.3	7.4	24	91	6.5	10	7.4	5.7	7.4
6	3.7	4.2	10	11	6.9	20	21	6.3	8.1	8.1	6.8	5.6
7	4.3	4.0	88	9.6	8.2	13	48	6.5	7.4	17	7.5	5.0
8	8.6	3.9	26	5.5	21	9.3	33	6.2	7.4	10	6.8	4.9
9	4.4	3.9	14	5.0	10	9.6	18	8.0	6.6	8.1	8.7	5.3
10	4.0	3.7	18	4.7	9.0	7.0	12	7.1	16	7.4	9.0	4.9
11	4.6	46	11	4.9	10	6.4	65	7.4	7.9	6.9	7.9	4.7
12	5.8	50	10	4.7	7.5	31	33	10	6.4	12	15	4.6
13	7.3	16	8.9	5.3	7.0	9.7	32	25	5.9	15	8.1	4.6
14	6.1	9.4	8.1	4.9	6.7	8.5	29	162	7.9	14	7.1	4.5
15	4.9	7.3	7.3	4.6	6.3	7.3	31	28	8.1	15	6.4	4.4
16	4.3	6.7	6.8	4.4	6.0	6.5	26	20	6.2	9.9	6.2	4.4
17	4.0	6.5	6.4	5.2	5.6	8.8	28	28	5.7	17	5.9	4.4
18	7.7	5.6	6.0	6.2	5.4	15	24	14	11	11	5.7	40
19	42	69	5.8	4.5	5.2	16	81	14	22	9.9	5.7	106
20	11	83	5.5	4.4	5.2	9.3	47	13	7.9	8.1	5.3	48
21	7.1	30	5.3	6.4	5.1	7.5	34	9.9	7.9	7.4	5.5	14
22	6.2	15	5.3	7.3	5.0	6.9	28	8.7	7.4	13	5.3	9.8
23	6.6	14	6.2	5.7	4.9	6.4	20	9.0	8.1	16	9.2	7.9
24	5.9	22	6.1	13	4.8	5.9	21	7.9	6.9	9.6	5.7	7.8
25	6.5	15	8.9	8.4	4.9	5.6	14	8.7	7.6	7.7	5.3	7.1
26	5.4	12	8.1	9.0	4.5	5.4	11	12	6.6	11	5.1	6.3
27	4.9	21	6.5	10	4.7	5.2	9.9	8.1	8.1	16	5.1	6.0
28	4.9	63	5.5	7.3	4.5	5.0	8.9	6.5	24	8.6	5.1	5.7
29	4.6	30	5.2	6.2	------	12	8.2	6.9	34	14	5.0	5.5
30	5.5	19	5.5	31	------	5.9	7.8	13	20	8.6	4.9	5.2
31	4.6	------	5.0	45	------	5.3	------	7.6	------	7.6	4.9	------
TOTAL	208.9	589.7	486.4	259.1	222.2	304.5	819.7	493.3	330.8	333.9	204.8	363.7
MEAN	6.74	19.7	15.7	8.36	7.94	9.82	27.3	15.9	11.0	10.8	6.61	12.1
MAX	42	83	121	45	23	31	91	162	34	17	15	106
MIN	3.7	3.7	5.0	4.4	4.5	5.0	5.0	6.2	5.7	6.9	4.9	4.4
AC-FT	414	1,170	965	514	441	604	1,630	978	656	662	406	721

CAL YR 1973 TOTAL 3,380.0 MEAN 9.26 MAX 121 MIN 3.3 AC-FT 6,700
WTR YR 1974 TOTAL 4,617.0 MEAN 12.6 MAX 162 MIN 3.7 AC-FT 9,160

PEAK DISCHARGE (BASE, 580 CFS).--Dec. 1 (0730) 650 cfs (4.80 ft); May 14 (1530) 822 cfs (5.32 ft).

HAWAII, ISLAND OF KAUAI

16100000 HANALEI TUNNEL OUTLET NEAR LIHUE

LOCATION.--Lat 22°05'02", long 159°27'50", on right bank at outlet of Hanalei tunnel, 2.2 mi (3.5 km) downstream from intake on Kaapoko Stream, and 9.4 mi (15.1 km) northwest of Lihue.

PERIOD OF RECORD.--July 1932 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Altitude of gage is 1,210 ft (369 m) from tunnel-profile.

AVERAGE DISCHARGE.--42 years, 27.5 ft^3/s (0.779 m^3/s), 19,920 acre-ft/yr (24.6 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 99 ft^3/s (2.80 m^3/s) Apr. 11, 25, 26, 1942; no flow at times.

REMARKS.--Records good. Tunnel diverts water from Kaapoko Stream and Hanalei River into North Branch of North Fork Wailua River, from which it is later diverted for irrigation in vicinity of Lihue and Kapaa. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	32	54	24	22	18	9.1	2.8	3.6	34	28	25
2	35	30	24	14	21	15	9.5	2.8	8.9	35	28	31
3	34	30	17	13	21	15	9.1	2.8	6.8	33	30	35
4	30	29	16	13	17	16	13	2.4	5.4	30	27	36
5	28	27	16	13	16	23	24	2.4	6.3	27	27	37
6	27	26	16	21	16	16	16	2.4	16	32	35	31
7	36	25	15	16	16	12	22	2.8	32	42	32	28
8	38	25	8.2	17	17	10	15	2.4	32	36	28	27
9	30	25	13	14	16	16	16	2.8	28	31	35	36
10	30	25	19	13	17	11	13	3.2	38	29	35	30
11	40	44	15	14	18	9.5	20	3.6	30	28	36	28
12	35	57	14	17	16	18	17	2.4	28	41	40	27
13	36	44	13	21	16	9.5	18	6.1	27	49	30	27
14	37	39	13	20	16	10	18	28	40	41	28	26
15	37	35	13	16	16	9.1	20	11	37	37	28	25
16	38	31	13	14	17	8.6	18	19	33	34	26	32
17	32	26	13	16	15	9.1	20	16	29	39	25	28
18	51	32	13	15	15	11	17	9.1	29	41	27	33
19	53	46	13	14	14	25	28	9.1	35	37	31	38
20	46	56	13	14	14	13	20	6.8	29	32	27	37
21	40	46	13	17	14	11	10	5.4	34	30	26	34
22	37	46	13	16	14	20	13	7.8	30	32	26	30
23	37	42	14	16	14	13	6.9	4.4	35	33	36	28
24	38	46	13	22	15	11	4.4	4.0	30	33	27	27
25	36	43	14	18	14	9.3	3.6	4.4	30	30	26	27
26	32	43	13	20	15	9.1	3.2	4.4	28	38	25	26
27	32	44	13	24	18	8.8	2.8	4.0	38	40	25	25
28	36	51	13	20	14	9.1	2.8	5.1	44	30	25	25
29	37	40	13	19	------	9.1	2.8	7.0	47	30	25	28
30	40	37	15	28	------	9.1	2.8	7.2	47	28	25	25
31	32	------	14	29	------	9.1	------	4.0	------	30	25	------
TOTAL	1,125	1,122	479.2	548	454	393.4	395.0	195.6	857.0	1,062	894	892
MEAN	36.3	37.4	15.5	17.7	16.2	12.7	13.2	6.31	28.6	34.3	28.8	29.7
MAX	53	57	54	29	22	25	28	28	47	49	40	38
MIN	27	25	8.2	13	14	8.6	2.8	2.4	3.6	27	25	25
AC-FT	2,230	2,230	950	1,090	901	780	783	388	1,700	2,110	1,770	1,770

CAL YR 1973 TOTAL 8,908.1 MEAN 24.4 MAX 57 MIN 6.0 AC-FT 17,670
WTR YR 1974 TOTAL 8,417.2 MEAN 23.1 MAX 57 MIN 2.4 AC-FT 16,700

16103000 HANALEI RIVER NEAR HANALEI

LOCATION.--Lat 22°11'31", long 159°27'57", on right bank 2.6 mi (4.2 km) southeast of Hanalei School and 4.9 mi (7.9 km) upstream from mouth.

DRAINAGE AREA.--19.1 mi^2 (49.5 km^2).

PERIOD OF RECORD.--January 1912 to November 1919, annual maximum, water years 1962-63, December 1962 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 35.8 ft (10.91 m) above mean sea level (by stadia survey). Jan. 1, 1912, to Nov. 20, 1919, nonrecording gage at site 0.2 mi (0.3 km) upstream at different datum. Jan. 26 to Dec. 26, 1962, crest-stage gage at present site and datum.

AVERAGE DISCHARGE (since diversion to Hanalei tunnel).--11 years (1963-74), 231 ft^3/s (6.541 m^3/s), 167,400 acre-ft/yr (206 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 24,900 ft^3/s (705 m^3/s) Apr. 19, gage height, 14.28 ft (4.353 m); minimum, 34 ft^3/s (0.96 m^3/s); Oct. 6, 7.

Period of record: Maximum discharge, 24,900 ft^3/s (705 m^3/s), Apr. 19, 1974, gage height, 14.28 ft (4.353 m), from rating curve extended above 9,600 ft^3/s (272 m^3/s); minimum, 33 ft^3/s (0.93 m^3/s) Sept. 16, 17, 1973.

REMARKS.--Records fair. Since 1925, Hanalei tunnel (see sta 16100000) had diverted from Hanalei River and its tributary Kaapoko Stream above station to North Branch of North Fork Wailua River for irrigation. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1937: Drainage area. WSP 2137: 1962(M), 1963-65(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	62	2,790	333	813	88	129	232	200	172	100	70
2	46	58	610	86	328	100	132	220	332	150	110	126
3	44	45	292	73	396	100	130	198	270	134	150	217
4	38	42	208	76	88	110	180	183	361	110	110	294
5	35	40	175	79	152	740	1,300	172	233	106	150	385
6	35	40	162	386	134	1,200	500	166	187	133	250	161
7	39	38	648	219	242	500	1,250	172	165	514	150	99
8	178	37	349	126	410	280	860	162	195	202	130	88
9	40	37	172	109	214	290	840	224	148	136	160	229
10	37	36	393	78	278	150	540	240	410	110	200	127
11	132	910	190	101	376	110	1,000	341	231	99	350	92
12	76	1,490	154	157	168	2,200	700	288	138	305	450	84
13	117	342	128	259	144	560	600	818	124	496	150	89
14	97	134	140	204	126	350	500	3,490	224	317	120	81
15	61	96	114	121	115	210	540	682	180	356	110	76
16	57	95	100	86	183	180	530	990	158	178	105	328
17	44	130	93	104	110	220	520	902	114	467	100	106
18	507	78	87	136	99	205	600	440	103	1,000	100	609
19	527	1,490	84	90	93	580	3,700	450	194	250	110	760
20	169	1,970	81	71	97	250	2,700	388	110	160	100	893
21	90	810	78	144	87	360	1,200	284	117	140	110	302
22	68	465	76	84	87	700	2,200	294	150	142	100	168
23	90	333	86	71	82	520	726	243	158	150	200	132
24	65	718	76	303	93	280	456	218	117	170	150	119
25	90	516	90	176	90	220	356	255	110	150	100	107
26	52	376	88	136	87	200	298	272	104	300	92	99
27	47	374	80	381	200	180	261	202	176	500	84	93
28	53	1,440	73	170	90	140	240	253	590	130	80	90
29	52	606	68	143	------	137	225	364	523	120	79	90
30	226	308	106	800	------	135	218	376	438	110	78	82
31	52	------	69	1,200	------	130	------	240	------	105	75	------
TOTAL	3,223	13,116	7,860	6,502	5,382	11,425	23,431	13,759	6,560	7,412	4,353	6,196
MEAN	104	437	254	210	192	369	781	444	219	239	140	207
MAX	527	1,970	2,790	1,200	813	2,200	3,700	3,490	590	1,000	450	893
MIN	35	36	68	71	82	88	129	162	103	99	75	70
AC-FT	6,390	26,020	15,590	12,900	10,680	22,660	46,480	27,290	13,010	14,700	8,630	12,290

CAL YR 1973 TOTAL 61,875 MEAN 170 MAX 2,790 MIN 33 AC-FT 122,700
WTR YR 1974 TOTAL 109,219 MEAN 299 MAX 3,700 MIN 35 AC-FT 216,600

PEAK DISCHARGE (BASE, 9,200 CFS).--Apr. 19 (0700) 24,900 cfs (14.28 ft); May 14 (0930) 10,900 cfs (10.74 ft).

NOTE.--No gage-height record Feb. 27 to Apr. 22, July 18 to Aug. 28.

HAWAII, ISLAND OF KAUAI

16108000 WAINIHA RIVER NEAR HANALEI

LOCATION.--Lat 22°08'20", long 159°33'38", on left bank at Puwainui Falls, 1.5 mi (2.4 km) upstream from Wainiha powerplant intake, and 6.0 mi (9.6 km) southwest of Hanalei.

DRAINAGE AREA.--10.2 mi^2 (26.4 km^2).

PERIOD OF RECORD.--August 1952 to February 1956, October 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 960 ft (293 m) from topographic map.

AVERAGE DISCHARGE.--19 years (1952-55, 1958-74), 143 ft^3/s (4.050 m^3/s), 103,600 acre-ft/yr (128 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 28,100 ft^3/s (796 m^3/s) Apr. 19, gage height, 9.47 ft (2.886 m), from rating curve extended as explained below; minimum, 41 ft^3/s (1.16 m^3/s) Nov. 8-11.

Period of record: Maximum discharge, 28,100 ft^3/s (796 m^3/s) Apr. 19, 1974, gage height, 9.47 ft (2.886 m), from rating curve extended above 1,100 ft^3/s (31.2 m^3/s) on basis of slope-area measurement at gage height 7.72 ft (2.353 m); minimum, 34.8 ft^3/s (0.99 m^3/s) Feb. 12, 1954.
Flood of Feb. 17, 1956, which destroyed the station, reached a stage of 14.1 ft (4.30 m), from floodmarks, discharge, about 40,000 ft^3/s (1,130 m^3/s), from unit-discharge study.

REMARKS.--Records fair. No diversion above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	68	800	200	600	101	52	73	63	75	64	53
2	72	62	520	130	330	72	58	67	141	84	64	58
3	57	51	280	70	400	81	52	62	113	84	88	121
4	50	51	180	74	82	122	255	59	103	64	63	169
5	47	46	160	80	120	655	878	57	95	70	59	284
6	45	44	140	280	115	866	348	58	80	110	144	87
7	142	43	450	210	280	263	1,090	75	99	376	97	62
8	213	42	290	215	370	155	290	71	118	260	67	57
9	62	41	160	105	200	278	337	146	71	91	117	144
10	62	41	340	76	240	82	141	147	256	70	117	72
11	155	905	210	90	300	70	267	184	85	64	177	60
12	72	583	150	150	160	366	399	124	66	231	261	56
13	121	139	120	220	130	81	436	379	61	400	79	55
14	107	82	130	180	120	77	354	1,010	127	176	71	55
15	91	62	110	120	110	68	349	245	56	220	70	53
16	77	83	100	82	148	60	230	282	47	108	63	167
17	53	97	94	100	62	65	355	345	55	173	59	75
18	302	56	90	125	55	109	351	129	59	599	59	142
19	176	836	85	100	52	320	980	164	68	170	70	240
20	96	640	80	66	51	81	1,270	143	65	102	61	228
21	73	430	78	130	50	107	540	93	93	79	65	122
22	76	370	76	86	55	532	916	122	117	90	59	79
23	95	340	80	72	54	146	272	83	111	92	115	66
24	112	320	74	270	75	76	129	74	90	109	61	63
25	85	540	84	150	72	60	88	71	77	69	57	64
26	59	430	83	120	98	58	86	70	68	154	55	61
27	66	360	78	320	194	54	82	62	106	278	55	59
28	105	350	72	150	58	54	77	65	184	83	54	56
29	253	620	66	130	------	56	73	68	116	71	54	69
30	136	440	88	620	------	56	70	89	160	68	53	57
31	62	------	76	750	------	56	------	71	------	72	53	------
TOTAL	3,203	8,172	5,344	5,471	4,581	5,227	10,825	4,688	2,950	4,692	2,531	2,934
MEAN	103	272	172	176	164	169	361	151	98.3	151	81.6	97.8
MAX	302	905	800	750	600	866	1,270	1,010	256	599	261	284
MIN	45	41	66	66	50	54	52	57	47	64	53	53
AC-FT	6,350	16,210	10,600	10,850	9,090	10,370	21,470	9,300	5,850	9,310	5,020	5,820

CAL YR 1973 TOTAL 48,778 MEAN 134 MAX 1,200 MIN 39 AC-FT 96,750
WTR YR 1974 TOTAL 60,618 MEAN 166 MAX 1,270 MIN 41 AC-FT 120,200

PEAK DISCHARGE (BASE, 3,600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-19	1700	5.33	3,880	4-22	1100	7.65	15,400
4-19	0645	9.47	28,100	9-20	1600	5.75	5,180

NOTE.--No gage-height record Nov. 19 to Feb. 15.

16200000 NORTH FORK KAUKONAHUA STREAM ABOVE RIGHT BRANCH, NEAR WAHIAWA

LOCATION.--Lat 21°31'09", long 157°56'53", on left bank 140 ft (43 m) upstream from Mauka ditch intake and Right Branch, and 4.5 mi (7.2 km) northeast of Wahiawa.

DRAINAGE AREA.--1.38 mi^2 (3.57 km^2).

PERIOD OF RECORD.--May 1913 to July 1953, April 1960 to current year. Monthly discharge only for some periods, published in WSP 1319. Prior to August 1953, published as Left Branch of North Fork Kaukonahua Stream near Wahiawa.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 1,150 ft (351 m) from topographic map.

AVERAGE DISCHARGE.--51 years (1913-24, 1926-52, 1960-74), 16.8 ft^3/s (0.476 m^3/s), 12,170 acre-ft/yr (15.0 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 4,380 ft^3/s (124 m^3/s) July 17, gage height, 11.46 ft (3.493 m), from rating curve extended above 82 ft^3/s (2.32 m^3/s) on basis of slope-area measurement at gage height 12.46 ft (3.798 m); minimum, 1.2 ft^3/s (0.034 m^3/s) Oct. 10.

Period of record: Maximum discharge, 5,490 ft^3/s (155 m^3/s) Jan. 1, 1933, gage height, 11.7 ft (3.57 m), from floodmarks, from rating curve extended above 68 ft^3/s (1.93 m^3/s) by test of model of station site; maximum gage height, 12.46 ft (3.798 m) Apr. 15, 1963; minimum discharge, 0.12 ft^3/s (0.003 m^3/s) Mar. 2, 13, 1941.

REMARKS.--Records good except those for period of no gage-height record which are poor. No diversion above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1219: 1931-33(M), 1935(M), 1937-38(M). WSP 1319: 1914, 1917-18(M), 1920-23(M), 1925(M), 1927-30(M). WSP 1719: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	14	40	35	15	3.4	3.0	13	5.4	16	4.8	2.8
2	2.8	3.9	14	15	6.0	70	2.9	39	12	10	23	4.0
3	2.1	3.0	6.8	8.0	5.6	5.6	2.8	7.4	12	8.2	24	4.7
4	1.7	2.7	5.8	4.5	7.2	16	3.9	7.0	88	7.0	5.4	2.8
5	1.4	2.5	5.0	3.2	4.0	28	20	9.0	12	6.6	5.0	2.8
6	1.3	2.4	4.7	4.0	3.4	87	14	6.6	9.3	8.2	8.9	2.9
7	4.8	2.2	4.3	15	17	13	8.6	5.0	6.2	34	4.8	2.2
8	12	2.1	38	7.0	13	25	9.5	10	18	7.9	4.8	2.0
9	1.6	9.7	7.0	5.0	7.6	20	4.8	8.6	6.4	6.4	8.0	5.4
10	1.2	7.4	4.5	3.6	15	6.8	3.2	5.2	39	5.2	4.3	6.2
11	11	194	6.0	10	9.8	5.8	9.8	5.0	7.7	12	81	2.9
12	2.2	137	5.2	25	8.4	56	6.0	6.0	5.8	75	40	35
13	40	14	4.5	5.0	12	7.4	8.4	60	4.8	36	7.7	23
14	93	15	4.0	7.0	22	5.8	12	155	21	47	6.2	2.9
15	21	14	3.7	10	8.2	5.2	18	82	16	46	34	2.2
16	40	7.6	3.4	4.8	17	4.5	16	59	10	31	6.4	1.9
17	7.3	5.6	3.2	3.2	15	4.3	10	28	10	358	5.0	1.9
18	79	4.5	3.0	2.8	5.4	280	60	32	16	19	9.1	20
19	25	4.0	2.8	2.6	4.7	47	723	16	18	20	15	18
20	17	16	2.7	2.5	4.0	12	144	21	6.1	12	22	7.3
21	8.2	7.3	2.5	2.4	4.2	7.9	41	15	14	10	7.7	3.8
22	17	5.4	2.4	2.3	4.2	7.0	48	22	27	8.4	23	2.7
23	6.4	18	2.9	2.2	3.4	13	56	23	17	9.1	13	2.9
24	6.8	42	3.2	50	3.2	5.6	50	10	6.6	7.7	5.2	4.5
25	6.2	29	2.7	9.5	4.8	4.8	15	8.2	5.0	9.6	4.8	2.2
26	4.2	20	2.5	20	7.5	4.5	11	9.2	9.5	29	4.3	4.4
27	4.5	40	2.3	53	39	4.2	9.0	7.2	28	23	3.9	5.2
28	4.3	32	2.1	6.6	4.3	3.9	7.7	6.0	102	7.4	3.6	3.7
29	4.6	9.9	2.0	5.0	------	3.6	7.0	5.8	115	6.2	3.3	3.0
30	16	9.1	80	6.3	------	3.4	6.0	7.5	29	5.6	3.0	2.1
31	3.3	------	20	23	------	3.2	------	7.5	------	6.8	2.9	------
TOTAL	451.1	674.3	291.2	353.5	270.9	763.9	1,330.6	696.2	676.8	888.3	394.1	185.4
MEAN	14.6	22.5	9.39	11.4	9.68	24.6	44.4	22.5	22.6	28.7	12.7	6.18
MAX	93	194	80	53	39	280	723	155	115	358	81	35
MIN	1.2	2.1	2.0	2.2	3.2	3.2	2.8	5.0	4.8	5.2	2.9	1.9
AC-FT	895	1,340	578	701	537	1,520	2,640	1,380	1,340	1,760	782	368

CAL YR 1973 TOTAL 4,260.12 MEAN 11.7 MAX 194 MIN .27 AC-FT 8,450
WTR YR 1974 TOTAL 6,976.3 MEAN 19.1 MAX 723 MIN 1.2 AC-FT 13,840

PEAK DISCHARGE (BASE, 1,300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-11	0930	7.76	2,160	4-19	0800	10.34	3,700
12-30	Unknown	6.82	1,590	5-14	2130	6.73	1,540
3-18	1600	7.39	1,930	7-17	1130	11.46	4,380

NOTE.--No gage-height record Dec. 7 to Jan. 25.

16208000 SOUTH FORK KAUKONAHUA STREAM AT EAST PUMP RESERVOIR, NEAR WAHIAWA

LOCATION.--Lat 21°29'32", long 157°59'54", on right bank on upstream side of dam at East Pump Reservoir, 2.3 mi (3.7 km) east of Wahiawa Post Office, and 7.1 mi (11.4 km) north of Waipahu.

DRAINAGE AREA.--4.04 mi^2 (10.46 km^2).

PERIOD OF RECORD.--July 1957 to June 1963, water years 1963-64 (annual maximum), July 1964 to current year.

GAGE.--Water-stage recorder and Ogee-type dam control. Datum of gage is 860.35 ft (262.235 m) above mean sea level. July 1, 1963, to June 30, 1964, crest-stage gage at same site and datum.

AVERAGE DISCHARGE (since termination of diversions to Schofield Barracks).--12 years (1960-62, 1964-74), 23.3 ft^3/s (0.660 m^3/s), 16,880 acre-ft/yr (20.8 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 4,450 ft^3/s (126 m^3/s) Apr. 19, gage height, 10.06 ft (3.066 m); minimum, 1.3 ft^3/s (0.037 m^3/s) Oct. 6.

Period of record: Maximum discharge, 5,460 ft^3/s (155 m^3/s) Apr. 15, 1963, gage height, 11.33 ft (3.453 m), from rating curve extended above 1,100 ft^3/s (31.2 m^3/s) on basis of computation of peak flow over dam; no flow Dec. 24, 25, 27, 28, 1960, Feb. 23, 24, 1963.

REMARKS.--Records good. Prior to 1960, diversions from reservoirs above station for use at Schofield Barracks. Records of chemical analyses and periodic determinations of water temperatures for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8.2	58	60	81	5.4	5.2	56	12	19	9.6	3.6
2	4.6	9.2	50	27	21	110	5.0	74	10	14	29	3.8
3	2.7	4.3	14	9.9	12	13	4.8	22	13	12	32	7.8
4	1.8	3.4	11	6.4	14	12	7.4	15	69	10	10	4.4
5	1.5	3.1	9.2	5.3	12	41	42	23	15	11	9.2	4.7
6	1.3	2.8	8.1	5.9	11	84	40	18	10	9.4	11	3.8
7	1.8	2.7	7.8	26	18	20	19	12	8.8	41	9.3	3.6
8	27	2.6	62	10	27	19	18	18	33	17	7.4	2.9
9	3.6	12	8.1	8.4	23	26	9.5	22	14	9.2	7.3	2.9
10	1.9	7.0	7.2	5.8	34	9.3	6.8	14	41	7.9	6.7	3.4
11	7.8	233	8.9	12	38	7.7	9.4	11	15	57	37	3.7
12	6.1	287	7.4	45	15	111	8.9	16	9.1	69	71	3.0
13	52	34	6.7	9.2	61	19	15	27	7.9	63	12	38
14	170	27	5.1	15	33	11	27	140	29	95	9.3	5.3
15	17	35	4.7	20	15	9.0	16	179	13	114	37	3.0
16	36	14	4.3	11	14	8.0	36	70	17	111	11	2.6
17	12	9.4	4.1	7.7	33	7.4	18	36	19	398	7.3	2.5
18	103	7.9	3.8	6.3	12	224	111	65	16	44	7.1	12
19	72	7.1	3.5	5.4	9.6	73	902	54	11	48	7.9	67
20	31	17	3.3	4.9	8.4	24	488	69	6.9	28	17	69
21	14	14	3.2	4.9	7.7	14	136	46	21	29	22	43
22	25	8.0	3.0	4.3	7.4	12	116	34	39	19	13	15
23	11	14	6.2	4.2	6.8	24	89	29	50	17	13	6.8
24	7.3	81	6.3	114	6.3	10	154	20	13	17	6.9	16
25	8.7	88	5.8	25	6.0	8.7	43	17	9.4	16	5.5	5.2
26	6.1	15	3.3	21	6.0	7.9	31	16	9.1	56	5.5	4.3
27	5.4	29	2.8	56	17	7.3	26	15	25	30	5.0	4.4
28	5.1	43	2.6	14	7.2	6.7	22	20	100	15	4.8	4.3
29	5.4	15	2.5	9.3	------	6.4	19	13	160	13	4.3	5.6
30	14	12	72	11	------	6.0	17	12	38	11	3.9	4.0
31	4.9	------	25	36	------	5.5	------	12	------	11	3.7	------
TOTAL	671.0	1,045.7	419.9	600.9	556.4	942.3	2,442.0	1,175	834.2	1,411.5	435.7	355.6
MEAN	21.6	34.9	13.5	19.4	19.9	30.4	81.4	37.9	27.8	45.5	14.1	11.9
MAX	170	287	72	114	81	224	902	179	160	398	71	69
MIN	1.3	2.6	2.5	4.2	6.0	5.4	4.8	11	6.9	7.9	3.7	2.5
AC-FT	1,330	2,070	833	1,190	1,100	1,870	4,840	2,330	1,650	2,800	864	705

CAL YR 1973 TOTAL 6,343.80 MEAN 17.4 MAX 287 MIN .61 AC-FT 12,580
WTR YR 1974 TOTAL 10,890.20 MEAN 29.8 MAX 902 MIN 1.3 AC-FT 21,600

PEAK DISCHARGE (BASE, 1,100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-19	0930	10.06	4,450	7-17	0700	7.42	2,560
5-14	2315	5.28	1,200				

16210900 POAMOHO TUNNEL NEAR WAHIAWA

LOCATION.--Lat 21°31'12", long 157°58'51", on left bank 5 ft (2 m) downstream from tunnel outlet and 3.6 mi (5.8 km) northeast of Wahiawa Post Office.

PERIOD OF RECORD.--July 1958 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 1,120 ft (341 m) from topographic map.

AVERAGE DISCHARGE.--16 years, 4.95 ft^3/s (0.140 m^3/s), 3,590 acre-ft/yr (4.43 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 265 ft^3/s (7.50 m^3/s) Mar. 16, 1968; no flow at times.

REMARKS.--Records fair. Tunnel diverts from Poamoho Stream to North Fork Kaukonahua Stream to augment storage in Wahiawa Reservoir. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.27	.98	.52	.17	.10	.03	8.7	4.4	4.3	2.3	1.0
2	.11	.13	.14	.03	.08	.19	.03	10	6.7	3.3	6.1	1.2
3	.11	.15	.07	.03	.11	.08	.03	6.1	5.3	2.9	6.0	1.9
4	.11	.21	.07	.03	.07	.52	.03	5.4	40	2.4	2.7	3.7
5	.11	.17	.07	.04	.06	5.2	.06	6.1	8.0	2.3	2.2	3.0
6	.10	.16	.06	.04	.06	15	.04	4.5	5.1	2.2	2.3	1.3
7	.11	.16	.36	.06	.07	.15	.04	4.0	5.4	22	2.0	.98
8	.15	.15	.36	.05	.07	.60	.04	4.3	5.1	4.5	1.8	.83
9	.14	.15	.03	.05	.08	.10	.05	4.8	4.3	4.5	4.7	1.0
10	.10	.13	.03	.05	.08	.09	.05	4.3	8.9	2.4	2.7	3.7
11	.10	3.4	.03	.08	.08	.09	3.8	3.9	4.5	2.1	7.9	1.9
12	.10	1.8	.03	.06	.08	13	.04	4.0	3.3	16	13	7.9
13	.11	.05	.03	.04	.13	.07	.71	25	3.0	14	3.2	6.7
14	8.2	.31	.04	.06	.20	.06	.05	43	6.1	11	2.1	1.7
15	.12	.27	.04	.09	.10	.05	.04	34	3.6	18	2.9	1.1
16	.20	.07	.05	.06	4.1	.05	.04	23	3.1	13	2.5	.88
17	.12	.12	.05	.07	.05	.05	.03	16	3.9	37	1.8	.78
18	4.5	.12	.05	.07	.05	41	22	14	4.0	15	2.6	7.9
19	.11	.11	.05	.07	.04	1.7	110	11	15	8.6	4.0	11
20	.11	.15	.05	.07	.04	.03	57	13	3.2	6.8	3.2	8.3
21	.11	.15	.05	.07	.04	.03	33	11	3.0	7.6	3.0	8.0
22	.11	.18	.06	.06	.06	.03	26	13	7.7	5.1	6.8	5.3
23	.11	.13	.07	.06	.09	.06	26	9.1	12	5.4	11	2.2
24	.10	.24	.07	.11	.09	.03	25	6.8	3.8	4.3	2.6	2.4
25	.10	.24	.07	.07	.14	.03	12	5.9	2.8	3.8	1.8	1.5
26	.10	.11	.08	.07	.11	.03	10	6.8	2.4	7.8	1.6	1.3
27	.10	.09	.08	1.6	.40	.03	8.9	6.1	3.6	6.8	1.4	1.1
28	.10	.10	.08	.10	.10	.03	7.7	5.1	12	3.8	1.4	1.6
29	10	.10	.09	.10	------	.03	6.9	4.5	53	3.1	1.3	1.0
30	12	.09	9.5	.10	------	.03	7.1	5.0	9.0	2.7	1.1	.98
31	.07	------	.05	.10	------	.03	------	4.7	------	2.4	1.1	------
TOTAL	37.73	9.51	12.79	4.01	6.75	78.49	356.71	323.1	252.2	245.1	109.1	92.15
MEAN	1.22	.32	.41	.13	.24	2.53	11.9	10.4	8.41	7.91	3.52	3.07
MAX	12	3.4	9.5	1.6	4.1	41	110	43	53	37	13	11
MIN	.07	.05	.03	.03	.04	.03	.03	3.9	2.4	2.1	1.1	.78
AC-FT	75	19	25	8.0	13	156	708	641	500	486	216	183

CAL YR 1973 TOTAL 172.52 MEAN .47 MAX 12 MIN .02 AC-FT 342
WTR YR 1974 TOTAL 1,527.64 MEAN 4.19 MAX 110 MIN .03 AC-FT 3,030

16211600 MAKAHA STREAM NEAR MAKAHA

LOCATION.--Lat 21°30'16", long 158°10'59", on right bank 1.5 mi (2.4 km) northeast of Kaneaki Heiau and 3.4 mi (5.5 km) northeast of Makaha.

DRAINAGE AREA.--2.31 mi^2 (5.98 km^2).

PERIOD OF RECORD.--July 1959 to current year.

GAGE.--Water-stage recorder and concrete-masonry control. Datum of gage is 938.64 ft (286.097 m) above mean sea level (Waianae Plantation bench mark).

AVERAGE DISCHARGE.--15 years, 2.04 ft^3/s (0.0578 m^3/s), 1,480 acre-ft/yr (1.82 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 590 ft^3/s (16.7 m^3/s) Apr. 19, gage height, 4.80 ft (1.463 m), from rating curve extended as explained below; minimum, 0.01 ft^3/s (<0.001 m^3/s) Oct. 9.

Period of record: Maximum discharge, 1,170 ft^3/s (33.1 m^3/s) Mar. 13, 1962, gage height, 6.50 ft (1.981 m), from floodmarks, from rating curve extended above 51 ft^3/s (1.44 m^3/s) on basis of slope-area measurement of peak flow; no flow at times.
Maximum stage known since at least 1953, about 7.8 ft (2.38 m) Nov. 24, 1954, from information by local resident. Discharge, about 1,700 ft^3/s (48.1 m^3/s).

REMARKS.--Records good except those for period of no gage-height record, which are poor. Wells and water-development tunnels in the vicinity and above the station may affect low-flow records. Recording rain gage located at station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 1937: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.11	.50	29	16	.56	.76	1.3	1.0	.62	.24	.07
2	.06	.09	7.0	10	9.0	.62	.68	1.6	.76	.50	.21	.15
3	.05	.09	2.0	5.5	5.8	.56	.62	1.5	.62	.45	.24	.15
4	.04	.09	1.2	3.5	4.3	.56	.68	1.2	.62	.40	.18	2.0
5	.04	.07	.90	2.6	3.4	1.1	1.2	1.1	.76	.31	.18	4.6
6	.03	.07	.70	5.0	2.7	2.3	2.1	.92	.68	.31	.18	1.5
7	.04	.07	.60	24	2.3	1.1	1.5	.92	.62	.36	.18	.68
8	.03	.07	5.0	12	2.0	.76	1.0	.84	.62	.45	.15	.50
9	.02	.06	2.0	10	2.0	.92	.76	1.2	.56	.36	.15	19
10	.02	.68	1.5	5.8	3.7	.56	.68	1.3	.84	.31	.15	4.3
11	.03	1.4	1.2	10	2.7	.50	.62	1.1	.84	.31	.15	2.1
12	.02	10	1.0	13	1.7	13	.68	.92	.62	.40	.13	1.6
13	.06	1.5	.92	14	1.7	3.0	1.1	.76	.56	.45	.11	1.2
14	.45	.60	.76	14	1.4	1.7	.84	4.1	.50	.40	.15	.91
15	.24	1.8	.56	16	1.3	1.5	.68	4.6	.45	.36	.15	.68
16	.18	.80	.50	17	1.2	1.1	.68	7.2	.45	.50	.13	.56
17	.18	.50	.45	8.7	1.1	.92	.56	3.9	.45	4.3	.11	.50
18	2.3	.40	.45	7.2	.92	7.5	.92	2.7	.45	1.3	.13	.56
19	.56	.30	.40	5.0	.92	3.2	57	2.1	.40	.62	.13	5.0
20	.35	.40	.35	3.9	.84	1.7	16	1.7	.35	.50	.11	7.8
21	.35	.50	.31	3.2	.84	1.4	7.5	1.5	.35	.45	.09	3.5
22	.68	.30	.31	2.6	.92	1.9	5.5	1.3	.45	.36	.09	2.1
23	.50	.20	1.3	2.1	.76	8.7	4.6	1.1	.56	.31	.11	1.5
24	.31	.50	1.6	3.9	.68	2.0	3.7	1.0	.50	.28	.09	1.1
25	.27	.80	1.2	2.3	.62	1.5	3.0	.92	.45	.28	.07	.83
26	.21	.50	.62	1.7	.62	1.3	2.4	.84	.40	.31	.09	.75
27	.18	.40	.50	1.5	.56	1.2	2.0	.84	.40	.24	.11	.62
28	.15	.60	.45	2.0	.56	1.0	1.7	.68	2.0	.56	.09	.56
29	.13	.40	.40	1.5	------	.92	1.6	.68	2.0	.56	.07	.50
30	.13	.30	11	1.7	------	.92	1.4	1.2	1.1	.40	.07	.45
31	.11	------	8.1	11	------	.84	------	1.4	------	.31	.06	------
TOTAL	7.77	23.60	53.78	249.7	70.54	64.84	122.46	52.42	20.36	17.27	4.10	65.77
MEAN	.25	.79	1.73	8.05	2.52	2.09	4.08	1.69	.68	.56	.13	2.19
MAX	2.3	10	11	29	16	13	57	7.2	2.0	4.3	.24	19
MIN	.02	.06	.31	1.5	.56	.50	.56	.68	.35	.24	.06	.07
AC-FT	15	47	107	495	140	129	243	104	40	34	8.1	130

CAL YR 1973 TOTAL 306.70 MEAN .84 MAX 17 MIN .02 AC-FT 608
WTR YR 1974 TOTAL 752.61 MEAN 2.06 MAX 57 MIN .02 AC-FT 1,490

PEAK DISCHARGE (BASE, 200 CFS).--Apr. 19 (1115) 590 cfs (4.80 ft); Sept. 9 (1430) 389 cfs (4.13 ft).

NOTE.--No gage-height record Nov. 12 to Dec. 12.

16212800 KIPAPA STREAM NEAR WAHIAWA

LOCATION.--Lat 21°28'13", long 157°57'40", on left bank 1,700 ft (518 m) downstream from forest-reserve boundary, 4.9 mi (7.9 km) southeast of Wahiawa Post Office, and 6.3 mi (10.1 km) northeast of Waipahu.

DRAINAGE AREA.--4.29 mi^2 (11.11 km^2).

PERIOD OF RECORD.--January 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 690 ft (210 m) from topographic map.

AVERAGE DISCHARGE.--17 years, 11.1 ft^3/s (0.314 m^3/s), 8,040 acre-ft/yr (9.91 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 4,770 ft^3/s (135 m^3/s) Apr. 19, gage height, 11.74 ft (3.578 m), from rating curve extended as explained below; minimum, 0.24 cfs (0.007 m^3/s) Oct. 6.

Period of record: Maximum discharge, 5,680 ft^3/s (161 m^3/s) May 14, 1963, gage height, 12.29 ft (3.746 m), from rating curve extended above 300 ft^3/s (8.50 m^3/s) on basis of slope-area measurements at gage heights 7.96 (2.426) and 12.29 ft (3.746 m); no flow at times.

REMARKS.--Records good. No diversion above station. Recording rain gage located at station. Records of chemical analyses, suspended-sediment discharge, and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	10	61	57	71	1.7	1.4	7.8	5.3	5.3	1.1	.46
2	1.8	10	33	19	17	100	1.5	15	3.8	3.4	10	.66
3	.78	2.7	9.8	7.6	8.1	6.8	1.4	7.6	4.9	2.3	9.4	6.7
4	.46	1.9	6.3	4.1	51	4.1	1.9	4.7	35	1.8	2.2	10
5	.34	1.6	4.5	3.0	11	27	14	4.5	5.3	1.7	1.4	5.8
6	.27	1.5	3.6	36	5.8	57	8.8	4.7	3.7	1.8	1.7	1.4
7	.30	1.2	24	22	16	15	4.1	3.6	2.8	17	1.1	1.1
8	5.3	.98	33	7.6	16	29	1.9	8.3	4.9	5.6	.90	.55
9	1.2	11	4.3	6.1	14	12	1.6	4.5	4.5	2.0	.90	.66
10	.46	2.3	4.5	3.4	11	4.9	1.1	3.7	20	1.4	.98	.98
11	.30	100	5.9	35	8.4	3.6	6.1	3.1	5.8	1.1	8.3	1.2
12	1.2	222	5.0	38	5.0	79	3.9	3.0	2.3	23	25	3.7
13	46	44	3.2	12	27	12	14	6.6	1.4	17	3.4	8.3
14	129	42	2.2	28	29	6.0	18	180	10	29	1.6	1.8
15	12	31	1.8	18	10	4.1	9.1	47	3.6	29	1.4	.72
16	34	11	1.6	12	19	3.1	23	20	37	25	2.3	.50
17	7.3	6.8	1.5	6.3	12	2.7	5.4	12	11	190	.98	1.2
18	77	5.3	1.3	4.1	6.3	151	53	23	7.4	16	5.6	32
19	38	4.3	1.2	3.0	4.5	79	739	13	2.2	9.1	3.0	16
20	39	17	1.1	2.5	3.6	21	175	15	1.5	5.8	10	9.5
21	15	8.7	1.1	2.0	3.0	9.8	60	11	3.6	5.1	5.8	6.1
22	28	5.1	.98	1.9	3.1	6.8	35	9.4	9.6	3.4	8.8	5.1
23	9.8	3.4	1.4	1.8	2.5	28	29	7.6	8.4	2.5	23	2.5
24	5.5	27	1.4	63	2.2	5.3	119	4.5	2.8	2.3	3.2	4.4
25	4.3	23	.90	9.3	2.3	4.1	23	3.6	2.3	1.9	1.6	1.6
26	3.2	9.7	.84	13	3.2	5.1	14	3.7	1.9	3.1	1.1	.90
27	2.7	19	.84	22	6.0	2.7	10	6.3	12	5.3	.90	.72
28	2.2	33	1.1	6.8	3.1	2.3	8.4	3.6	48	2.4	.78	.72
29	3.4	9.1	.98	5.1	------	2.2	8.1	2.7	50	1.7	.60	.66
30	16	6.8	46	7.8	------	1.9	6.8	2.5	13	1.2	.50	.66
31	3.1	------	17	36	------	1.6	------	15	------	1.2	.46	------
TOTAL	491.01	671.38	281.34	493.4	371.1	688.8	1,397.5	457.0	324.0	417.4	138.00	126.59
MEAN	15.8	22.4	9.08	15.9	13.3	22.2	46.6	14.7	10.8	13.5	4.45	4.22
MAX	129	222	61	63	71	151	739	180	50	190	25	32
MIN	.27	.98	.84	1.8	2.2	1.6	1.1	2.5	1.4	1.1	.46	.46
AC-FT	974	1,330	558	979	736	1,370	2,770	906	643	828	274	251

CAL YR 1973 TOTAL 2,992.48 MEAN 8.20 MAX 222 MIN .01 AC-FT 5,940
WTR YR 1974 TOTAL 5,857.52 MEAN 16.0 MAX 739 MIN .27 AC-FT 11,620

PEAK DISCHARGE (BASE, 930 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2- 4	1530	6.89	936	4-19	0800	11.74	4,770
3- 2	0630	8.50	1,750	5-14	2200	9.15	2,170
3-18	1030	7.11	1,020	7-17	1230	8.58	1,800

16213000 WAIKELE STREAM AT WAIPAHU

LOCATION.--Lat 21°23'11", long 158°00'49", on left bank 300 ft (91 m) upstream from bridge on Highway 90 and 0.3 mi (0.5 km) southwest of sugar refinery at Waipahu.

DRAINAGE AREA.--45.7 mi^2 (118.4 km^2).

PERIOD OF RECORD.--June to October 1951, December 1951 to October 1959, July 1960 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1.37 ft (0.418 m) above mean sea level. Prior to July 1, 1960, at site 300 ft (91 m) downstream at datum 1.30 ft (0.396 m) higher.

AVERAGE DISCHARGE.--21 years (1952-59, 1960-74), 39.3 ft^3/s (1.113 m^3/s), 28,470 acre-ft/yr (35.1 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 8,850 ft^3/s (251 m^3/s) Apr. 19, gage height, 10.64 ft (3.243 m); minimum, 4.4 ft^3/s (0.12 m^3/s) Dec. 19, 21, 22.

Period of record: Maximum discharge, 13,600 ft^3/s (385 m^3/s) Nov. 28, 1954, gage height, 14.82 ft (4.517 m), site and datum then in use, from rating curve extended above 730 ft^3/s (20.7 m^3/s) on basis of slope-area measurement of peak flow; minimum, 3.2 ft^3/s (0.091 m^3/s) Sept. 12-14, 1973.

REMARKS.--Records good. Diversions above station for irrigation of sugarcane in vicinity of Waipahu. Records of chemical analyses, suspended-sediment discharge, and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEAR).--WSP 1639: 1955(M). (WATER YEARS).--WSP 1937: Drainage area. WSP 2137: 1965.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	9.6	57	142	278	31	41	26	29	27	15	29
2	7.6	20	149	67	84	142	41	24	22	23	14	29
3	7.0	17	31	47	53	54	41	29	18	23	22	27
4	6.9	14	17	35	73	41	41	33	50	22	24	26
5	6.9	7.9	15	31	60	76	50	30	29	21	16	108
6	9.5	7.1	13	32	48	106	58	25	15	25	13	25
7	9.5	6.4	12	75	48	60	62	21	12	34	14	24
8	5.6	6.5	81	54	69	42	49	20	14	38	14	22
9	6.7	6.7	27	42	62	69	44	22	19	18	15	18
10	5.9	22	17	36	50	47	42	17	21	16	19	15
11	5.2	146	14	45	60	44	41	19	24	11	19	14
12	5.2	372	14	142	49	256	49	27	16	19	36	14
13	11	110	14	55	79	78	52	18	19	32	27	15
14	241	32	25	60	72	53	72	41	17	51	17	25
15	35	91	14	68	59	47	56	311	14	39	16	22
16	28	35	16	56	63	44	75	72	51	72	19	15
17	31	21	10	44	60	42	50	48	27	439	21	17
18	96	19	7.9	39	52	337	68	41	26	68	22	40
19	80	12	6.7	35	43	207	1,890	51	25	31	18	321
20	61	23	6.6	33	39	96	1,020	36	7.5	27	20	261
21	31	25	6.6	36	39	63	198	38	6.7	29	20	132
22	25	17	6.8	33	38	55	125	20	9.1	19	19	65
23	26	16	20	30	32	99	94	17	20	13	37	39
24	11	54	21	127	31	58	341	14	12	10	31	38
25	9.8	62	29	56	37	50	94	15	7.7	8.9	23	31
26	12	28	28	41	37	48	50	17	7.8	7.4	16	24
27	16	21	27	59	31	45	46	10	13	16	14	21
28	16	53	24	51	25	44	44	114	61	14	14	29
29	15	28	22	41	------	43	37	25	113	14	15	28
30	19	17	116	41	------	42	27	15	43	15	15	22
31	11	------	71	63	------	41	------	20	------	15	23	------
TOTAL	859.0	1,299.2	918.6	1,716	1,671	2,460	4,898	1,216	748.8	1,197.3	608	1,496
MEAN	27.7	43.3	29.6	55.4	59.7	79.4	163	39.2	25.0	38.6	19.6	49.9
MAX	241	372	149	142	278	337	1,890	311	113	439	37	321
MIN	5.2	6.4	6.6	30	25	31	27	10	6.7	7.4	13	14
AC-FT	1,700	2,580	1,820	3,400	3,310	4,880	9,720	2,410	1,490	2,370	1,210	2,970

CAL YR 1973 TOTAL 8,372.9 MEAN 22.9 MAX 372 MIN 3.2 AC-FT 16,610
WTR YR 1974 TOTAL 19,087.9 MEAN 52.3 MAX 1,890 MIN 5.2 AC-FT 37,860

PEAK DISCHARGE (BASE, 1,300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-19	1015	10.64	8,850	9-19	1600	6.55	3,080
5-14	2330	5.68	2,180	9-20	1530	5.27	1,770
7-17	1430	5.93	2,430				

16216000 WAIAWA STREAM NEAR PEARL CITY

LOCATION.--Lat 21°23'57", long 157°58'51", on left bank 100 ft (30 m) upstream from lower bridge on Highway 90, 0.6 mi (1.0 km) northwest of Pearl City, and 2.0 mi (3.2 km) northeast of Waipahu.

DRAINAGE AREA.--26.4 mi^2 (68.4 km^2).

PERIOD OF RECORD.--June 1952 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1.81 ft (0.552 m) above mean sea level.

AVERAGE DISCHARGE.--22 years, 33.1 ft^3/s (0.937 m^3/s), 23,980 acre-ft/yr (29.6 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 13,700 ft^3/s (388 m^3/s) Apr. 20, gage height, 17.26 ft (5.261 m), from rating curve extended as explained below; minimum, 1.7 ft^3/s (0.048 m^3/s) Nov. 8, 9.

Period of record: Maximum discharge, 23,400 ft^3/s (663 m^3/s) Jan. 5, 1968, gage height, 20.56 ft (6.267 m), from rating curve extended above 1,100 ft^3/s (31.2 m^3/s) on basis of slope-area measurements at gage heights 17.1 ft (5.21 m) and 20.56 ft (6.267 m); minimum, 1.7 ft^3/s (0.048 m^3/s) Nov. 8, 9, 1973.

REMARKS.--Records good except those above 300 ft^3/s (8.50 m^3/s), which are poor. Low flow affected by effluent from sewage treatment plant and occasional small irrigation diversions and return flows above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 1569: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	5.9	167	257	492	4.8	4.0	12	19	14	5.5	4.1
2	4.2	18	204	54	88	76	3.7	22	8.9	9.9	13	4.5
3	3.6	6.3	33	29	35	13	3.6	21	8.8	6.9	11	5.9
4	3.4	3.8	18	16	27	6.5	3.6	9.7	53	5.0	7.3	13
5	3.1	3.1	12	10	30	72	3.7	7.1	14	4.3	5.1	38
6	2.8	2.6	8.1	13	18	105	11	6.9	11	4.0	3.8	7.5
7	2.8	2.4	6.9	70	30	43	16	6.1	6.2	6.9	4.2	5.7
8	2.9	2.3	100	36	33	51	8.5	7.6	6.1	13	3.9	5.8
9	2.6	2.2	11	22	43	36	5.7	11	5.9	7.0	4.3	6.1
10	2.4	2.4	6.6	14	73	14	4.6	9.3	14	4.8	4.4	5.5
11	2.3	478	5.7	165	50	9.0	10	6.7	17	4.3	4.3	5.4
12	2.2	911	6.0	384	25	185	15	5.2	7.7	22	19	6.0
13	12	106	6.2	120	127	43	12	8.7	5.2	24	13	6.1
14	511	164	4.3	317	78	19	26	733	5.4	29	6.1	6.6
15	22	82	3.5	160	48	12	16	322	10	50	4.5	5.5
16	72	21	3.2	101	41	8.6	34	96	30	87	4.4	5.4
17	18	13	2.9	43	29	6.9	15	43	8.5	343	5.1	6.4
18	286	8.9	2.8	24	20	528	166	49	6.4	54	5.7	32
19	39	6.3	2.6	17	13	452	3,740	49	5.3	26	6.0	96
20	31	11	2.6	12	9.5	76	1,920	90	5.5	18	9.8	30
21	21	9.2	2.6	9.3	13	32	233	78	4.6	14	9.5	36
22	42	6.3	2.7	7.4	6.9	20	116	29	5.1	8.1	8.0	11
23	21	5.3	2.8	6.3	5.8	46	91	24	23	6.0	16	8.0
24	9.3	34	2.7	75	5.3	18	595	16	11	5.6	9.4	10
25	5.6	54	2.7	33	4.8	12	73	12	8.0	5.2	6.0	9.6
26	3.9	19	2.6	20	4.2	8.1	38	10	5.2	5.4	4.8	6.5
27	3.2	23	2.7	57	8.4	6.6	25	31	5.1	20	5.2	5.6
28	2.8	48	2.8	24	7.9	5.7	19	19	33	12	5.2	5.8
29	3.0	35	3.9	13	------	4.9	18	11	113	6.7	4.8	6.2
30	17	24	136	27	------	4.8	16	13	35	5.7	6.0	5.4
31	7.5	------	50	67	------	4.2	------	21	------	5.6	6.4	------
TOTAL	1,164.8	2,108.0	817.9	2,203.0	1,365.8	1,923.1	7,242.4	1,779.3	490.9	827.4	221.7	399.6
MEAN	37.6	70.3	26.4	71.1	48.8	62.0	241	57.4	16.4	26.7	7.15	13.3
MAX	511	911	204	384	492	528	3,740	733	113	343	19	96
MIN	2.2	2.2	2.6	6.3	4.2	4.2	3.6	5.2	4.6	4.0	3.8	4.1
AC-FT	2,310	4,180	1,620	4,370	2,710	3,810	14,370	3,530	974	1,640	440	793

CAL YR 1973 TOTAL 7,981.7 MEAN 21.9 MAX 911 MIN 2.2 AC-FT 15,830
WTR YR 1974 TOTAL 20,543.9 MEAN 56.3 MAX 3,740 MIN 2.2 AC-FT 40,750

PEAK DISCHARGE (BASE, 2,300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-11	1515	9.88	3,600	4-20	0045	17.26	13,700
1-11	2330	8.50	2,390	4-24	0330	9.76	3,490
2- 1	0430	8.74	2,580	5-14	2245	13.35	7,220
3-19	1500	11.34	5,040	7-17	1400	9.08	2,880

16224500 KALAUAO STREAM AT MOANALUA ROAD, AT AIEA

LOCATION.--Lat 21°23'07", long 157°56'22", on left bank at downstream side of Moanalua Road bridge, 0.4 mi (0.6 km) northwest of Aiea Post Office, and 2.3 mi (3.7 km) southeast of Pearl City Post Office.

DRAINAGE AREA.--2.59 mi^2 (6.71 km^2).

PERIOD OF RECORD.--July 1957 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 11.71 ft (3.569 m) above mean sea level. Nov. 15, 1965, to June 16, 1966, at datum 0.04 ft (0.012 m) higher. Prior to Nov. 15, 1965, and June 17, 1966, to Sept. 30, 1970, at datum 1.04 ft (0.317 m) higher.

AVERAGE DISCHARGE.--17 years, 2.95 ft^3/s (0.0835 m^3/s), 2,140 acre-ft/yr (2.64 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 935 ft^3/s (26.5 m^3/s) Apr. 19, gage height, 4.83 ft (1.472 m); no flow for many days.

Period of record: Maximum discharge, 2,580 ft^3/s (73.1 m^3/s) May 14, 1963, gage height, 6.63 ft (2.021 m), datum then in use, from rating curve extended above 77 ft^3/s (2.18 m^3/s) on basis of slope-area measurements at gage heights 6.29 ft (1.917 m) and 6.63 ft (2.021 m); no flow for many days in 1970-74.

REMARKS.--Records poor. Some return of irrigation water above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	2.5	13	30	34	.09	.07	.19	1.7	.86	.09	.08
2	0	3.7	14	5.6	9.2	2.0	.07	.17	.75	.34	.08	2.0
3	0	1.5	3.0	2.2	3.0	.50	.09	.14	.57	.26	.08	5.1
4	0	.08	1.1	1.2	1.9	.30	.23	.18	.51	.29	.07	25
5	0	0	.33	.54	4.8	2.0	.32	.11	.35	.20	.09	4.2
6	0	0	.08	5.2	2.7	4.9	.39	.18	.11	.12	.08	.83
7	0	0	.04	18	14	3.0	.26	.11	.10	.20	.07	.51
8	0	0	5.7	5.8	6.4	.87	.16	.16	.08	.11	.08	1.1
9	0	0	.39	4.5	3.2	1.8	.39	.40	.09	.16	.12	1.3
10	.30	0	.17	1.9	4.9	.30	.10	.12	.16	.21	.06	1.2
11	.24	.07	.15	10	3.6	.10	.56	.09	.61	.14	.07	.97
12	.31	38	.26	26	1.4	9.0	3.1	.08	.11	.37	.08	.78
13	.03	5.6	.07	8.6	6.2	3.4	2.5	.08	.09	.79	.08	.75
14	12	1.3	.04	14	7.9	1.1	1.4	54	.11	1.9	.07	.83
15	1.3	2.5	.01	17	4.1	.41	.65	25	.08	5.6	.17	.49
16	3.9	.66	0	12	2.3	.20	3.9	5.1	.06	7.8	.08	.08
17	3.6	.08	0	4.3	1.4	.15	1.8	2.1	.06	12	.11	1.9
18	28	.01	0	2.4	.92	20	9.7	2.9	.08	3.8	.14	16
19	3.4	0	0	1.4	.60	12	247	2.6	.12	1.3	.07	39
20	1.1	.17	0	.71	.40	4.0	96	5.4	.07	.58	.08	6.5
21	.37	0	0	.39	.30	1.6	13	5.9	.09	.37	.16	1.5
22	1.2	0	0	.23	.25	.78	9.6	1.8	.14	.28	.19	.49
23	1.9	.02	.02	.21	.20	3.6	14	1.1	.13	.18	.23	.26
24	1.1	2.6	0	10	.15	1.0	34	.64	.07	.15	.18	.18
25	.05	3.0	0	3.5	.10	.30	5.4	.32	.07	.11	.06	.13
26	0	2.6	0	6.0	.10	.15	2.4	3.3	.08	.12	.05	.12
27	0	.40	.01	4.3	.20	.13	1.3	3.0	.10	.29	.05	.10
28	0	.68	0	1.5	.10	.18	.70	.64	10	.56	.06	.09
29	.13	7.9	.39	3.2	------	.12	.35	.27	18	.13	.06	.08
30	.07	4.5	8.7	3.7	------	.09	.23	4.5	3.2	.11	.06	.08
31	1.8	------	7.5	13	------	.08	------	2.6	------	.10	.06	------
TOTAL	60.80	77.87	54.96	217.38	113.32	74.15	449.67	123.18	37.69	39.43	2.93	111.65
MEAN	1.96	2.60	1.77	7.01	4.05	2.39	15.0	3.97	1.26	1.27	.095	3.72
MAX	28	38	14	30	34	20	247	54	18	12	.23	39
MIN	0	0	0	.21	.10	.08	.07	.09	.06	.10	.05	.08
AC-FT	121	154	109	431	225	147	892	244	75	78	5.8	221

CAL YR 1973 TOTAL 385.62 MEAN 1.06 MAX 38 MIN 0 AC-FT 765
WTR YR 1974 TOTAL 1,363.03 MEAN 3.73 MAX 247 MIN 0 AC-FT 2,700

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-19	1015	4.83	935	9-14	1645	3.56	324
5-14	2145	3.79	426	9-19	1500	4.16	600

16226000 NORTH HALAWA STREAM NEAR AIEA

LOCATION.--Lat 21°23'46", long 157°53'37", on left bank 2.7 mi (4.3 km) upstream from confluence with South Halawa Stream and 2.7 mi (4.3 km) northeast of Aiea Post Office.

DRAINAGE AREA.--3.45 mi^2 (8.94 km^2).

PERIOD OF RECORD.--August 1929 to June 1933, July 1953 to current year. Monthly discharge only May, June 1931, published in WSP 1319.

GAGE.--Water-stage recorder. Altitude of gage is 320 ft (98 m) from topographic map.

AVERAGE DISCHARGE.--24 years (1929-32, 1953-74), 5.18 ft^3/s (0.147 m^3/s), 3,750 acre-ft/yr (4.62 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,360 ft^3/s (38.5 m^3s) Apr. 19, gage height, 10.88 ft (3.316 m), from rating curve extended above 44 ft^3/s (1.25 m^3/s) on basis of slope-area measurements at gage heights 10.3 (3.14), 13.04 (3.975) and 13.46 ft (4.103 m); no flow for many days.

Period of record: Maximum discharge, 6,650 ft^3/s (188 m^3/s) Feb. 28, 1932, gage height, 13.36 ft (4.103 m), from rating curve extended above 420 ft^3/s (11.9 m^3/s); maximum gage height, 13.46 ft (4.103 m) May 14, 1963; no flow at times each year.

REMARKS.--Records poor. Recording rain gage located at station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1319: Drainage area. WSP 1719: 1954-55(P), 1956, 1957(P), 1958-59.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	4.0	15	35	45	.25	.11	1.4	2.4	2.0	.08	.02
2	0	3.1	12	11	18	5.6	.09	1.9	1.4	.94	.30	5.7
3	0	.94	6.0	3.3	7.1	1.3	.07	1.8	.94	.50	.80	4.6
4	0	.43	2.3	1.6	4.8	.63	.07	1.1	2.6	.52	.27	24
5	0	.25	1.0	1.0	6.6	3.2	.07	.87	2.0	.34	.15	6.5
6	0	.14	.20	2.4	5.4	11	.07	.74	1.2	.25	.09	1.6
7	0	.08	.16	25	24	5.3	.84	.63	.80	.35	.05	.53
8	0	.06	7.0	7.0	9.6	3.5	.94	.63	1.2	.30	.03	.25
9	0	.03	1.3	5.0	4.8	2.9	.43	.94	1.5	.35	.02	1.3
10	0	.01	.35	3.2	11	1.3	.27	1.1	2.1	.40	.03	1.9
11	0	.08	.27	10	6.0	.87	.20	.63	1.5	.30	.03	.74
12	0	50	.40	29	3.8	12	8.7	.48	.80	.45	1.4	.35
13	.01	8.5	.25	15	14	6.3	4.0	.48	.53	1.0	.58	2.3
14	21	2.0	.14	19	14	2.3	4.0	75	1.3	3.2	.23	.63
15	1.6	4.0	.08	28	12	1.3	3.3	46	.87	6.0	1.5	.25
16	4.3	1.6	.06	22	6.9	.80	8.6	15	.39	10	.58	.15
17	2.3	.70	.02	6.6	5.3	.58	4.6	7.9	.25	15	.23	5.1
18	31	.35	.01	4.0	3.3	27	17	10	.16	4.0	.89	11
19	5.3	.25	.01	2.4	2.2	22	216	8.9	.12	1.6	.43	20
20	3.3	.20	0	1.7	1.7	8.3	112	14	.10	1.0	.48	9.0
21	1.8	.14	0	1.2	1.2	3.8	24	13	.07	.50	.35	6.1
22	3.1	.10	0	.94	.94	2.3	20	5.3	1.1	.35	.65	2.5
23	1.9	.33	.08	.74	.74	8.8	25	3.8	1.4	.25	.53	.87
24	.74	3.6	.02	9.0	.63	2.4	56	2.4	.63	.20	.23	.53
25	.39	2.4	.01	4.4	.48	1.3	14	1.8	.30	.16	.12	.35
26	.20	1.5	.01	10	.39	.87	6.2	4.0	.18	.18	.07	.23
27	.11	.80	0	8.5	.48	.63	3.7	3.6	1.0	.40	.03	.13
28	.07	1.5	0	3.3	.35	.43	2.6	1.5	17	.70	.02	.09
29	.09	10	0	10	------	.30	2.1	2.3	21	.40	.02	.07
30	1.6	5.8	8.0	7.3	------	.23	1.8	11	4.9	.25	.02	.04
31	.87	------	10	31	------	.15	------	7.9	------	.12	.02	------
TOTAL	79.68	102.89	64.67	318.58	210.71	137.64	536.76	246.10	69.74	52.01	10.23	106.83
MEAN	2.57	3.43	2.09	10.3	7.53	4.44	17.9	7.94	2.32	1.68	.33	3.56
MAX	31	50	15	35	45	27	216	75	21	15	1.5	24
MIN	0	.01	0	.74	.35	.15	.07	.48	.07	.12	.02	.02
AC-FT	158	204	128	632	418	273	1,060	488	138	103	20	212

CAL YR 1973 TOTAL 719.57 MEAN 1.97 MAX 50 MIN 0 AC-FT 1,430
WTR YR 1974 TOTAL 1,935.84 MEAN 5.30 MAX 216 MIN 0 AC-FT 3,840

PEAK DISCHARGE (BASE, 570 CFS).--Apr. 19 (1300) 1,360 cfs (10.88 ft); May 14 (2130) 643 cfs (9.11 ft).

NOTE.--No gage-height record Nov. 27 to Jan. 16.

16227500 MOANALUA STREAM NEAR KANEOHE

LOCATION.--Lat 21°23'29", long 157°51'05", on left bank 3.3 mi (5.3 km) northeast of Tripler Hospital and 3.6 mi (5.8 km) southwest of Kaneohe Post Office.

DRAINAGE AREA.--0.94 mi^2 (2.43 km^2).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 660 ft (201 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 1.52 ft^3/s (0.0430 m^3/s), 1,100 acre-ft/yr (1.36 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 682 ft^3/s (19.3 m^3/s) May 14, gage height, 5.92 ft (1.804 m), from rating curve extended as explained below; no flow most of time.

Period of record: Maximum discharge, 1,530 ft^3/s (43.3 m^3/s) Nov. 26, 1970, gage height, 8.07 ft (2.460 m), from rating curve extended above 18 ft^3/s (0.51 m^3/s) on basis of slope-area measurement at gage height 5.94 ft (1.811 m); no flow for many days each year.

REMARKS.--Records fair. No diversion above station. Recording rain gage and evaporation pan located at station. Records of suspended-sediment discharge and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	11	5.2	12	.13	.08	.72	1.3	.33	0	0
2	0	0	5.2	1.4	2.7	.79	.03	1.0	.79	.20	0	0
3	0	0	1.5	.59	1.4	.24	0	.80	.55	.12	0	.05
4	0	0	.83	.35	.96	.16	.02	.60	2.2	.02	0	18
5	0	0	.57	.24	.76	.47	0	.51	.95	0	0	1.6
6	0	0	.43	1.3	.62	1.0	.04	.45	.55	0	0	.31
7	0	0	.35	5.8	1.2	.59	.08	.40	.40	0	0	.05
8	0	0	3.9	1.5	.82	.41	.07	.38	.40	0	0	0
9	0	0	.59	.80	.66	.36	.01	.35	.34	0	0	.52
10	0	0	.39	.47	1.9	.26	0	.29	.62	0	0	.63
11	0	.31	.33	7.9	.86	.21	0	.25	.46	0	0	.17
12	0	36	.51	6.7	.57	2.3	3.9	.22	.30	0	.01	0
13	.04	2.3	.36	2.6	.64	.83	1.1	.24	.23	0	0	.23
14	7.1	1.1	.26	3.0	1.6	.39	.90	53	.32	0	0	.02
15	.23	.89	.19	3.3	4.8	.26	.56	15	.22	.68	0	0
16	1.1	.48	.14	2.8	1.5	.20	.36	2.1	.16	1.8	0	0
17	.51	.38	.06	1.3	1.0	.14	.36	1.5	.13	5.3	0	1.1
18	19	.28	0	.83	.75	6.4	16	1.4	.08	.98	0	1.3
19	1.7	.19	0	.62	.62	5.0	81	1.2	.01	.44	0	6.5
20	.78	.12	0	.49	.53	2.2	21	3.7	0	.27	0	1.4
21	.42	.01	0	.55	.45	1.4	4.1	1.8	0	.18	0	1.8
22	.38	0	0	.43	.39	.77	4.6	.98	0	.09	0	.73
23	.32	0	0	.37	.34	2.7	4.6	.72	.06	.02	0	.33
24	.14	.14	0	1.6	.29	.74	10	.58	.03	0	0	.20
25	0	.21	0	1.1	.24	.46	2.6	.50	0	0	0	.09
26	0	.13	0	1.3	.23	.36	1.5	.45	0	0	0	0
27	0	.09	0	3.5	.24	.29	1.1	.41	0	0	0	0
28	0	4.9	0	1.4	.17	.24	.92	.36	.90	0	0	0
29	0	9.6	0	2.4	------	.20	.81	4.1	5.7	0	0	0
30	0	2.6	2.5	1.3	------	.15	.70	3.2	.81	0	0	0
31	0	------	3.0	5.0	------	.11	------	5.0	------	0	0	------
TOTAL	31.72	59.73	32.11	66.14	38.24	29.76	156.44	102.22	17.51	10.43	.01	35.03
MEAN	1.02	1.99	1.04	2.13	1.37	.96	5.21	3.30	.58	.34	.0003	1.17
MAX	19	36	11	7.9	12	6.4	81	53	5.7	5.3	.01	18
MIN	0	0	0	.24	.17	.11	0	.22	0	0	0	0
AC-FT	63	118	64	131	76	59	310	203	35	21	.02	69

CAL YR 1973 TOTAL 288.83 MEAN .79 MAX 36 MIN 0 AC-FT 573
WTR YR 1974 TOTAL 579.34 MEAN 1.59 MAX 81 MIN 0 AC-FT 1,150

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-19	1150	5.71	608	9-4	1559	5.04	382
5-14	2040	5.92	682				

16227700 MOANALUA STREAM TRIBUTARY NEAR KANEOHE

LOCATION.--Lat 21°23'27", long 157°50'53", on left bank 3.4 mi (5.5 km) northeast of Tripler Hospital and 3.6 mi (5.8 km) southwest of Kaneohe Post Office.

DRAINAGE AREA.--0.62 mi^2 (1.61 km^2).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 700 ft (213 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 0.810 ft^3/s (0.0229 m^3/s), 587 acre-ft/yr (724,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 336 ft^3/s (9.52 m^3/s) May 14, gage height, 4.32 ft (1.317 m), from rating curve extended as explained below; minimum, 0.01 ft^3/s (<0.001 m^3/s) Oct. 1-6.

Period of record: Maximum discharge, 892 ft^3/s (25.3 m^3/s) Feb. 1, 1969, gage height, 5.57 ft (1.698 m), from rating curve extended above 28 ft^3/s (0.79 m^3/s) on basis of slope-area measurement at gage height 5.19 ft (1.582 m); no flow at times most years.

REMARKS.--Records fair. No diversion above station. Recording rain gage located at station. Records of suspended-sediment discharge and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.06	4.8	1.3	5.2	.32	.34	.70	.34	.28	.18	.07
2	.02	.06	1.6	.39	.88	.36	.38	.91	.41	.27	.18	.78
3	.02	.06	.59	.25	.60	.24	.37	.59	.55	.25	.14	.18
4	.02	.06	.46	.21	.52	.25	.38	.56	1.5	.24	.10	2.1
5	.02	.04	.40	.17	.44	.61	.39	.45	.49	.28	.10	.44
6	.01	.03	.38	.39	.44	.93	.36	.39	.41	.31	.14	.22
7	.04	.03	.38	1.8	.60	.50	.37	.43	.45	.33	.12	.27
8	.04	.03	.83	.38	.44	.86	.36	.49	.55	.32	.13	.27
9	.03	.06	.22	.27	.53	.47	.34	.53	.36	.32	.15	.32
10	.03	.04	.27	.22	1.3	.38	.38	.47	.47	.27	.15	.14
11	.07	.16	.18	3.1	.51	.32	.36	.39	.34	.27	.15	.14
12	.05	21	.25	1.8	.44	1.3	1.2	.31	.29	.22	.33	.14
13	.35	1.1	.24	1.1	.48	.41	.45	.31	.30	.14	.13	.18
14	3.8	.46	.23	.93	1.3	.33	.44	17	.40	.18	.16	.14
15	.18	.35	.18	.85	1.8	.35	.35	7.9	.32	.67	.14	.10
16	.12	.26	.14	.77	1.1	.36	.34	1.4	.26	.78	.14	.10
17	.06	.26	.13	.44	.55	.30	.37	.68	.22	4.3	.14	.38
18	6.7	.21	.12	.38	.42	2.7	7.9	.77	.18	.47	.10	.44
19	.36	.16	.10	.32	.38	2.3	37	.51	.18	.42	.06	.77
20	.17	.16	.10	.27	.38	.90	8.3	2.4	.18	.27	.10	.32
21	.12	.20	.10	.38	.35	.82	2.4	.89	.22	.26	.14	.44
22	.06	.20	.10	.32	.32	.56	2.4	.55	.27	.22	.10	.22
23	.06	.34	.13	.38	.27	1.2	2.0	.45	.22	.24	.10	.22
24	.06	.64	.14	1.1	.26	.44	3.1	.44	.25	.27	.10	.22
25	.06	.31	.12	.52	.26	.36	1.2	.40	.25	.27	.06	.22
26	.06	.27	.10	.68	.32	.34	.86	.32	.29	.27	.06	.22
27	.08	.30	.10	1.5	.33	.37	.73	.34	.29	.22	.06	.18
28	.10	2.3	.10	.60	.32	.38	.62	.37	.39	.16	.06	.18
29	.19	7.1	.11	.60	------	.38	.59	1.6	2.9	.16	.06	.18
30	.44	.72	1.2	.44	------	.41	.67	.69	.36	.19	.06	.14
31	.16	------	.91	1.5	------	.34	------	.88	------	.18	.06	------
TOTAL	13.49	36.97	14.71	23.36	20.74	19.79	74.95	44.18	13.64	13.03	3.70	9.72
MEAN	.44	1.23	.47	.75	.74	.64	2.50	1.43	.45	.42	.12	.32
MAX	6.7	21	4.8	3.1	5.2	2.7	37	17	2.9	4.3	.33	2.1
MIN	.01	.03	.10	.17	.26	.24	.34	.31	.18	.14	.06	.07
AC-FT	27	73	29	46	41	39	149	88	27	26	7.3	19

CAL YR 1973 TOTAL 170.05 MEAN .47 MAX 21 MIN 0 AC-FT 337
WTR YR 1974 TOTAL 288.28 MEAN .79 MAX 37 MIN .01 AC-FT 572

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-29	0550	3.86	210	5-14	1830	4.32	336
4-19	2315	3.88	215				

16228000 MOANALUA STREAM NEAR HONOLULU

LOCATION.--Lat 21°22'53", long 157°52'22", on left bank 1.8 mi (2.9 km) northeast of Tripler Hospital and 5.0 mi (8.0 km) north of Honolulu Post Office.

DRAINAGE AREA.--2.73 mi^2 (7.07 km^2).

PERIOD OF RECORD.--June 1926 to current year.

GAGE.--Water-stage recorder and concrete weir. Datum of gage is 338.12 ft (103.059 m) above mean sea level (city and county of Honolulu bench mark). Prior to July 1, 1960, at datum 1.00 ft (0.305 m) higher.

AVERAGE DISCHARGE.--48 years, 3.22 ft^3/s (0.0912 m^3/s), 2,330 acre-ft/yr (2.87 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,070 ft^3/s (30.3 m^3/s) Apr. 19, gage height, 7.14 ft (2.176 m), from rating curve extended above 160 ft^3/s (4.53 m^3/s) on basis of slope-area measurement at gage height 11.82 ft (3.603 m); no flow most of time.

Period of record: Maximum discharge, 4,580 ft^3/s (130 m^3/s) Nov. 18, 1930, gage height, 12.58 ft (3.834 m), present datum, from rating curve extended above 110 ft^3/s (3.12 m^3/s) by test of model of station site; no flow at times each year.

REMARKS.--Records fair. No diversion above station. Recording rain gage located at station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 935: 1931(M). WSP 1319: 1927-30(M), 1932-41(M). WSP 1569: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.07	23	11	38	.08	.10	1.1	1.7	1.1		0
2	0	.08	18	5.3	11	.06	.08	1.3	.67	.38		0
3	0	.07	5.7	2.2	5.8	.02	.05	1.4	.26	.19		0
4	0	.05	3.3	1.0	3.4	0	0	.61	2.9	.13		13
5	0	.01	1.8	.44	2.1	.05	0	.22	1.7	.10		.82
6	0	0	.88	.82	1.3	3.9	0	.14	.57	.08		0
7	0	0	.42	13	1.9	2.4	.01	.05	.20	.09		0
8	0	0	3.7	6.0	1.7	1.3	0	.03	.14	.06		0
9	0	0	.89	3.2	1.4	1.2	0	.02	.13	.04		0
10	0	0	.41	1.1	4.2	.44	0	.01	.12	0		0
11	0	0	.47	11	3.0	.20	0	0	.11	0		0
12	0	103	.32	19	1.6	4.9	1.1	0	.10	0		0
13	0	10	.22	6.2	2.5	2.8	.74	0	.08	0		0
14	2.8	3.3	.18	6.4	4.7	1.1	.93	86	.07	0		0
15	.09	2.2	.16	7.1	8.5	.49	.58	46	.05	.02		0
16	0	.71	.14	7.1	5.7	.24	.30	11	0	2.9		0
17	0	.38	.11	3.8	3.2	.16	.29	5.1	0	18		0
18	24	.17	.09	2.0	2.0	25	41	3.4	0	4.6		.15
19	2.2	.12	.09	1.1	1.2	17	316	2.5	0	1.9		12
20	.31	.11	.07	.68	.75	7.2	100	8.4	0	.80		2.5
21	0	.08	.04	.36	.45	4.0	18	6.7	0	.36		.73
22	0	.07	0	.36	.24	2.1	14	3.0	0	.20		.67
23	0	.07	0	.18	.17	4.3	12	1.8	0	.14		.03
24	0	.42	0	4.4	.15	1.6	37	.99	0	.12		0
25	0	.61	0	3.2	.12	.68	8.7	.58	0	.10		0
26	0	.66	0	2.2	.11	.28	5.3	.53	0	.10		0
27	0	.85	0	5.2	.11	.17	3.6	.29	0	.08		0
28	0	6.6	0	2.8	.09	.14	2.4	.17	.01	.07		0
29	0	30	0	5.2	------	.13	1.7	.60	18	.05		0
30	.59	8.1	.17	4.8	------	.12	1.1	5.7	3.5	.01		0
31	.13	------	5.1	9.1	------	.10	------	4.2	------	0		------
TOTAL	30.12	167.73	65.26	146.24	105.39	82.16	564.98	191.84	30.31	31.62	0	29.90
MEAN	.97	5.59	2.11	4.72	3.76	2.65	18.8	6.19	1.01	1.02	0	1.00
MAX	24	103	23	19	38	25	316	86	18	18	0	13
MIN	0	0	0	.18	.09	0	0	0	0	0	0	0
AC-FT	60	333	129	290	209	163	1,120	381	60	63	0	59

CAL YR 1973 TOTAL 542.69 MEAN 1.49 MAX 103 MIN 0 AC-FT 1,080
WTR YR 1974 TOTAL 1,445.55 MEAN 3.96 MAX 316 MIN 0 AC-FT 2,870

PEAK DISCHARGE (BASE, 400 CFS).--Apr. 19 (1015) 1,070 cfs (7.14 ft); May 14 (1855) 915 cfs (6.58 ft).

16229000 KALIHI STREAM NEAR HONOLULU

LOCATION.--Lat 21°22'00", long 157°50'49", on right bank 1.9 mi (3.1 km) upstream from Kamanaiki Stream and 4.1 mi (6.6 km) north of Honolulu Post Office.

DRAINAGE AREA.--2.61 mi^2 (6.76 km^2).

PERIOD OF RECORD.--September 1913 to April 1914, July 1914 to current year. Monthly discharge only for some periods, published in WSP 1319.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 464.40 ft (141.549 m) above mean sea level. Prior to Oct. 12, 1923, at datum 2.00 ft (0.610 m) lower.

AVERAGE DISCHARGE.--60 years (1914-74), 6.92 ft^3/s (0.196 m^3/s), 5,010 acre-ft^3yr (6.18 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,100 ft^3/s (31.2 m^3/s) Apr. 19, gage height, 8.24 ft (2.512 m), from rating curve extended as explained below; minimum, 0.43 ft^3/s (0.012 m^3/s) Oct. 3-7.

Period of record: Maximum discharge, about 12,400 ft^3/s (351 m^3/s) Nov. 18, 1930, gage height, 13.81 ft (4.209 m), from rating curve extended above 280 ft^3/s (7.93 m^3/s) on basis of indirect measurements at gage heights 8.9 (2.71), 10.96 (3.341) and 11.27 ft (3.435 m); minimum, 0.09 ft^3/s (0.003 m^3/s) Oct. 22, 1933, July 29, 1966.

REMARKS.--Records fair. No diversion above station. Records of chemical analyses, suspended-sediment discharge, and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1569: Drainage area. WSP 1719: 1921-22(M), 1923-24, 1925-26(M), 1927-28, 1929-32(M), 1935, 1937, 1938-39(M), 1943(M), 1948-52(P), 1955-56, 1957-58(M), 1959.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	4.8	24	11	48	2.6	1.9	5.9	5.4	3.8	1.5	1.3
2	.73	3.6	16	6.8	12	3.0	1.9	6.2	5.9	3.0	2.9	5.0
3	.65	2.6	8.7	5.1	7.7	2.6	1.9	4.9	4.6	2.6	1.9	3.0
4	.43	2.3	7.1	4.2	6.5	3.0	2.4	4.4	11	2.2	1.5	13
5	.43	2.0	6.2	3.6	5.6	8.1	2.6	4.2	5.4	2.0	1.5	2.4
6	.43	1.9	5.4	16	5.4	8.9	2.3	3.8	4.4	2.0	1.6	1.8
7	.50	1.8	7.3	18	11	4.2	3.2	3.6	4.0	2.3	1.4	1.7
8	.91	1.8	9.5	8.4	8.5	5.9	2.6	3.6	4.6	1.9	1.2	1.6
9	.57	2.0	5.4	7.1	7.6	3.8	2.0	4.0	4.0	1.8	1.4	2.5
10	.57	1.8	5.3	5.4	11	2.8	2.0	3.2	5.4	1.6	1.4	1.7
11	.91	5.6	5.4	9.7	6.5	2.4	2.3	3.2	3.6	2.3	2.6	1.6
12	.82	82	6.7	10	5.6	22	4.4	2.8	3.2	4.5	4.0	1.4
13	2.2	13	4.9	12	6.4	5.4	4.0	4.6	2.8	2.8	1.8	1.4
14	23	8.4	4.2	7.7	13	3.8	5.9	42	4.2	3.4	1.3	1.2
15	5.4	6.5	3.8	11	7.4	3.2	4.2	29	3.0	8.5	1.3	1.0
16	5.6	5.1	3.4	11	13	2.8	4.2	9.1	2.6	10	1.2	1.0
17	4.2	4.4	3.0	6.8	6.5	2.8	3.7	6.8	2.4	32	1.2	1.1
18	49	3.8	3.0	6.4	5.1	20	20	5.6	2.4	5.9	1.6	14
19	6.1	3.4	2.8	5.1	4.6	14	172	5.9	2.4	4.4	1.4	19
20	4.6	3.8	2.6	4.6	4.4	6.2	37	13	2.3	3.4	1.5	4.6
21	3.2	3.0	2.4	4.4	4.0	5.1	22	7.7	2.3	2.8	1.2	3.0
22	4.4	2.8	2.3	4.2	3.6	4.0	26	5.6	3.5	2.8	2.1	2.2
23	3.0	3.0	2.8	4.0	3.2	4.9	20	4.9	3.2	2.4	1.3	2.3
24	2.3	3.6	2.4	10	3.0	3.4	25	4.2	2.6	2.4	1.1	1.9
25	1.9	2.8	2.3	5.0	2.6	2.8	11	4.0	2.3	2.3	1.1	1.6
26	1.8	6.8	2.2	4.4	2.6	2.6	8.0	5.6	2.2	3.2	1.1	1.6
27	1.6	4.9	2.2	6.0	3.4	2.4	7.1	4.0	2.2	3.2	1.0	1.5
28	1.6	21	1.9	5.0	3.0	2.2	6.2	3.4	20	2.6	.90	1.5
29	8.6	41	1.8	12	------	2.2	5.6	8.8	19	1.9	1.0	1.3
30	12	11	17	6.2	------	2.2	5.1	8.5	5.1	1.9	1.2	1.2
31	4.0	------	13	19	------	1.9	------	9.4	------	1.6	1.4	------
TOTAL	152.55	260.5	185.0	250.1	221.2	161.2	416.5	231.9	146.0	127.5	47.60	98.4
MEAN	4.92	8.68	5.97	8.07	7.90	5.20	13.9	7.48	4.87	4.11	1.54	3.28
MAX	49	82	24	19	48	22	172	42	20	32	4.0	19
MIN	.43	1.8	1.8	3.6	2.6	1.9	1.9	2.8	2.2	1.6	.90	1.0
AC-FT	303	517	367	496	439	320	826	460	290	253	94	195

CAL YR 1973 TOTAL 1,499.25 MEAN 4.11 MAX 82 MIN .30 AC-FT 2,970
WTR YR 1974 TOTAL 2,298.45 MEAN 6.30 MAX 172 MIN .43 AC-FT 4,560

PEAK DISCHARGE (BASE, 700 CFS).--Apr. 19 (2300) 1,100 cfs (8.24 ft).

16229300 KALIHI STREAM AT KALIHI

LOCATION.--Lat 21°20'29", long 157°52'36", on right bank at Kalihi, 0.4 mi (0.6 km) northwest of Bishop Museum, and 2.4 mi (3.9 km) northwest of Honolulu Post Office.

DRAINAGE AREA.--5.18 mi^2 (13.42 km^2).

PERIOD OF RECORD.--Water year 1962 (annual maximum), July 1962 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 70 ft (21 m) from topographic map. Aug. 28, 1961, to June 30, 1962, crest-stage gage at site 600 ft (183 m) downstream at different datum.

AVERAGE DISCHARGE.--12 years, 12.3 ft^3/s (0.348 m^3/s), 8,910 acre-ft/yr (11.0 hm^3/yr.).

EXTREMES.--Current year: Maximum discharge, 7,110 ft^3/s (201 m^3/s) Apr. 19, gage height, 9.98 ft (3.042 m), from rating curve extended as explained below; minimum, 1.1 ft^3/s (0.031 m^3/s) Oct. 3-6.

Period of record: Maximum discharge, 7,110 ft^3/s (201 m^3/s) Apr. 19, 1974, gage height, 9.98 ft (3.042 m), from rating curve extended above 180 ft^3/s (5.10 m^3/s) on basis of slope-area measurement at gage height 9.98 ft (3.042 m); minimum, 0.16 ft^3/s (0.005 m^3/s) June 24, 1966.

Flood of May 14, 1960, reached a stage of 8.0 ft (2.44 m) from floodmarks, present site and datum, discharge, 6,350 ft^3/s (180 m^3/s), from slope-area measurement of peak flow.

REMARKS.--Records fair. No diversion above station. Recording rain gage located at station. Records of chemical analyses, suspended-sediment discharge, and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	12	50	24	112	3.5	3.2	9.0	6.5	6.5	3.2	2.6
2	1.5	5.3	34	12	26	4.1	3.2	10	6.9	4.7	5.3	7.8
3	1.2	4.1	16	8.4	14	3.2	3.2	9.0	5.7	3.8	3.8	5.0
4	1.1	3.2	11	6.1	11	9.9	6.3	8.0	13	3.5	3.2	21
5	1.1	3.0	8.9	5.3	20	44	6.5	7.0	6.9	3.2	3.0	4.1
6	1.1	2.8	6.9	32	8.9	36	4.7	6.0	5.3	3.2	3.2	2.6
7	1.2	2.6	21	47	19	9.5	12	5.6	4.7	8.3	2.8	2.4
8	1.5	2.4	20	22	17	8.9	5.3	5.0	5.7	3.2	2.6	2.2
9	1.4	2.8	8.9	16	18	6.1	4.7	7.0	4.7	2.8	2.6	4.1
10	1.2	3.0	9.5	8.9	26	5.0	4.1	5.6	6.1	2.8	2.6	2.6
11	1.5	9.2	19	19	17	4.7	11	5.0	4.4	3.7	4.4	2.2
12	1.5	169	12	20	11	63	7.5	4.0	4.1	8.4	6.5	2.0
13	5.6	26	7.3	21	14	12	14	8.0	3.8	5.3	3.2	2.0
14	25	12	6.1	13	19	7.8	14	50	5.3	6.9	2.8	1.7
15	4.4	9.5	5.3	22	12	5.7	10	43	3.5	18	2.8	1.5
16	6.3	6.5	4.7	23	21	5.0	12	14	3.5	29	3.0	1.5
17	4.4	5.3	4.4	12	11	4.7	12	10	3.2	82	3.0	1.4
18	63	4.7	4.1	11	7.8	45	63	8.0	3.0	14	3.2	19
19	10	4.4	3.8	7.3	6.5	27	681	9.0	3.2	8.8	2.6	49
20	6.9	7.8	3.5	6.5	6.1	13	104	22	2.8	5.3	2.8	6.5
21	5.3	3.8	3.2	5.3	5.3	11	49	15	3.0	5.0	2.6	6.4
22	8.9	3.5	3.2	5.3	5.0	7.3	64	9.0	4.7	4.7	4.1	3.0
23	5.3	7.1	5.0	5.7	4.7	9.5	41	7.6	4.4	3.5	2.8	3.3
24	4.1	8.7	3.5	23	4.4	6.1	62	6.0	3.8	3.5	2.6	3.0
25	3.0	4.7	3.0	8.9	3.8	5.3	20	5.2	3.5	3.5	2.4	2.2
26	2.8	34	3.0	6.5	4.1	4.7	15	9.0	3.5	5.3	2.5	2.4
27	2.6	12	3.0	17	5.0	4.4	12	6.0	3.8	5.3	2.2	2.4
28	2.4	29	3.0	8.3	3.8	4.1	10	4.4	37	4.7	2.2	2.0
29	9.7	86	3.2	58	------	3.8	9.0	6.7	62	3.8	2.4	2.2
30	23	20	29	18	------	3.5	8.0	13	11	3.2	2.6	2.0
31	6.5	------	31	41	------	3.5	------	11	------	3.2	2.8	------
TOTAL	215.5	504.4	346.5	533.5	433.4	381.3	1,271.7	338.1	239.0	269.1	95.8	170.1
MEAN	6.95	16.8	11.2	17.2	15.5	12.3	42.4	10.9	7.97	8.68	3.09	5.67
MAX	63	169	50	58	112	63	681	50	62	82	6.5	49
MIN	1.1	2.4	3.0	5.3	3.8	3.2	3.2	4.0	2.8	2.8	2.2	1.4
AC-FT	427	1,000	687	1,060	860	756	2,520	671	474	534	190	337

CAL YR 1973 TOTAL 2,632.5 MEAN 7.21 MAX 169 MIN 1.0 AC-FT 5,220
WTR YR 1974 TOTAL 4,798.4 MEAN 13.1 MAX 681 MIN 1.1 AC-FT 9,520

PEAK DISCHARGE (BASE, 1,600 CFS).--Apr. 19 (1000) 7,110 cfs (9.98 ft).

NOTE.--No gage-height record Apr. 26 to May 28.

16232000 NUUANU STREAM BELOW RESERVOIR 2 WASTEWAY, NEAR HONOLULU

LOCATION.--Lat 21°20'57", long 157°49'40", on right bank beside Old Pali Road in upper Nuuanu Valley, 0.2 mi (0.3 km) downstream from reservoir 2 wasteway, and 3.5 mi (5.6 km) northeast of Honolulu Post Office.

DRAINAGE AREA.--3.35 mi^2 (8.68 km^2).

PERIOD OF RECORD.--October 1913 to January 1921, September 1921 to current year.

GAGE.--Water-stage recorder and sharp-crested weirs. Datum of gage is 631.71 ft (192.545 m) above mean sea level. Prior to Sept. 7, 1915, nonrecording gage at same site at datum 0.03 ft (0.009 m) lower and Sept. 7, 1915, to Mar. 31, 1918, at same datum.

AVERAGE DISCHARGE.--58 years (1914-16, 1917-20, 1921-74), 7.30 ft^3/s (0.207 m^3/s), 5,290 acre-ft/yr (6.52 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,060 ft^3/s (30.0 m^3/s) Apr. 19, gage height, 5.38 ft (1.640 m), from rating curve extended above 420 ft^3/s (11.9 m^3/s) on basis of slope-area measurement at gage height 6.69 ft (2.039 m); minimum, 0.91 ft^3/s (0.026 m^3/s) Oct. 4, 11-13.

Period of record: Maximum discharge, 6,990 ft^3/s (198 m^3/s) Jan. 16, 1921, gage height, 8.74 ft (2.664 m), from floodmarks, from rating curve extended above 420 ft^3/s (11.9 m^3/s) by test of model of station site; minimum, 0.09 ft^3/s (0.003 m^3/s) Sept. 10, 11, 1925.

REMARKS.--Records fair. Low-flow regulation by reservoirs 2, 3, and 4, capacities, 21 (25,900 m^3), 34 (41,900 m^3), and 1,630 acre-ft (2.01 hm^3), respectively. Honolulu Board of Water Supply diverts ground water from tunnels in drainage area. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 985: 1921-35(M). WSP 1319: 1931. WSP 1569: Drainage area. WSP 1639: 1931, 1935.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.5	9.5	4.8	27	4.2	4.7	8.2	7.6	6.1	3.9	2.3
2	1.0	1.8	9.4	4.3	9.1	4.7	4.7	7.8	8.0	5.7	4.3	3.1
3	.96	1.6	6.8	4.1	7.5	4.2	4.5	7.2	6.9	5.3	3.8	2.4
4	.96	1.5	5.7	3.9	6.9	4.5	5.1	7.1	9.8	5.0	3.6	5.9
5	1.1	1.4	5.3	3.9	6.5	10	5.4	6.9	7.6	4.8	3.5	2.8
6	1.0	1.3	5.1	5.8	6.2	11	4.7	6.6	7.0	4.9	3.3	2.1
7	1.1	1.2	6.0	6.2	7.0	6.6	4.8	6.6	6.6	6.2	3.3	2.2
8	1.1	1.3	8.8	4.9	7.3	7.7	4.4	6.8	6.8	5.0	3.3	2.2
9	1.0	1.6	5.4	5.1	6.4	6.6	4.3	6.8	6.4	4.8	3.4	2.8
10	1.0	1.3	5.2	4.6	6.9	5.6	4.4	6.2	6.6	4.6	3.2	2.4
11	.96	4.0	6.8	4.8	6.0	5.3	5.0	6.2	7.0	5.1	3.7	2.2
12	.91	20	6.9	5.2	5.7	29	6.9	6.3	7.8	6.3	3.8	2.4
13	1.2	5.0	5.4	5.1	6.4	8.3	7.1	8.4	7.9	5.2	3.2	2.2
14	8.2	2.6	5.1	4.9	10	7.3	8.0	26	8.2	5.4	3.2	2.1
15	2.0	2.3	4.8	5.6	6.5	6.9	5.8	16	7.9	7.3	3.1	2.0
16	1.9	2.1	4.6	5.2	12	6.6	9.1	9.1	6.2	8.4	3.0	2.0
17	1.5	2.0	4.5	3.8	7.0	6.6	6.3	8.8	5.0	13	2.6	2.0
18	17	1.9	4.4	3.6	5.8	23	16	8.3	4.9	6.9	2.9	8.7
19	2.7	1.9	4.3	3.4	5.4	19	109	8.8	5.8	5.4	2.9	4.9
20	2.0	1.8	4.2	3.2	5.3	9.8	22	9.5	4.8	5.0	2.9	2.6
21	1.5	1.7	4.2	3.2	5.2	7.5	14	8.5	4.8	5.2	2.8	2.3
22	2.0	1.7	4.0	3.4	5.1	6.3	19	8.0	5.7	5.1	2.9	2.1
23	1.6	1.9	4.7	3.2	4.8	7.7	14	8.3	4.9	4.6	2.8	2.5
24	1.5	2.8	3.8	6.2	4.7	6.1	14	7.5	4.6	4.5	2.7	2.2
25	1.4	2.2	3.8	3.9	4.6	5.8	10	7.1	4.5	4.4	2.4	2.0
26	1.3	3.5	3.9	4.2	4.8	5.7	8.8	7.8	4.7	4.1	2.5	2.1
27	1.2	2.7	4.0	11	5.2	5.4	8.8	7.0	4.7	4.3	2.6	1.8
28	1.2	3.6	3.9	5.9	4.4	5.2	8.2	6.6	19	4.1	2.5	1.9
29	4.0	25	4.0	4.8	------	5.1	8.2	10	19	3.9	2.4	1.8
30	3.0	7.1	8.3	5.5	------	4.9	8.0	9.5	7.3	3.8	2.4	1.8
31	2.0	------	5.3	14	------	4.8	------	8.3	------	4.1	2.3	------
TOTAL	69.39	111.3	168.1	157.7	199.7	251.4	355.2	266.2	218.0	168.5	95.2	79.8
MEAN	2.24	3.71	5.42	5.09	7.13	8.11	11.8	8.59	7.27	5.44	3.07	2.66
MAX	17	25	9.5	14	27	29	109	26	19	13	4.3	8.7
MIN	.91	1.2	3.8	3.2	4.4	4.2	4.3	6.2	4.5	3.8	2.3	1.8
AC-FT	138	221	333	313	396	499	705	528	432	334	189	158

CAL YR 1973 TOTAL 1,005.97 MEAN 2.76 MAX 25 MIN .54 AC-FT 2,000
WTR YR 1974 TOTAL 2,140.49 MEAN 5.86 MAX 109 MIN .91 AC-FT 4,250

PEAK DISCHARGE (BASE, 240 CFS).--Apr. 19 (0930) 1,060 cfs (5.38 ft).

16238500 WAIHI STREAM AT HONOLULU

LOCATION.--Lat 12°19'55", long 157°48'12", on left bank 100 ft (30 m) upstream from bridge on Waaloa Way, 700 ft (213 m) upstream from confluence with Waiakeakua Stream, and 4.2 mi (6.8 km) northeast of Honolulu Post Office.

DRAINAGE AREA.--1.14 mi^2 (2.95 km^2).

PERIOD OF RECORD.--May 1913 to January 1921, August 1925 to current year. Prior to July 1960, published as West Branch Manoa Stream near Honolulu.

GAGE.--Water-stage recorder and combination Parshall flume and V-notch weir. Datum of gage is 290.84 ft (88.648 m) above mean sea level (Honolulu Board of Water Supply bench mark). Prior to June 17, 1914, non-recording gage at same site at different datum. June 17, 1914, to Jan. 16, 1921, water-stage recorder at site 150 ft (46 m) upstream at different datum and Aug. 4, 1925, to Mar. 15, 1928, at present site at datum 3.35 ft (1.021 m) lower.

AVERAGE DISCHARGE.--56 years (1913-20, 1925-74), 3.66 ft^3/s (0.104 m^3/s), 2,650 acre-ft/yr (3.27 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 593 ft^3/s (16.8 m^3/s) Nov. 29, gage height, 3.98 ft (1.21 m), from rating curve extended above 120 ft^3/s (3.40 m^3/s) by test of model of station site; minimum, 0.18 ft^3/s (0.005 m^3/s) Oct. 10.

Period of record: Maximum discharge, 3,250 ft^3/s (92.0 m^3/s) Jan. 16, 1921, gage height, 10.4 ft (3.17 m), from floodmarks, site and datum then in use, from rating curve extended above 60 ft^3/s (1.70 m^3/s); minimum, 0.08 ft^3/s (0.002 m^3/s) Dec. 16, 18, 1913, Jan. 16-18, Feb. 4, 6, 1915, Mar. 16, 22, 1926.

REMARKS.--Records good. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1319: 1930-32(M), 1939(M). WSP 1569: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.83	2.8	9.8	4.5	20	.75	.89	3.6	2.3	2.3	.91	.58
2	.40	1.4	6.1	2.1	4.9	.70	.89	3.6	3.8	1.7	2.1	2.0
3	.28	1.1	3.3	1.6	3.0	.70	.81	2.2	2.6	1.4	1.5	.80
4	.25	.90	2.7	1.3	2.4	1.0	1.5	1.9	15	1.3	.84	2.0
5	.23	.85	2.3	1.4	2.3	8.0	2.5	1.7	3.5	1.2	.90	.88
6	.26	.84	2.0	9.0	1.9	3.0	1.6	1.5	2.3	1.5	1.2	.60
7	.53	.81	4.4	8.5	3.9	1.9	1.8	1.6	2.0	6.8	.85	.50
8	.77	.92	6.5	4.7	6.2	4.1	1.3	2.5	5.7	1.4	.73	.43
9	.26	1.2	2.5	3.9	2.8	1.8	.96	2.1	2.1	1.2	.84	.62
10	.29	.72	3.7	2.2	3.4	1.3	.90	1.4	11	1.1	.70	.45
11	.77	11	9.5	3.4	2.7	1.2	1.2	1.3	2.4	3.6	4.4	.38
12	.33	28	4.5	3.3	4.2	26	2.9	1.3	2.0	6.0	3.3	.32
13	7.8	5.1	2.1	3.5	5.7	3.0	6.7	6.8	1.7	2.8	1.1	.30
14	17	2.9	1.8	2.2	6.7	2.0	4.9	27	6.6	4.0	.88	.40
15	3.1	2.2	1.6	2.7	2.4	1.6	2.6	10	2.9	12	.79	.35
16	5.8	1.8	1.4	2.5	5.3	1.4	7.6	3.3	1.7	11	.66	.30
17	2.1	1.7	1.3	1.7	2.1	1.3	2.3	5.0	1.6	20	.58	.27
18	31	1.4	1.2	1.5	1.7	24	14	4.8	1.4	4.6	1.2	5.0
19	4.8	1.3	1.1	1.3	1.6	11	59	7.6	2.4	3.1	.96	1.3
20	3.8	1.3	1.1	1.2	1.6	3.9	12	11	1.5	2.4	1.9	.58
21	2.5	1.1	.97	1.2	1.4	2.7	11	5.1	1.9	2.4	.80	.50
22	3.8	.97	.89	1.2	1.3	2.2	14	4.1	7.0	2.3	2.1	.47
23	2.2	2.8	1.4	1.6	1.2	5.2	9.1	5.8	2.4	1.8	.83	.86
24	1.8	3.4	1.0	4.1	1.1	1.9	12	2.8	1.5	1.9	.65	.53
25	1.5	1.4	.85	1.7	1.0	1.6	4.8	2.4	1.3	1.6	.54	.31
26	1.3	7.8	.79	2.6	.90	1.5	3.8	3.0	1.3	3.4	.47	.42
27	1.2	3.8	.82	11	.85	1.3	3.2	2.2	1.5	2.0	.50	.30
28	1.0	6.1	1.1	2.3	.80	1.2	2.7	1.8	9.9	1.6	.57	.26
29	5.5	28	.71	1.7	------	1.2	2.6	10	17	1.4	.55	.25
30	4.0	4.7	13	4.4	------	1.1	2.3	3.5	2.5	1.2	.52	.26
31	1.4	------	5.0	17	------	1.0	------	5.0	------	1.0	.60	------
TOTAL	106.80	128.31	95.43	111.3	93.35	119.55	191.85	145.9	120.8	110.0	34.47	22.22
MEAN	3.45	4.28	3.08	3.59	3.33	3.86	6.40	4.71	4.03	3.55	1.11	.74
MAX	31	28	13	17	20	26	59	27	17	20	4.4	5.0
MIN	.23	.72	.71	1.2	.80	.70	.81	1.3	1.3	1.0	.47	.25
AC-FT	212	255	189	221	185	237	381	289	240	218	68	44

CAL YR 1973 TOTAL 964.40 MEAN 2.64 MAX 31 MIN .16 AC-FT 1,910
WTR YR 1974 TOTAL 1,279.98 MEAN 3.51 MAX 59 MIN .23 AC-FT 2,540

PEAK DISCHARGE (BASE, 310 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-18	0600	3.55	442	3-12	1100	3.18	320
11-29	0445	3.98	593	4-19	0930	3.63	470

16240500 WAIAKEAKUA STREAM AT HONOLULU

LOCATION.--Lat 21°19'53", long 157°48'12", on right bank 5 ft (2 m) downstream from bridge on Waaloa Way, 500 ft (152 m) upstream from confluence with Waihi Stream, and 4.2 mi (6.8 km) northeast of Honolulu Post Office.

DRAINAGE AREA.--1.06 mi^2 (2.75 km^2).

PERIOD OF RECORD.--May 1913 to January 1921, August 1925 to current year. Prior to July 1960, published as East Branch Manoa Stream near Honolulu.

GAGE.--Water-stage recorder and combination Parshall flume and concrete weir. Datum of gage is 294.50 ft (89.764 m) above mean sea level (Honolulu Board of Water Supply bench mark). Prior to May 20, 1914, non-recording gage at site 200 ft (61 m) upstream at different datum. May 20, 1914, to Jan. 16, 1921, water-stage recorder at site 30 ft (9 m) upstream at different datum. Aug. 18, 1925, to Mar. 15, 1928, water-stage recorder at present site at datum 2.99 ft (0.911 m) lower, and Mar. 16, 1928, to Oct. 18, 1933, at datum 0.41 ft (0.125 m) higher than present datum.

AVERAGE DISCHARGE.--56 years (1913-20, 1925-74), 5.15 ft^3/s (0.146 m^3/s), 3,730 acre-ft/yr (4.60 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 321 ft^3/s (9.09 m^3/s) Mar. 12, gage height, 3.27 ft (0.997 m), from rating curve extended above 110 ft^3/s (3.12 m^3/s) on basis of slope-area measurement at gage height 5.28 ft (1.609 m); minimum, 1.8 ft^3/s (0.051 m^3/s) Oct. 4-7, 9.

Period of record: Maximum discharge, 3,090 ft^3/s (87.5 m^3/s) Jan. 16, 1921, gage height, 10.4 ft (3.17 m), from floodmarks, site and datum then in use, from rating curve extended above 58 ft^3/s (1.64 m^3/s); minimum, 0.6 ft^3/s (0.017 m^3/s) June 7, 8, 1926.

REMARKS.--Records fair. Honolulu Board of Water Supply at times diverts a small amount of ground water from tunnel above station. Occasional small diversions for irrigation above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1319: 1919(M), 1930-33(M). WSP 1569: Drainage area. WSP 1937: 1949(M), 1960(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	2.7	9.1	6.8	16	2.7	2.7	4.2	5.3	3.7	2.8	2.4
2	2.1	2.5	7.5	3.6	6.6	7.1	2.7	5.2	5.6	3.4	4.4	4.9
3	2.0	2.4	4.5	3.1	4.2	3.1	2.7	3.6	4.7	3.2	3.5	2.8
4	1.9	2.4	4.0	2.8	3.6	3.0	3.5	3.4	10	3.2	3.0	5.8
5	1.8	2.2	3.4	2.9	4.9	11	4.4	3.2	4.8	3.2	3.0	3.0
6	1.8	2.2	3.2	9.8	3.6	5.3	3.8	3.1	4.1	3.2	3.0	2.5
7	2.4	2.2	7.9	9.7	5.1	3.3	3.8	3.2	3.8	6.1	2.8	2.5
8	2.4	2.6	9.9	4.8	7.8	4.4	3.2	3.7	6.1	3.2	2.8	2.4
9	1.9	3.1	4.4	5.3	4.5	3.3	3.0	3.7	3.7	3.1	3.0	3.0
10	2.1	2.2	6.9	3.3	4.2	3.0	3.0	3.1	9.3	3.0	2.7	2.7
11	2.8	10	9.3	4.1	4.0	2.7	3.1	3.2	4.1	5.1	5.3	2.4
12	2.1	29	6.1	4.2	5.1	26	3.6	3.3	3.6	7.5	5.7	2.4
13	9.6	5.0	3.8	3.9	6.2	4.5	6.8	8.4	3.4	4.2	3.2	2.2
14	17	3.2	3.6	3.4	6.9	3.6	7.8	25	6.2	5.3	3.0	2.4
15	3.8	2.7	3.3	3.4	3.8	3.2	4.4	9.6	4.0	9.1	2.8	2.2
16	5.2	2.5	3.2	3.5	4.4	3.1	8.1	5.2	3.4	9.0	2.7	2.2
17	3.1	2.4	3.1	3.1	3.4	3.1	3.8	5.6	3.4	12	2.6	2.4
18	23	2.2	3.1	2.8	3.1	18	11	5.7	3.3	4.9	3.9	6.4
19	7.4	2.1	2.8	2.7	3.0	11	42	6.1	3.5	3.8	3.3	3.6
20	6.1	2.2	2.7	2.5	3.0	5.2	9.6	12	3.2	3.6	3.0	2.7
21	4.1	2.2	2.7	2.4	2.8	4.0	11	6.1	3.4	3.8	2.8	2.8
22	5.6	2.1	2.7	2.6	2.8	3.7	11	5.3	7.4	3.6	4.0	2.6
23	3.6	3.4	3.2	2.8	2.7	6.8	10	5.1	4.7	3.2	3.0	3.1
24	3.1	4.1	3.1	5.1	2.7	3.3	11	4.2	3.4	3.3	2.7	2.6
25	2.8	2.7	2.7	3.2	2.6	3.2	5.8	4.1	3.2	3.3	2.5	2.4
26	2.7	8.3	2.7	4.8	2.7	3.1	4.9	4.1	3.2	4.8	2.4	2.6
27	2.6	4.2	2.8	9.5	3.4	3.0	4.4	3.8	3.9	3.6	2.3	2.2
28	2.5	7.4	2.8	3.6	2.8	2.8	3.8	3.6	6.5	3.3	2.3	2.2
29	5.4	27	2.6	3.1	------	2.8	3.8	9.2	14	3.1	2.2	2.2
30	4.6	5.5	14	6.3	------	2.8	3.6	7.4	4.4	3.0	2.2	2.1
31	2.7	------	10	19	------	2.7	------	16	------	2.8	2.2	------
TOTAL	140.8	152.7	151.1	148.1	125.9	164.8	202.3	189.4	149.6	137.6	95.1	85.7
MEAN	4.54	5.09	4.87	4.78	4.50	5.32	6.74	6.11	4.99	4.44	3.07	2.86
MAX	23	29	14	19	16	26	42	25	14	12	5.7	6.4
MIN	1.8	2.1	2.6	2.4	2.6	2.7	2.7	3.1	3.2	2.8	2.2	2.1
AC-FT	279	303	300	294	250	327	401	376	297	273	189	170

CAL YR 1973 TOTAL 1,386.3 MEAN 3.80 MAX 35 MIN 1.2 AC-FT 2,750
WTR YR 1974 TOTAL 1,743.1 MEAN 4.78 MAX 42 MIN 1.8 AC-FT 3,460

PEAK DISCHARGE (BASE, 310 CFS).--Mar. 12 (1100) 321 cfs (3.27 ft).

HAWAII, ISLAND OF OAHU

16244000 PUKELE STREAM NEAR HONOLULU

LOCATION.--Lat 21°18'36", long 157°47'27", on right bank 200 ft (61 m) upstream from bridge on Palolo Avenue, 0.6 mi (1.0 km) upstream from confluence with Waiomao Stream, and 4.8 mi (7.7 km) east of Honolulu Post Office.

DRAINAGE AREA.--1.18 mi^2 (3.06 km^2).

PERIOD OF RECORD.--June 1926 to current year.

GAGE.--Water-stage recorder and V-notch weir. Datum of gage is 344.78 ft (105.089 m) above mean sea level (Honolulu Board of Water Supply bench mark).

AVERAGE DISCHARGE.--48 years, 1.99 ft^3/s (0.0564 m^3/s), 1,440 acre-ft/yr (1.78 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 352 ft^3/s (9.97 m^3/s) Mar. 12, gage height, 4.33 ft (1.320 m); minimum, 0.32 ft^3/s (0.009 m^3/s) for many days.

Period of record: Maximum discharge, 2,600 ft^3/s (73.6 m^3/s) Apr. 11, 1930, gage height, 7.75 ft (2.362 m), from rating curve extended above 71 ft^3/s (2.01 m^3/s) by test of model of station site; minimum, 0.08 ft^3/s (0.002 m^3/s) Oct. 31, 1929.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. No diversion above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 835: 1930(M). WSP 1569: Drainage area. WSP 1639: 1927-29(M), 1931(M), 1932, 1933-34(M). WSP 1719: 1935(M), 1937-40(M), 1942(M), 1948-59(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	.55	3.5	3.5	12	1.1	1.1	1.6	1.9	.95	.93	.40
2	.32	.53	8.0	2.2	6.9	1.8	1.1	1.4	1.4	.94	1.0	.41
3	.32	.50	3.0	1.7	3.0	1.0	1.0	1.3	1.3	.95	.74	.40
4	.32	.50	2.0	1.5	2.1	1.0	1.1	1.2	2.7	.93	.71	.40
5	.32	.50	1.5	1.4	4.2	2.8	1.2	1.2	1.5	.90	.72	.40
6	.32	.45	1.3	14	2.9	1.3	.98	1.1	1.3	.92	.71	.38
7	.32	.45	6.0	20	4.8	.87	.97	1.1	1.3	.93	.70	.38
8	.32	.45	9.0	8.0	7.2	1.0	.88	1.0	1.4	.85	.67	.36
9	.32	.41	3.5	5.0	3.6	.94	.83	.98	1.3	.83	.67	.39
10	.32	.40	10	3.0	2.8	.90	.84	.93	3.6	.80	.65	.36
11	.32	.45	4.0	4.0	2.5	.91	.82	.91	1.4	.85	.70	.36
12	.32	8.2	3.5	3.0	2.6	23	.79	.88	1.2	.85	.74	.36
13	.32	1.5	2.5	1.8	3.7	3.8	1.0	3.9	1.2	.82	.60	.36
14	2.8	1.0	1.8	1.5	3.1	1.7	3.7	8.0	1.7	1.2	.62	.37
15	.41	.80	1.5	1.4	2.2	1.3	1.2	3.6	1.2	2.3	.64	.37
16	.36	.68	1.3	1.3	1.9	1.3	1.7	1.8	1.2	3.1	.60	.35
17	.36	.62	1.1	1.3	1.8	1.2	.98	1.7	1.1	6.6	.60	.38
18	5.7	.60	1.0	1.2	1.8	8.9	1.8	1.5	1.1	1.8	.60	.50
19	1.1	.58	.90	1.2	1.7	8.9	16	2.0	1.6	1.2	.60	.47
20	1.3	.80	.85	1.1	1.6	3.9	5.8	3.4	1.1	1.1	.60	.40
21	.67	.58	.80	1.0	1.5	2.2	6.1	2.3	1.1	1.3	.58	.36
22	.98	.54	.80	1.0	1.5	1.8	4.8	1.8	1.3	1.5	.58	.34
23	.72	.70	1.2	.97	1.4	4.0	3.1	1.5	1.0	1.5	.57	.32
24	.71	1.2	.90	.97	1.3	1.8	6.1	1.5	.98	1.4	.55	.32
25	.71	.70	.80	.83	1.2	1.6	2.6	1.5	.94	1.4	.55	.32
26	.71	1.4	.75	1.0	1.2	1.6	2.0	1.4	.92	1.3	.53	.32
27	.69	1.0	.90	2.3	1.3	1.5	1.9	1.3	.93	1.0	.45	.34
28	.65	2.0	.80	2.1	1.1	1.4	1.7	1.3	1.2	1.0	.45	.35
29	.64	20	.80	2.0	------	1.4	1.6	1.8	5.5	.95	.44	.38
30	.62	2.5	12	4.7	------	1.2	1.5	2.8	1.4	.93	.41	.50
31	.58	------	8.0	20	------	1.2	------	4.8	------	.90	.40	------
TOTAL	23.89	50.59	94.00	114.97	82.9	87.32	75.19	61.50	45.77	42.00	19.31	11.35
MEAN	.77	1.69	3.03	3.71	2.96	2.82	2.51	1.98	1.53	1.35	.62	.38
MAX	5.7	20	12	20	12	23	16	8.0	5.5	6.6	1.0	.50
MIN	.32	.40	.75	.83	1.1	.87	.79	.88	.92	.80	.40	.32
AC-FT	47	100	186	228	164	173	149	122	91	83	38	23

CAL YR 1973 TOTAL 454.55 MEAN 1.25 MAX 20 MIN .17 AC-FT 902
WTR YR 1974 TOTAL 708.79 MEAN 1.94 MAX 23 MIN .32 AC-FT 1,410

PEAK DISCHARGE (BASE, 140 CFS).--Mar. 12 (1115) 352 cfs (4.33 ft).

NOTE.--No gage-height record Nov. 13 to Jan. 14.

16247000 PALOLO STREAM NEAR HONOLULU

LOCATION.--Lat 21°17'35", long 157°48'25", on left bank 250 ft (76 m) downstream from bridge on Palolo Avenue and 3.9 mi (6.3 km) east of Honolulu Post Office.

DRAINAGE AREA.--3.63 mi^2 (9.40 km^2).

PERIOD OF RECORD.--April 1952 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 95 ft (29 m) from topographic map.

AVERAGE DISCHARGE.--22 years, 5.78 ft^3/s (0.164 m^3/s), 4,190 acre-ft/yr (5.17 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,790 ft^3/s (50.7 m^3/s) Mar. 12, gage height, 4.22 ft (1.286 m), from rating curve extended as explained below; minimum, 0.43 ft^3/s (0.012 m^3/s) Sept. 13.

Period of record: Maximum discharge, 4,270 ft^3/s (121 m^3/s) Dec. 18, 1967, gage height, 5.98 ft (1.823 m), from rating curve extended above 140 ft^3/s (3.96 m^3/s) on basis of slope-conveyance study and slope-area measurements at gage heights 3.92 ft (1.195 m) and 4.13 ft (1.259 m); minimum, 0.02 ft^3/s (0.001 m^3/s) June 25, 1958.

REMARKS.--Records poor. Honolulu Board of Water Supply diverts ground water from tunnels in drainage area. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1569: Drainage area. WSP 1937: 1953, 1955-60.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.91	1.9	19	16	65	2.3	1.9	2.3	4.3	1.4	2.5	.85
2	.77	.97	32	5.7	30	8.1	1.8	2.0	2.7	1.1	2.5	1.3
3	.66	.97	9.4	2.9	8.1	2.7	1.7	1.9	2.3	1.1	1.7	.77
4	.60	.93	4.3	2.0	4.2	2.3	4.1	1.7	8.0	1.1	1.2	1.3
5	.63	.89	2.9	1.9	14	7.4	2.1	2.3	2.5	1.0	1.2	1.6
6	.62	.85	2.4	46	4.8	2.9	1.5	1.7	2.0	1.3	1.2	.75
7	.70	.85	27	70	13	2.3	2.7	1.9	2.0	1.9	1.0	.78
8	.69	.85	30	23	19	2.3	3.0	2.0	2.5	1.4	1.0	.69
9	.62	.85	9.2	20	8.1	2.3	2.2	1.9	2.3	1.2	1.1	3.2
10	.85	.82	29	7.5	7.7	1.9	2.1	1.6	9.9	1.2	1.0	.91
11	.67	5.0	13	13	4.1	1.9	2.0	1.9	2.0	1.9	1.7	.67
12	.68	51	12	9.8	5.2	145	2.6	2.3	1.6	2.5	3.0	.62
13	2.1	5.0	3.6	3.9	6.9	9.1	7.0	12	1.7	1.7	1.4	.63
14	15	1.8	2.4	3.4	5.2	2.7	11	26	4.3	3.3	1.3	.67
15	1.3	1.5	1.9	3.4	3.2	1.8	1.9	13	1.6	7.2	1.6	.67
16	2.0	1.4	1.6	2.5	2.8	1.6	1.9	5.6	1.4	8.7	1.1	.65
17	1.2	1.4	1.5	2.0	2.8	1.6	2.0	5.6	1.6	16	1.1	1.6
18	24	1.3	1.4	1.8	2.5	34	7.1	5.0	1.4	2.7	1.7	4.2
19	3.6	1.1	1.3	1.8	2.5	21	52	7.4	2.7	2.3	1.2	2.0
20	5.1	3.7	1.3	1.7	2.4	8.0	18	11	1.4	1.9	1.3	1.1
21	2.3	1.0	1.2	1.6	2.2	4.1	24	5.6	1.6	2.5	1.2	.93
22	4.7	1.0	1.2	2.3	2.1	3.2	15	4.3	3.5	2.3	1.2	1.1
23	2.2	1.9	2.4	2.0	2.1	12	4.9	3.9	2.0	1.7	1.3	.70
24	1.8	4.7	1.3	3.0	2.0	3.8	20	3.2	1.4	1.7	1.1	.63
25	1.5	1.2	1.2	2.0	2.0	3.2	5.6	3.2	1.3	1.9	1.1	.63
26	1.5	4.2	1.1	2.6	2.1	3.0	3.2	2.9	1.3	2.7	1.1	.58
27	1.4	2.6	1.6	7.0	3.5	2.9	2.5	2.7	1.3	2.7	1.0	.70
28	1.3	31	1.2	2.9	2.3	2.7	2.3	2.7	5.8	2.5	.85	.63
29	1.3	121	1.3	1.9	------	2.6	2.0	4.3	11	2.3	.77	.58
30	1.5	10	40	7.3	------	2.4	1.9	14	2.5	2.3	1.4	.58
31	1.3	------	33	65	------	2.2	------	23	------	2.3	.85	------
TOTAL	83.50	261.68	290.7	335.9	229.8	303.3	210.0	178.9	89.9	85.8	41.67	32.02
MEAN	2.69	8.72	9.38	10.8	8.21	9.78	7.00	5.77	3.00	2.77	1.34	1.07
MAX	24	121	40	70	65	145	52	26	11	16	3.0	4.2
MIN	.60	.82	1.1	1.6	2.0	1.6	1.5	1.6	1.3	1.0	.77	.58
AC-FT	166	519	577	666	456	602	417	355	178	170	83	64

CAL YR 1973 TOTAL 1,393.59 MEAN 3.82 MAX 121 MIN .34 AC-FT 2,760
WTR YR 1974 TOTAL 2,143.17 MEAN 5.87 MAX 145 MIN .58 AC-FT 4,250

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-29	0315	2.81	503	3-12	1115	4.22	1,790
2- 1	0030	3.05	688				

16254000 MAKAWAO STREAM NEAR KAILUA

LOCATION.--Lat 21°21'49", long 157°46'02", on left bank 650 ft (198 m) upstream from mouth, 2.7 mi (4.3 km) southwest of Kailua, and 4.3 mi (6.9 km) southeast of Kaneohe Courthouse.

DRAINAGE AREA.--2.04 mi^2 (5.28 km^2).

PERIOD OF RECORD.--November 1912 to June 1916, January 1958 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 80 ft (24 m) from topographic map. Prior to Jan. 1, 1958, nonrecording gage at sites about 200 ft (61 m) upstream at different datums.

AVERAGE DISCHARGE.--18 years (1913-15, 1958-74), 5.33 ft^3/s (0.151 m^3/s), 3,860 acre-ft/yr (4.76 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 988 ft^3/s (28.0 m^3/s) Feb. 5, gage height, 6.72 ft (2.048 m); minimum, 0.88 ft^3/s (0.025 m^3/s) Sept. 3, 4, 8-10.

Period of record: Maximum discharge, 6,000 ft^3/s (170 m^3/s) Feb. 4, 1965, gage height, 12.41 ft (3.783 m), from rating curve extended above 470 ft^3/s (13.3 m^3/s) on basis of slope-area measurement of peak flow; minimum, 0.43 ft^3/s (0.012 m^3/s) Sept. 8-12, 14, 16-20, 22, 23, 1964.

REMARKS.--Records fair. Maunawili ditch diverts 1.5 mi (2.4 km) above station for irrigation in vicinity of Waimanalo. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 1937: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.1	7.7	12	42	2.9	3.0	2.9	3.5	1.9	1.6	1.3
2	.97	1.0	8.3	7.0	17	4.4	2.9	2.9	3.0	1.9	1.7	1.4
3	.96	1.0	4.8	5.0	12	3.0	2.9	2.8	2.8	1.9	1.6	1.4
4	.95	1.0	3.8	4.0	11	2.8	3.0	2.8	2.9	1.8	1.7	1.9
5	1.0	1.0	4.2	5.0	69	4.7	3.1	2.7	2.7	1.8	1.8	1.4
6	.97	1.0	3.8	25	9.9	3.0	3.0	2.7	2.7	1.9	1.9	1.3
7	.99	1.0	9.1	20	9.0	2.8	3.0	2.7	2.6	1.9	2.0	1.3
8	.97	1.1	13	9.0	12	2.7	2.9	2.7	2.8	1.9	2.0	1.2
9	.92	1.1	3.0	10	7.5	2.6	2.8	2.7	2.6	1.9	1.9	1.4
10	.92	1.2	4.0	7.6	7.2	2.5	2.8	2.6	2.7	1.8	1.5	1.3
11	1.0	2.6	2.5	13	6.1	2.5	2.9	2.6	2.5	1.9	1.6	1.2
12	.97	2.1	2.2	12	5.8	37	3.4	2.5	2.4	1.9	1.6	1.2
13	1.2	1.4	2.0	12	5.7	6.8	3.5	2.9	2.4	1.9	1.5	1.2
14	2.2	1.2	1.9	8.8	6.8	5.1	4.3	5.7	2.4	1.9	1.5	1.2
15	1.1	1.2	1.8	13	5.3	4.0	3.2	16	2.3	2.0	1.5	1.2
16	1.1	1.1	1.7	9.7	5.1	3.3	4.4	4.0	2.4	1.9	1.5	1.3
17	1.1	1.1	1.9	8.8	4.9	3.2	3.0	3.3	3.0	1.9	1.5	1.4
18	3.5	1.1	1.8	8.7	4.7	4.1	3.4	3.0	2.5	1.8	1.5	2.1
19	1.3	1.3	1.6	8.3	4.6	4.3	14	3.0	2.3	1.7	1.5	1.7
20	1.3	1.6	1.6	8.3	4.5	3.5	5.2	3.0	2.2	1.7	1.5	1.4
21	1.1	1.4	1.5	8.5	4.2	3.2	4.6	2.8	2.1	1.8	1.4	1.4
22	1.2	1.3	2.0	10	3.8	3.1	5.2	2.8	2.8	1.7	1.5	1.3
23	1.1	1.3	1.5	6.6	3.3	12	4.8	2.8	2.3	1.7	1.4	1.4
24	1.1	1.2	1.4	6.1	3.2	4.1	5.6	2.6	2.1	1.7	1.4	1.3
25	1.1	1.1	1.3	5.0	3.1	3.7	5.0	2.8	2.1	1.7	1.3	1.2
26	1.1	1.2	1.4	5.0	3.1	3.6	4.1	2.7	2.0	1.7	1.4	1.2
27	1.1	1.1	1.6	6.3	3.0	3.4	3.0	2.6	1.9	1.7	1.3	1.3
28	1.0	2.1	1.4	6.3	2.9	3.3	3.0	2.5	1.9	1.7	1.3	1.2
29	1.1	24	1.4	6.6	------	3.2	3.0	3.4	2.3	1.6	1.2	1.2
30	1.1	4.7	35	12	------	3.2	2.9	3.9	2.0	1.6	1.2	1.2
31	1.1	------	15	35	------	3.0	------	7.3	------	1.6	1.2	------
TOTAL	36.52	64.6	144.2	314.6	276.7	151.0	117.9	109.7	74.2	55.8	47.5	40.5
MEAN	1.18	2.15	4.65	10.1	9.88	4.87	3.93	3.54	2.47	1.80	1.53	1.35
MAX	3.5	24	35	35	69	37	14	16	3.5	2.0	2.0	2.1
MIN	.92	1.0	1.3	4.0	2.9	2.5	2.8	2.5	1.9	1.6	1.2	1.2
AC-FT	72	128	286	624	549	300	234	218	147	111	94	80

CAL YR 1973 TOTAL 616.92 MEAN 1.69 MAX 35 MIN .91 AC-FT 1,220
WTR YR 1974 TOTAL 1,433.22 MEAN 3.93 MAX 69 MIN .92 AC-FT 2,840

PEAK DISCHARGE (BASE, 390 CFS).--Feb. 5 (1415) 988 cfs (6.72 ft); Mar. 12 (1100) 521 cfs (5.42 ft).

NOTE.--No gage-height record Dec. 9 to Jan. 9.

16270500 KAMOOALII STREAM BELOW KUOU STREAM, NEAR KANEOHE

LOCATION.--Lat 21°23'42", long 157°48'26", on right bank 100 ft (30 m) downstream from Kuou Stream, 1.1 mi (1.8 km) southwest of Castle High School, and 1.9 mi (3.1 km) south of Kaneohe Post Office.

DRAINAGE AREA.--3.21 mi^2 (8.31 km^2).

PERIOD OF RECORD.--April 1967 to September 1970. Occasional low-flow measurements and annual maximum, water year 1971. January 1972 to current year.

GAGE.--Water-stage recorder and combination pipe culverts and paved road control. Altitude of gage is 118 ft (36 m) from topographic map. Control rebuilt and datum lowered 2.80 ft (0.853 m) Apr. 22, 1969.

AVERAGE DISCHARGE.--5 years (1968-70, 1973-74), 12.1 ft^3/s (0.343 m^3/s) 8,770 acre-ft/yr (10.8 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,200 ft^3/s (34.0 m^3/s) May 14, gage height, 9.18 ft (2.798 m), from rating curve extended above 130 ft^3/s (3.68 m^3/s); minimum, 3.1 ft^3/s (0.088 m^3/s) Oct. 10, 12.

Period of record: Maximum discharge, 10,800 ft^3/s (306 m^3/s) Feb. 1, 1969, gage height, 12.42 ft (3.786 m), control and datum then in use, from rating curve extended above 1,800 ft^3/s (51.0 m^3/s); minimum, 3.1 ft^3/s (0.088 m^3/s) Oct. 10, 12, 1973.

REMARKS.--Records poor. No diversion above station. Records of suspended-sediment discharge and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	3.7	25	15	40	8.8	8.2	10	11	8.2	6.8	7.1
2	3.9	3.7	16	8.6	15	11	8.2	11	10	8.2	7.6	9.8
3	3.4	3.7	10	8.0	13	9.2	8.2	9.8	10	8.2	7.6	8.5
4	3.2	3.7	9.2	7.6	12	8.8	8.5	9.2	11	8.2	7.1	43
5	3.4	3.4	8.5	7.6	14	11	8.5	8.8	10	7.9	6.8	12
6	3.2	3.4	8.2	21	12	9.2	8.5	8.5	9.8	8.2	6.8	9.8
7	3.4	3.4	17	22	19	8.8	8.8	8.8	9.5	8.2	7.1	8.5
8	3.4	4.9	21	12	14	9.2	8.5	8.8	10	7.9	6.8	7.6
9	3.2	4.4	8.8	11	13	8.5	8.5	9.2	9.8	7.6	6.8	22
10	3.1	15	8.5	9.8	16	8.2	7.9	8.5	10	7.6	7.1	11
11	3.4	12	8.5	33	12	8.2	9.8	8.5	9.5	7.6	6.8	9.2
12	3.1	21	8.8	20	12	28	13	8.5	9.2	8.2	7.6	8.5
13	4.9	7.4	7.9	22	12	9.8	8.5	8.2	9.2	7.6	7.6	9.8
14	8.8	7.1	7.6	17	12	9.5	10	91	9.8	7.9	7.1	9.2
15	4.2	6.2	7.6	21	11	8.2	8.5	48	8.8	9.2	7.6	8.5
16	4.7	5.2	7.6	15	11	8.2	8.2	14	8.5	9.2	9.5	9.2
17	4.9	4.9	7.4	12	11	8.2	8.5	12	13	10	7.6	14
18	16	4.9	7.1	13	11	11	13	11	8.8	8.2	8.2	25
19	5.4	4.7	7.1	12	10	9.8	34	12	8.5	8.2	7.6	9.8
20	4.9	5.4	7.4	11	10	9.2	19	14	8.2	7.9	7.1	7.6
21	4.4	4.7	7.1	11	10	9.2	12	12	8.2	7.9	6.6	12
22	4.9	4.2	7.1	11	9.8	9.5	18	11	8.2	7.9	7.6	8.0
23	4.2	4.5	7.1	11	9.8	16	12	11	8.8	7.6	6.6	7.2
24	3.9	4.7	7.1	12	9.2	9.2	12	11	8.2	7.6	7.1	6.8
25	3.9	4.4	6.8	11	9.2	8.8	11	11	8.2	7.9	6.6	6.5
26	3.7	4.7	6.8	12	8.8	8.8	10	9.5	8.2	8.2	6.3	6.5
27	3.7	4.2	6.8	43	8.8	8.5	9.8	9.5	8.5	7.6	6.3	7.0
28	3.7	22	7.1	14	8.8	8.5	9.5	9.2	9.2	7.6	5.9	6.5
29	3.7	32	7.1	23	------	8.5	10	12	11	7.4	5.9	6.0
30	3.9	12	25	12	------	8.2	9.5	13	8.2	7.1	5.7	5.7
31	3.9	------	10	13	------	8.2	------	20	------	7.1	5.7	------
TOTAL	138.1	225.5	307.2	471.6	354.4	306.2	330.1	449.0	281.3	248.1	217.5	322.3
MEAN	4.45	7.52	9.91	15.2	12.7	9.88	11.0	14.5	9.38	8.00	7.02	10.7
MAX	16	32	25	43	40	28	34	91	13	10	9.5	43
MIN	3.1	3.4	6.8	7.6	8.8	8.2	7.9	8.2	8.2	7.1	5.7	5.7
AC-FT	274	447	609	935	703	607	655	891	558	492	431	639

CAL YR 1973 TOTAL 1,977.2 MEAN 5.42 MAX 32 MIN 3.1 AC-FT 3,920
WTR YR 1974 TOTAL 3,651.3 MEAN 10.0 MAX 91 MIN 3.1 AC-FT 7,240

PEAK DISCHARGE (BASE, 900 CFS).--May 14 (1900) 1,200 cfs (9.18 ft).

16273900 KAMOOALII STREAM AT KANEOHE

LOCATION.--Lat 21°24'51", long 157°48'13", on right bank 500 ft (152 m) upstream from Highway 83 and 0.2 mi (0.3 km) south of Parker School in Kaneohe.

DRAINAGE AREA.--4.38 mi^2 (11.34 km^2).

PERIOD OF RECORD.--January 1959 to October 1963, November 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 38.75 ft (11.811 m) above mean sea level (levels by city and county of Honolulu). Prior to Oct. 5, 1963, at site 50 ft (15 m) downstream at datum 0.93 ft (0.283 m) lower.

AVERAGE DISCHARGE.--12 years (1959-63, 1966-74) 15.5 ft^3/s (0.439 m^3/s), 11,230 acre-ft/yr (13.8 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,200 ft^3/s (34.0 m^3/s) May 14, gage height, 4.08 ft (1.244 m); minimum, 5.2 ft^3/s (0.147 m^3/s) Oct. 6, 7, 9-12.

Period of record: Maximum discharge, 12,000 ft^3/s (340 m^3/s) Feb. 1, 1969, gage height, 10.16 ft (3.097 m), from rating curve extended above 380 ft^3/s (10.8 m^3/s) on basis of slope-area measurements at gage heights 5.26 (1.603), 7.14 (2.176), 7.47 (2.277) and 10.16 ft (3.097 m); minimum, 3.4 ft^3/s (0.096 m^3/s) Aug. 28, 1962.

Flood of Oct. 23, 1958, reached a stage of 8.3 ft (2.53 m), from floodmarks, former site and datum, discharge, 6,610 ft^3/s (187 m^3/s), from rating curve extended above 120 ft^3/s (3.40 m^3/s) on basis of slope-area measurement at gage height 5.69 ft (1.734 m). Discharge for peaks of Feb. 4 and May 2, 1965, 6,190 (175) and 5,400 ft^3/s (153 m^3/s), respectively; results of slope-area measurements of peak flow.

REMARKS.--Records fair. Diversions for irrigation above station. Recording rain gage located at station. Records of chemical analyses, suspended-sediment discharge, and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 1937: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	6.0	35	22	50	12	12	14	16	12	9.7	10
2	6.2	6.0	22	14	21	16	12	16	14	12	11	14
3	5.7	6.0	14	12	18	13	12	14	14	12	11	12
4	5.4	6.0	13	12	17	12	12	13	16	12	10	50
5	5.7	5.7	12	12	20	16	12	12	14	11	9.7	17
6	5.4	5.7	12	29	17	13	12	12	14	12	9.7	14
7	5.7	5.7	24	30	26	12	12	12	14	12	10	12
8	5.7	7.3	29	17	19	13	12	12	14	11	9.7	11
9	5.4	6.7	12	16	18	12	11	13	14	11	9.7	30
10	5.2	21	12	14	22	12	11	12	14	11	10	15
11	5.7	17	12	46	17	12	14	12	14	11	9.7	13
12	5.2	29	12	28	17	38	18	12	13	12	11	12
13	7.3	10	11	30	17	14	12	12	13	11	11	14
14	12	10	11	24	16	14	14	105	14	11	10	13
15	6.4	8.9	11	29	16	12	12	92	12	13	11	12
16	7.0	7.6	11	21	16	12	12	19	12	13	14	13
17	7.3	7.3	10	18	16	12	12	16	19	14	11	20
18	23	7.3	10	19	15	15	18	16	12	12	12	35
19	7.9	7.0	10	16	14	14	47	16	12	12	11	14
20	7.3	7.9	10	16	14	13	27	20	12	11	10	11
21	6.7	7.0	10	16	14	13	17	17	12	11	9.5	17
22	7.3	6.4	10	16	14	14	25	16	12	11	11	12
23	6.4	7.1	10	16	14	23	16	15	12	11	9.5	11
24	6.2	7.0	10	17	13	13	17	15	12	11	10	11
25	6.2	6.7	9.7	16	13	12	15	15	12	11	9.5	10
26	6.0	7.0	9.7	16	12	12	14	14	12	12	9.0	10
27	6.0	6.4	9.7	49	12	12	14	14	12	11	9.0	11
28	6.0	31	10	19	12	12	14	13	13	11	8.5	10
29	6.0	45	10	32	------	12	14	17	16	10	8.5	9.7
30	6.2	17	36	17	------	12	14	18	12	10	8.5	9.3
31	6.2	------	16	19	------	12	------	28	------	10	8.5	------
TOTAL	214.7	328.7	434.1	658	490	434	464	632	402	355	312.7	453.0
MEAN	6.93	11.0	14.0	21.2	17.5	14.0	15.5	20.4	13.4	11.5	10.1	15.1
MAX	23	45	36	49	50	38	47	105	19	14	14	50
MIN	5.2	5.7	9.7	12	12	12	11	12	12	10	8.5	9.3
AC-FT	426	652	861	1,310	972	861	920	1,250	797	704	620	899

CAL YR 1973 TOTAL 2,943.9 MEAN 8.07 MAX 45 MIN 5.2 AC-FT 5,840
WTR YR 1974 TOTAL 5,178.2 MEAN 14.2 MAX 105 MIN 5.2 AC-FT 10,270

PEAK DISCHARGE (BASE, 950 CFS).--May 14 (1930) 1,200 cfs (4.08 ft).

NOTE.--No gage-height record Aug. 14 to Sept. 20.

16275000 HAIKU STREAM NEAR HEEIA

LOCATION (revised).--Lat 21°24'46", long 157°49'33", on left bank 1.7 mi (2.7 km) west of Kaneohe Post Office and 1.8 mi (2.9 km) southwest of Heeia.

DRAINAGE AREA.--0.97 mi^2 (2.51 km^2).

PERIOD OF RECORD.--January 1914 to October 1919, July 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 271.9 ft (82.875 m) above mean sea level (levels by city and county of Honolulu). Prior to Apr. 28, 1914, nonrecording gage and Apr. 28, 1914, to Oct. 25, 1919, water-stage recorder, at same site at different datums.

AVERAGE DISCHARGE (since diversion from tunnel began).--31 years (1943-74), 2.21 ft^3/s (0.0626 m^3/s), 1,600 acre-ft/yr (1.97 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 565 ft^3/s (16.0 m^3/s) May 14, gage height, 3.35 ft (1.021 m), from rating curve extended as explained below; minimum, 0.88 ft^3/s (0.025 m^3/s) Nov. 2, 10.

Period of record: Maximum discharge, 5,740 ft^3/s (163 m^3/s) May 2, 1965, gage height, 7.94 ft (2.420 m), from rating curve extended above 57 ft^3/s (1.61 m^3/s) on basis of slope-area measurements at gage heights 3.87 ft (1.180 m), 3.88 ft (1.183 m), and 7.94 ft (2.420 m); minimum, 0.20 ft^3/s (0.006 m^3/s) July 20, 1957, Sept. 17, 1961.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Honolulu Board of Water Supply has diverted ground water from tunnel in drainage area since 1943. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 935: 1940. WSP 1319: 1916-19(M). WSP 1569: Drainage area. WSP 1719: 1942-43, 1946(M), 1947, 1949, 1951, 1954(M), 1955, 1957-59. WSP 1937: 1940-45(M), 1947(M), 1948-50(P), 1951, 1952(P), 1953(M), 1955-57(P), 1958-59, 1960(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.1	9.3	5.4	10	1.4	1.7	2.2	3.0	1.6	1.4	1.4
2	1.0	1.1	6.1	2.8	4.0	2.3	1.7	2.1	2.2	1.5	1.4	2.0
3	1.0	1.1	2.8	1.9	2.5	1.6	1.7	2.0	2.0	1.4	1.4	1.7
4	1.0	1.1	2.1	1.6	2.0	1.5	1.7	2.0	2.1	1.4	1.4	9.8
5	1.0	1.1	1.8	1.4	2.5	1.8	1.7	2.0	2.0	1.4	1.4	2.4
6	.94	1.1	1.7	2.9	2.0	1.6	1.7	1.9	1.9	1.4	1.4	1.6
7	1.0	1.1	4.5	5.8	4.0	1.5	1.7	1.9	1.8	1.4	1.4	1.4
8	1.0	1.1	7.0	3.0	3.0	1.5	1.7	1.9	1.8	1.4	1.4	1.4
9	.94	1.1	2.4	2.3	2.3	1.4	1.6	1.9	1.7	1.4	1.4	1.4
10	.94	3.0	2.0	1.9	3.0	1.6	1.5	1.8	1.7	1.4	1.4	1.3
11	1.0	3.3	1.9	11	2.5	1.8	3.5	1.9	1.7	1.4	1.4	1.3
12	.94	11	1.7	6.1	2.2	3.5	3.3	1.8	1.6	1.4	1.4	1.3
13	1.2	2.9	1.6	2.6	2.1	2.8	2.6	1.8	1.6	1.4	1.4	1.4
14	4.2	2.6	1.5	2.6	2.1	2.0	2.9	22	1.6	1.4	1.4	1.3
15	1.6	2.0	1.5	3.1	2.0	1.8	2.8	12	1.6	1.6	1.4	1.3
16	2.0	1.5	1.4	2.5	2.0	1.7	2.8	3.8	1.6	1.9	1.4	1.3
17	1.7	1.4	1.4	2.2	2.0	1.6	2.5	2.3	2.1	1.8	3.0	3.0
18	7.3	1.3	1.4	1.9	1.9	2.5	4.7	2.0	1.5	1.7	1.6	7.0
19	2.2	1.3	1.4	1.7	1.9	2.2	23	1.9	1.5	1.5	2.0	3.0
20	1.5	1.4	1.4	1.6	1.8	2.0	9.7	2.0	1.5	1.5	1.7	1.7
21	1.3	1.2	1.4	1.6	1.8	1.9	4.2	1.9	1.5	1.4	1.6	1.5
22	1.3	1.2	1.4	1.5	1.7	1.8	3.4	1.8	1.5	1.4	1.8	1.5
23	1.1	1.2	1.4	1.5	1.7	4.0	3.7	1.8	1.5	1.5	1.6	1.4
24	1.1	1.3	1.4	1.7	1.6	2.5	6.6	1.5	1.4	1.4	1.7	1.4
25	1.1	1.2	1.4	1.6	1.6	2.1	3.7	1.5	1.4	1.4	1.6	1.3
26	1.1	1.2	1.3	1.5	1.6	1.9	2.6	1.5	1.4	1.4	1.5	1.3
27	1.1	1.4	1.3	7.0	1.4	1.8	2.4	1.5	1.7	1.5	1.5	1.3
28	1.1	3.3	1.3	2.0	1.3	1.8	2.3	1.6	2.1	1.4	1.4	1.3
29	1.1	6.6	1.3	4.0	------	1.9	2.2	3.0	2.9	1.4	1.4	1.3
30	1.1	4.0	4.3	2.0	------	1.7	2.2	3.4	2.0	1.4	1.3	1.3
31	1.1	------	3.5	2.2	------	1.7	------	5.8	------	1.4	1.3	------
TOTAL	45.96	64.2	74.9	90.9	68.5	61.2	107.8	96.9	53.9	45.5	47.4	80.6
MEAN	1.48	2.14	2.42	2.93	2.45	1.97	3.59	3.13	1.80	1.47	1.53	2.02
MAX	7.3	11	9.3	11	10	4.0	23	22	3.0	1.9	3.0	9.8
MIN	.94	1.1	1.3	1.4	1.3	1.4	1.5	1.5	1.4	1.4	1.3	1.3
AC-FT	91	127	149	180	136	121	214	192	107	90	94	120

CAL YR 1973 TOTAL 519.86 MEAN 1.42 MAX 11 MIN .94 AC-FT 1,030
WTR YR 1974 TOTAL 817.76 MEAN 2.24 MAX 23 MIN .94 AC-FT 1,620

PEAK DISCHARGE (BASE, 340 CFS).--May 14 (2045) 565 cfs (3.35 ft).

NOTE.--No gage-height record Jan. 16 to Feb. 26.

16283600 SOUTH FORK WAIHEE STREAM NEAR HEEIA

LOCATION.--Lat 21°26'47", long 157°52'12", on left bank 0.2 mi (0.3 km) (revised), upstream from confluence with North Fork, 3.0 mi (4.8 km) southwest of Waiahole School, and 4.0 mi (6.4 km) northwest of Heeia.

DRAINAGE AREA.--0.03 mi^2 (0.08 km^2).

PERIOD OF RECORD.--September 1962 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 615.74 ft (187.678 m) above mean sea level (levels by Honolulu Board of Water Supply).

AVERAGE DISCHARGE.--12 years, 2.00 ft^3/s (0.0566 m^3/s), 1,450 acre-ft/yr (1.79 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 108 ft^3/s (3.06 m^3/s) Apr. 19, gage height, 2.86 ft (0.872 m), from rating curve extended above 3.9 ft^3/s (0.11 m^3/s); minimum, 1.3 ft^3/s (0.037 m^3/s) many days.

Period of record: Maximum discharge, 279 ft^3/s (7.90 m^3/s) May 2, 1965, gage height, 3.96 ft (1.207 m), from rating curve extended above 3.9 ft^3/s (0.11 m^3/s); minimum, 1.1 ft^3/s (0.031 m^3/s) many days in 1973.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.5	2.0	2.1	1.8	1.5	1.5	1.8	1.7	1.8	1.7	1.9
2	1.3	1.3	1.5	1.5	1.6	1.8	1.5	1.8	1.7	1.8	1.8	2.0
3	1.3	1.3	1.4	1.5	1.5	1.6	1.5	1.8	1.7	1.8	1.8	2.0
4	1.3	1.3	1.4	1.4	1.6	1.5	1.5	1.8	1.9	1.8	1.8	3.1
5	1.3	1.3	1.4	1.4	1.6	1.7	1.5	1.8	1.7	1.8	1.8	2.0
6	1.3	1.3	1.4	1.5	1.5	1.7	1.5	1.8	1.7	1.8	1.8	2.0
7	1.3	1.3	2.6	1.9	1.8	1.6	1.5	1.8	1.7	1.9	1.8	2.0
8	1.3	1.3	1.7	1.5	1.7	1.7	1.5	1.8	1.7	1.8	1.8	2.0
9	1.3	1.3	1.5	1.5	1.6	1.6	1.5	1.8	1.7	1.8	1.8	2.0
10	1.3	1.4	1.5	1.4	1.7	1.6	1.5	1.8	1.7	1.8	1.8	2.0
11	1.3	2.9	1.5	2.2	1.6	1.6	1.5	1.8	1.7	1.8	1.8	2.0
12	1.3	2.7	1.5	2.6	1.7	2.2	1.5	1.8	1.7	1.9	1.8	2.0
13	1.6	1.4	1.5	1.8	1.7	1.6	1.6	1.8	1.7	1.8	1.8	2.0
14	2.1	2.5	1.5	2.4	1.8	1.5	1.7	5.7	1.7	1.8	1.8	2.0
15	1.4	1.5	1.4	1.8	1.5	1.5	1.7	2.3	1.7	2.0	1.8	2.0
16	1.9	1.4	1.4	1.8	1.5	1.5	1.7	2.0	1.7	1.9	1.8	2.0
17	1.7	1.4	1.4	1.5	1.5	1.5	1.7	1.9	1.7	2.1	1.8	2.1
18	2.3	1.4	1.4	1.4	1.5	1.7	2.1	2.0	1.8	1.8	1.9	2.1
19	1.4	1.4	1.4	1.4	1.5	2.3	6.6	1.9	1.8	1.8	1.9	2.0
20	1.4	1.4	1.4	1.4	1.5	1.6	2.6	2.0	1.7	1.8	1.9	2.0
21	1.4	1.4	1.4	1.4	1.5	1.5	2.0	1.9	1.8	1.8	1.9	2.0
22	1.4	1.4	1.4	1.4	1.5	1.5	2.0	1.8	1.8	1.8	1.9	2.0
23	1.4	1.4	1.4	1.4	1.5	1.7	1.9	1.8	1.8	1.8	1.9	2.0
24	1.3	1.4	1.4	1.6	1.5	1.5	2.0	1.8	1.8	1.7	1.9	2.0
25	1.3	1.4	1.4	1.5	1.5	1.5	1.9	1.8	1.8	1.8	1.9	2.0
26	1.3	1.4	1.4	1.9	1.5	1.5	1.9	1.9	1.8	1.9	1.9	2.0
27	1.3	1.5	1.4	2.3	1.6	1.5	1.9	1.7	1.8	1.8	1.9	2.0
28	1.3	1.8	1.4	1.6	1.5	1.5	1.9	1.7	2.0	1.8	1.9	2.0
29	1.3	1.6	1.5	1.7	------	1.5	1.8	1.7	2.4	1.8	1.9	2.0
30	1.3	1.4	2.1	1.6	------	1.5	1.8	1.7	1.9	1.7	1.9	2.0
31	1.3	------	1.6	1.8	------	1.5	------	2.0	------	1.7	1.9	------
TOTAL	44.0	46.0	47.2	52.2	44.3	50.0	56.8	61.0	53.3	56.4	57.1	61.2
MEAN	1.42	1.53	1.52	1.68	1.58	1.61	1.89	1.97	1.78	1.82	1.84	2.04
MAX	2.3	2.9	2.6	2.6	1.8	2.3	6.6	5.7	2.4	2.1	1.9	3.1
MIN	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.7	1.7	1.7	1.7	1.9
AC-FT	87	91	94	104	88	99	113	121	106	112	113	121

CAL YR 1973 TOTAL 469.0 MEAN 1.28 MAX 2.9 MIN 1.1 AC-FT 930
WTR YR 1974 TOTAL 629.5 MEAN 1.72 MAX 6.6 MIN 1.3 AC-FT 1,250

PEAK DISCHARGE (BASE, 47 CFS).--Apr. 19 (1200) 108 cfs (2.86 ft); May 14 (2100) 73 cfs (2.49 ft).

16283700 NORTH FORK WAIHEE STREAM NEAR HEEIA

LOCATION.--Lat 21°26'48", long 157°52'18", on left bank 0.3 mi (0.5 km) upstream from confluence with South Fork, 2.8 mi (4.5 km) southwest of Waiahole School, and 4.3 mi (6.9 km) northwest of Heeia.

DRAINAGE AREA.--0.03 mi^2 (0.08 km^2).

PERIOD OF RECORD.--September 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 639.00 ft (194.767 m) above mean sea level (levels by Honolulu Board of Water Supply).

AVERAGE DISCHARGE.--12 years, 1.96 ft^3/s (0.0555 m^3/s), 1,420 acre-ft/yr (1.75 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 73 ft^3/s (2.07 m^3/s) Apr. 19, gage height, 2.02 ft (0.616 m), from rating curve extended above 19 ft^3/s (0.54 m^3/s); minimum, 1.3 ft^3/s (0.037 m^3/s) Oct. 11-13.

Period of record: Maximum discharge, 376 ft^3/s (10.6 m^3/s) Feb. 4, 1965, gage height, 3.38 ft (1.030 m), from rating curve extended above 19 ft^3/s (0.54 m^3/s); minimum, 1.3 ft^3/s (0.037 m^3/s) many days in 1963, 1973, and Oct. 11-13, 1974.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.6	2.1	2.1	1.8	1.7	1.8	2.1	2.0	2.0	2.0	2.1
2	1.5	1.5	1.8	1.6	1.6	2.0	1.8	2.1	2.0	2.0	2.0	2.2
3	1.5	1.5	1.6	1.6	1.6	1.8	1.8	2.1	2.0	2.0	2.0	2.2
4	1.5	1.5	1.6	1.6	1.6	1.8	1.8	2.1	2.1	2.0	2.0	3.1
5	1.5	1.5	1.6	1.6	1.6	1.9	1.8	2.1	2.0	2.0	2.0	2.2
6	1.5	1.5	1.6	1.7	1.6	1.8	1.8	2.1	2.0	2.0	2.0	2.1
7	1.4	1.5	2.4	1.9	1.8	1.8	1.8	2.1	2.0	2.1	2.0	2.1
8	1.4	1.5	1.8	1.6	1.7	1.8	1.8	2.1	2.0	2.0	2.0	2.1
9	1.4	1.5	1.6	1.6	1.7	1.8	1.8	2.1	2.0	2.0	2.1	2.1
10	1.4	1.6	1.6	1.6	1.7	1.8	1.8	2.0	2.0	2.0	2.1	2.1
11	1.4	2.5	1.6	2.1	1.6	1.8	1.8	2.0	2.0	2.0	2.1	2.1
12	1.3	2.4	1.5	2.6	1.7	2.3	1.8	2.0	2.0	2.1	2.1	2.1
13	1.5	1.6	1.5	2.0	1.7	1.8	1.8	2.0	2.0	2.1	2.1	2.1
14	2.3	2.4	1.5	2.4	1.8	1.8	1.8	6.0	2.0	2.1	2.1	2.1
15	1.5	1.6	1.5	1.9	1.6	1.8	1.9	2.6	2.0	2.2	2.1	2.1
16	1.6	1.6	1.5	1.8	1.6	1.8	1.9	2.3	2.0	2.1	2.1	2.0
17	1.5	1.6	1.5	1.6	1.6	1.8	1.9	2.2	2.0	2.5	2.1	2.2
18	2.1	1.6	1.5	1.6	1.6	2.0	2.5	2.3	2.0	2.1	2.2	2.2
19	1.5	1.6	1.5	1.6	1.7	2.5	6.3	2.2	2.0	2.1	2.1	2.1
20	1.6	1.7	1.5	1.6	1.7	1.9	2.6	2.2	2.0	2.1	2.1	2.1
21	1.5	1.6	1.5	1.6	1.7	1.8	2.2	2.0	2.0	2.1	2.1	2.1
22	1.5	1.6	1.5	1.6	1.7	1.8	2.1	2.0	2.0	2.1	2.1	2.1
23	1.5	1.6	1.5	1.6	1.7	2.0	2.1	2.0	2.0	2.0	2.1	2.1
24	1.5	1.6	1.5	1.6	1.7	1.8	2.2	2.0	2.0	2.0	2.1	2.0
25	1.5	1.6	1.5	1.6	1.7	1.8	2.1	2.0	2.0	2.0	2.1	2.0
26	1.5	1.6	1.5	1.8	1.7	1.8	2.1	2.0	2.0	2.0	2.1	2.0
27	1.5	1.7	1.5	2.6	1.7	1.8	2.1	2.0	2.0	2.0	2.1	2.0
28	1.5	1.9	1.5	1.6	1.7	1.8	2.1	2.0	2.2	2.0	2.1	2.0
29	1.5	1.8	1.6	1.8	------	1.8	2.1	2.0	2.6	2.0	2.1	2.0
30	1.5	1.7	2.2	1.6	------	1.8	2.1	2.0	2.1	2.0	2.1	2.0
31	1.5	------	1.7	1.8	------	1.8	------	2.2	------	2.0	2.1	------
TOTAL	47.4	50.5	50.3	55.3	46.9	57.7	63.5	68.9	61.0	63.7	64.4	63.7
MEAN	1.53	1.68	1.62	1.78	1.68	1.86	2.12	2.22	2.03	2.05	2.08	2.12
MAX	2.3	2.5	2.4	2.6	1.8	2.5	6.3	6.0	2.6	2.5	2.2	3.1
MIN	1.3	1.5	1.5	1.6	1.6	1.7	1.8	2.0	2.0	2.0	2.0	2.0
AC-FT	94	100	100	110	93	114	126	137	121	126	128	126

CAL YR 1973 TOTAL 545.1 MEAN 1.49 MAX 2.8 MIN 1.3 AC-FT 1,080
WTR YR 1974 TOTAL 693.3 MEAN 1.90 MAX 6.3 MIN 1.3 AC-FT 1,380

PEAK DISCHARGE (BASE, 45 CFS).--Apr. 19 (1200) 73 cfs (2.02 ft); May 14 (about 2100) 68 cfs (1.97 ft).

16284000 WAIHEE STREAM NEAR HEEIA

LOCATION (revised).--Lat 21°27'01", long 157°51'38", on left bank 120 ft (37 m) downstream from forest-reserve boundary, 3.5 mi (5.6 km) northwest of Heeia, and 4.0 mi (6.4 km) northwest of Kaneohe Post Office.

DRAINAGE AREA.--0.93 mi^2 (2.41 km^2).

PERIOD OF RECORD.--December 1935 to current year.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 193.44 ft (58.961 m) above mean sea level (levels by Honolulu Board of Water Supply).

AVERAGE DISCHARGE.--38 years (1936-74), 8.66 ft^3/s (0.245 m^3/s), 6,270 acre-ft/yr (7.73 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 302 ft^3/s (8.55 m^3/s) Dec. 7, gage height, 4.63 ft (1.411 m); minimum, 1.9 ft^3/s (0.054 m^3/s) Oct. 6-13.

Period of record: Maximum discharge, 5,110 ft^3/s (145 m^3/s) Feb. 4, 1965, gage height, 8.72 ft (2.658 m), from floodmarks, from rating curve extended above 77 ft^3/s (2.18 m^3/s) on basis of slope-area measurements at gage heights 6.06 ft (1.847 m) and 8.72 ft (2.658 m); minimum, 1.9 ft^3/s (0.054 m^3/s) several days in September and October 1973.

REMARKS.--Records fair. Honolulu Board of Water Supply diverts water from tunnel in drainage area and pumps water from well nearby. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1569: Drainage area. WSP 1719: 1956-57. WSP 1937: 1940-43(M), 1947(M), 1948(P), 1949-50(M), 1953(M), 1955(M), 1958(M), 1959(P). (WATER YEAR).--WRD Hawaii 1972: 1971(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	3.0	7.8	10	6.0	3.8	4.6	5.3	5.6	5.2	4.6	4.3
2	2.1	2.6	6.8	5.6	4.8	6.3	4.6	5.4	5.4	5.1	4.8	4.6
3	2.0	2.6	4.8	4.3	4.3	4.1	4.6	5.4	5.4	4.9	4.8	5.1
4	2.0	2.5	4.0	3.8	4.3	4.0	4.6	5.2	5.8	4.8	4.8	11
5	2.0	2.5	3.6	3.6	4.1	4.6	4.6	5.1	5.4	4.8	4.8	5.4
6	2.0	2.5	3.4	4.1	4.0	4.3	4.8	5.1	5.4	4.8	4.6	4.6
7	2.0	2.5	17	6.0	4.6	4.1	4.8	5.1	5.4	4.9	4.6	4.3
8	1.9	2.5	11	4.4	4.3	4.3	4.8	5.2	5.6	4.8	4.6	4.1
9	1.9	2.6	5.1	4.1	4.3	4.1	4.8	5.3	5.6	4.6	4.6	4.5
10	1.9	3.1	4.1	4.0	4.9	4.0	4.8	5.3	5.6	4.4	4.6	4.3
11	2.0	11	3.8	8.8	4.1	4.0	4.8	5.3	5.6	4.5	4.8	4.1
12	1.9	12	3.6	20	4.3	8.8	4.8	5.4	5.2	4.6	4.8	4.0
13	2.6	5.3	3.4	13	4.6	5.6	4.8	5.5	5.1	4.5	4.6	4.0
14	7.4	6.5	3.3	17	5.8	4.8	4.9	16	5.1	4.6	4.6	4.0
15	2.9	4.6	3.3	12	4.8	4.5	5.1	14	5.1	4.9	4.6	4.1
16	3.4	3.7	3.1	9.2	4.5	4.3	5.1	7.5	4.9	4.8	4.6	3.8
17	2.7	3.3	3.1	6.3	4.3	4.1	4.9	6.7	4.9	7.0	4.6	4.6
18	7.0	3.0	3.1	5.3	4.1	5.1	7.6	6.5	4.9	5.1	4.8	5.1
19	3.5	2.9	3.0	4.8	4.0	11	37	6.2	4.9	4.9	4.6	4.6
20	3.1	3.5	3.0	4.5	4.0	6.3	18	6.3	4.9	4.9	4.6	4.3
21	2.9	3.0	3.0	4.3	4.0	5.4	9.0	6.1	4.9	4.9	4.5	4.1
22	2.7	2.9	3.0	4.1	4.0	4.9	7.3	5.5	5.1	4.9	4.6	4.0
23	2.5	3.0	3.1	4.1	4.0	6.3	6.5	5.3	5.1	4.8	4.5	4.1
24	2.4	3.0	3.0	4.3	3.8	4.9	6.6	5.3	4.9	4.8	4.5	4.0
25	2.4	2.9	3.0	4.0	3.8	4.9	6.0	5.3	4.9	4.8	4.5	4.0
26	2.5	2.9	3.0	7.6	3.8	4.8	5.8	5.6	4.8	4.9	4.5	4.0
27	2.5	3.3	3.0	13	4.0	4.8	5.6	5.6	4.8	5.1	4.3	4.1
28	2.5	6.0	3.0	5.1	3.8	4.8	5.4	5.4	5.6	4.9	4.3	4.3
29	2.5	5.2	3.2	5.4	------	4.6	5.3	5.6	8.5	4.8	4.3	4.1
30	2.5	4.9	7.6	4.6	------	4.6	5.2	5.6	5.6	4.6	4.3	4.0
31	2.5	------	4.8	5.1	------	4.6	------	6.8	------	4.6	4.3	------
TOTAL	84.2	119.3	140.0	212.4	121.3	156.7	206.7	194.1	160.0	151.2	142.0	135.5
MEAN	2.72	3.98	4.52	6.85	4.33	5.05	6.89	6.26	5.33	4.88	4.58	4.52
MAX	7.4	12	17	20	6.0	11	37	16	8.5	7.0	4.8	11
MIN	1.9	2.5	3.0	3.6	3.8	3.8	4.6	5.1	4.8	4.4	4.3	3.8
AC-FT	167	237	278	421	241	311	410	385	317	300	282	269

CAL YR 1973 TOTAL 1,168.8 MEAN 3.20 MAX 17 MIN 1.9 AC-FT 2,320
WTR YR 1974 TOTAL 1,823.4 MEAN 5.00 MAX 37 MIN 1.9 AC-FT 3,620

PEAK DISCHARGE (BASE, 140 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12- 7	2130	4.63	302	4-19	1245	3.77	185
3-19	1230	3.36	148				

16294900 WAIKANE STREAM AT ALTITUDE 75 FT (23 M), AT WAIKANE

LOCATION.--Lat 21°30'00", long 157°51'54", on right bank 0.3 mi (0.5 km) downstream from Waikeekee Stream, 0.7 mi (1.1 km) west of Waikane, and 1.2 mi (1.9 km) northwest of Waiahole School.

DRAINAGE AREA.--2.22 mi^2 (5.75 km^2).

PERIOD OF RECORD.--December 1959 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 75 ft (23 m) from topographic map.

AVERAGE DISCHARGE.--14 years (1960-74), 9.19 ft^3/s (0.260 m^3/s), 6,660 acre-ft/yr (8.21 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 2,980 ft^3/s (84.4 m^3/s) July 17, gage height, 8.07 ft (2.460 m), from rating curve extended as explained below; minimum, 2.0 ft^3/s (0.057 m^3/s) Oct. 6, 9-13.

Period of record: Maximum discharge, 8,800 ft^3/s (249 m^3/s) Feb. 4, 1965, gage height, 10.76 ft (3.280 m), from rating curve extended above 120 ft^3/s (3.40 m^3/s) on basis of slope-area measurements at gage heights 4.88 ft (1.487 m), 9.46 ft (2.883 m), and 10.76 ft (3.280 m); minimum, 1.2 ft^3/s (0.034 m^3/s) Oct. 10, 11, 1962.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Waiahole tunnel diverts from two tributaries above station for irrigation in vicinity of Waipahu. Recording rain gage located at station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 1937: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	5.0	30	45	14	3.8	3.3	6.8	11	5.0	3.5	2.6
2	2.7	4.3	21	13	8.9	49	4.0	7.6	8.5	4.2	5.5	5.8
3	2.4	3.9	11	8.5	7.5	5.5	3.6	6.0	7.6	4.0	5.6	6.4
4	2.3	3.8	9.4	7.3	11	4.3	3.5	5.9	12	3.8	3.6	4.7
5	2.2	4.0	8.3	6.7	8.0	4.7	5.5	5.4	7.2	3.8	3.5	3.2
6	2.1	3.8	7.7	7.3	7.0	5.7	4.5	5.1	6.6	3.6	3.4	2.8
7	2.2	3.6	138	10	11	4.6	4.0	4.8	6.2	4.7	3.3	2.4
8	3.1	6.0	56	7.6	10	5.4	3.5	4.8	6.4	3.6	3.3	2.4
9	2.0	14	18	7.0	8.0	4.5	3.3	4.7	5.7	3.4	3.3	3.1
10	2.0	14	14	6.2	9.0	4.2	3.2	4.6	9.1	3.2	3.2	3.0
11	2.1	36	12	19	7.0	4.0	3.8	4.5	6.1	3.3	3.4	2.5
12	2.0	65	10	21	6.5	50	4.7	4.5	5.3	5.1	4.6	2.8
13	9.7	17	8.9	12	8.0	11	4.9	4.5	5.1	3.7	3.2	3.2
14	67	19	8.0	14	10	8.0	6.8	27	5.8	4.7	3.2	2.5
15	7.8	14	7.3	12	8.0	6.0	4.6	29	5.7	5.0	3.1	2.5
16	20	9.8	6.9	10	8.5	5.0	5.2	17	13	4.3	3.1	3.0
17	8.8	8.4	6.4	9.0	7.0	4.5	4.1	8.6	15	175	3.0	3.0
18	31	7.6	6.0	8.2	6.0	9.0	6.4	13	6.5	9.8	3.6	5.1
19	18	7.2	5.7	7.6	5.0	70	111	7.1	5.2	6.5	3.0	3.4
20	15	13	5.4	7.2	4.5	15	43	6.4	4.7	5.6	4.0	3.5
21	9.2	7.5	5.2	6.8	4.2	9.0	18	5.8	4.6	5.1	3.1	6.9
22	9.0	6.6	5.1	6.7	4.0	7.0	13	4.9	5.6	4.7	3.8	3.2
23	7.1	6.2	5.1	6.2	3.7	20	13	5.0	5.7	4.5	3.5	3.6
24	6.3	6.1	5.7	13	3.5	9.0	17	4.8	4.4	4.3	2.9	3.1
25	5.7	6.2	4.7	6.6	4.0	7.0	10	8.0	4.1	4.3	2.8	2.6
26	5.2	5.6	4.4	6.7	3.5	6.0	8.6	5.6	4.1	4.7	2.6	2.6
27	4.9	6.8	4.3	6.7	4.1	5.0	7.7	4.8	4.3	4.2	2.8	2.5
28	4.7	29	4.2	5.8	3.9	4.2	7.2	4.5	6.9	4.0	2.6	2.5
29	4.4	10	4.5	11	------	3.8	6.9	7.3	20	3.8	2.6	2.5
30	5.4	9.1	20	7.9	------	3.5	6.5	9.2	6.9	3.7	2.6	2.4
31	4.9	------	9.3	17	------	3.4	------	36	------	3.6	2.6	------
TOTAL	272.2	352.5	462.5	333.0	195.8	352.1	340.8	273.2	219.3	309.2	104.3	99.8
MEAN	8.78	11.8	14.9	10.7	6.99	11.4	11.4	8.81	7.31	9.97	3.36	3.33
MAX	67	65	138	45	14	70	111	36	20	175	5.6	6.9
MIN	2.0	3.6	4.2	5.8	3.5	3.4	3.2	4.5	4.1	3.2	2.6	2.4
AC-FT	540	699	917	661	388	698	676	542	435	613	207	198

CAL YR 1973 TOTAL 2,101.7 MEAN 5.76 MAX 138 MIN 1.5 AC-FT 4,170
WTR YR 1974 TOTAL 3,314.7 MEAN 9.08 MAX 175 MIN 2.0 AC-FT 6,570

PEAK DISCHARGE (BASE, 700 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-7	2245	7.62	2,540	7-17	1115	8.07	2,980
3-2	0530	6.44	1,590				

NOTE.--No gage-height record Mar. 9 to Apr. 10.

16296500 KAHANA STREAM AT ALTITUDE 30 FT (9.1 M), NEAR KAHANA

LOCATION.--Lat 21°32'37" long 157°53'07", on right bank 600 ft (183 m) upstream from Kawa Stream, 1.1 mi (1.8 km) southwest of Kahana, and 2.2 mi (3.5 km) southwest of Swanzy Beach Park in Kaaawa.

DRAINAGE AREA.--3.74 mi^2 (9.69 km^2).

PERIOD OF RECORD.--December 1958 to current year.

GAGE.--Water-stage recorder and concrete-masonry control. Altitude of gage is 30 ft (9.1 m) from topographic map.

AVERAGE DISCHARGE.--15 years (1959-74), 37.3 ft^3/s (1.056 m^3/s), 27,020 acre-ft/yr (33.3 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 4,730 ft^3/s (140 m^3/s) July 17, gage height, 7.60 ft (2.316 m), from rating curve extended as explained below; minimum, 14 ft^3/s (0.40 m^3/s) Oct. 10.

Period of record: Maximum discharge, 5,430 ft^3/s (154 m^3/s) Apr. 15, 1963, gage height, 8.10 ft (2.469 m), from rating curve extended above 530 ft^3/s (15.0 m^3/s) on basis of computation of peak flow over submerged weir; minimum, 10 ft^3/s (0.28 m^3/s) Sept. 17, 18, 20, 1961.

REMARKS.--Records poor except those above 50 ft^3/s (1.42 m^3/s), which are fair. Approximately 9 ft^3/s (0.25 m^3/s) is diverted by Waiahole Water Co. at 800-ft (244-m) elevation, 2.3 mi (3.7 km) above station. Recording rain gage located at station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1937: 1959-60.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	22	115	135	33	15	22	31	33	41	18	16
2	18	20	61	38	26	210	23	49	34	33	31	31
3	17	19	31	26	24	24	22	26	30	30	36	21
4	16	18	27	24	33	19	22	25	114	27	19	19
5	16	18	26	22	23	29	29	25	37	25	18	17
6	15	17	24	22	21	49	26	21	32	25	18	17
7	15	17	192	33	29	24	24	20	28	44	18	16
8	21	32	126	23	28	65	23	21	29	25	18	15
9	15	86	33	23	24	33	21	21	26	22	18	18
10	14	50	28	20	24	23	20	19	69	20	17	18
11	16	343	28	46	21	20	26	19	28	20	24	16
12	15	276	27	44	20	129	27	19	24	47	42	31
13	41	59	24	24	24	29	25	45	22	31	18	32
14	296	47	22	29	31	24	39	280	36	52	18	17
15	52	36	21	33	24	22	28	305	28	48	24	16
16	186	27	20	24	25	20	31	196	101	39	18	16
17	44	25	20	22	24	19	22	76	82	547	17	16
18	170	23	19	22	22	206	46	84	96	52	22	20
19	132	22	18	21	20	104	575	38	56	35	23	17
20	67	54	18	20	19	42	272	39	30	30	42	17
21	39	24	17	20	18	33	111	32	28	28	20	81
22	39	22	17	20	18	32	93	30	39	26	29	21
23	28	24	20	19	17	50	129	29	36	24	24	17
24	26	26	23	36	16	29	131	25	25	22	19	17
25	24	29	18	22	18	27	62	62	22	22	19	16
26	23	31	17	26	16	26	48	34	22	26	18	16
27	22	35	17	49	24	25	40	28	26	26	18	19
28	21	99	18	22	16	24	34	25	111	20	17	51
29	21	34	17	49	------	24	32	37	276	19	17	19
30	27	33	99	30	------	23	28	38	71	19	17	17
31	22	------	29	61	------	22	------	76	------	19	17	------
TOTAL	1,478	1,568	1,172	1,005	638	1,421	2,031	1,775	1,591	1,444	674	661
MEAN	47.7	52.3	37.8	32.4	22.8	45.8	67.7	57.3	53.0	46.6	21.7	22.0
MAX	296	343	192	135	33	210	575	305	276	547	42	81
MIN	14	17	17	19	16	15	20	19	22	19	17	16
AC-FT	2,930	3,110	2,320	1,990	1,270	2,820	4,030	3,520	3,160	2,860	1,340	1,310

CAL YR 1973 TOTAL 10,136 MEAN 27.8 MAX 343 MIN 12 AC-FT 20,100
WTR YR 1974 TOTAL 15,459 MEAN 42.4 MAX 575 MIN 14 AC-FT 30,660

PEAK DISCHARGE (BASE, 1,600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12- 7	2215	5.44	2,190	5-14	2230	5.05	1,840
3- 2	0615	5.27	2,030	7-17	1230	7.60	4,730
4-19	0800	5.19	1,960				

16302000 PUNALUU DITCH NEAR PUNALUU

LOCATION.--Lat 21°33'41", long 157°54'10", on right bank 800 ft (244 m) downstream from intake, 1.5 mi (2.4 km) west of Kahana, and 1.7 mi (2.7 km) southwest of Punaluu.

PERIOD OF RECORD.--May 1953 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 200 ft (61 m) from topographic map.

AVERAGE DISCHARGE.--21 years, 9.60 ft^3/s (0.272 m^3/s), 6,960 acre-ft/yr (8.58 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 54 ft^3/s (1.53 m^3/s) Oct. 31, 1964; no flow for several days in 1963, 1966, 1969, 1972, 1974.

REMARKS.--Records good. Ditch diverts from Punaluu Stream for irrigation and domestic use in Punaluu Valley. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1719: 1954-55.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	1.3	4.3	1.6	.40	3.7	6.6	7.1	4.4	1.4	0	.01
2	3.2	2.0	3.1	1.1	.19	2.6	6.8	7.3	4.4	1.2	.01	.01
3	3.1	3.3	2.6	.26	1.9	2.6	6.6	6.8	4.1	1.1	0	.01
4	3.2	3.3	2.5	.81	3.6	5.8	6.8	6.9	5.7	1.0	0	0
5	3.2	3.3	2.4	2.3	3.6	8.0	7.4	6.8	1.2	2.8	0	0
6	3.2	3.4	2.4	2.7	5.0	8.6	6.6	6.5	1.1	3.4	0	0
7	3.4	3.4	4.3	4.3	4.0	6.9	6.3	6.3	2.2	4.4	0	0
8	3.4	4.1	.33	3.6	4.5	9.2	6.5	6.3	3.4	3.4	0	0
9	3.2	4.3	1.0	4.0	4.5	7.8	6.3	6.5	3.3	3.3	0	.01
10	3.3	3.3	2.6	3.7	5.0	7.3	6.3	6.2	4.1	3.3	0	0
11	3.4	2.4	2.6	3.5	4.8	7.1	7.7	6.0	3.6	3.5	.01	0
12	3.4	1.1	2.6	2.3	5.0	8.5	6.9	6.0	3.4	4.0	.01	0
13	4.0	.93	2.4	4.7	5.0	7.6	7.1	8.3	3.4	3.5	0	0
14	1.6	3.1	2.4	6.8	6.0	7.3	7.3	15	3.8	4.0	0	0
15	.76	.12	2.5	7.3	6.0	6.9	6.8	2.2	3.3	4.0	.01	.13
16	.89	.78	2.5	6.2	5.5	6.8	6.6	1.4	3.1	4.5	0	.22
17	.14	1.8	2.6	5.9	5.0	6.6	6.5	.15	3.9	12	0	1.1
18	.37	1.6	2.7	5.8	4.8	12	8.2	1.7	4.1	.05	.01	1.2
19	.04	1.6	2.8	5.6	4.6	10	26	3.1	2.5	.03	0	1.2
20	.04	3.2	2.8	5.5	4.5	8.0	17	4.0	2.0	.04	0	2.3
21	1.4	2.0	2.8	5.3	4.5	7.4	11	3.4	1.9	.04	0	2.4
22	2.3	1.8	2.9	5.2	4.0	7.8	9.9	3.3	2.3	.03	0	0
23	1.8	1.7	3.7	5.2	4.0	8.8	11	3.2	2.3	.01	0	0
24	1.9	2.1	3.7	5.8	4.0	7.1	12	3.1	1.8	0	0	0
25	2.0	2.3	3.3	5.3	5.0	6.9	8.7	3.3	1.8	0	0	0
26	2.2	2.6	3.3	5.9	4.8	6.9	8.0	3.3	1.8	0	0	0
27	2.4	2.4	3.2	.58	4.3	6.9	7.4	3.1	2.0	0	0	0
28	2.4	3.0	3.3	.96	3.8	6.9	7.1	3.0	7.9	0	0	.48
29	2.7	2.6	3.2	4.3	------	6.8	7.1	3.6	7.8	0	0	.82
30	1.3	2.5	2.0	1.6	------	6.5	6.8	4.0	2.0	0	0	.82
31	1.4	------	.42	1.7	------	6.5	------	5.9	------	0	0	------
TOTAL	68.74	71.33	83.25	119.81	118.29	221.8	255.3	153.75	98.6	61.00	.05	10.71
MEAN	2.22	2.38	2.69	3.86	4.22	7.15	8.51	4.96	3.29	1.97	.002	.36
MAX	4.0	4.3	4.3	7.3	6.0	12	26	15	7.9	12	.01	2.4
MIN	.04	.12	.33	.26	.19	2.6	6.3	.15	1.1	0	0	0
AC-FT	136	141	165	238	235	440	506	305	196	121	.1	21

CAL YR 1973 TOTAL 1,173.20 MEAN 3.21 MAX 10 MIN .04 AC-FT 2,330
WTR YR 1974 TOTAL 1,262.63 MEAN 3.46 MAX 26 MIN 0 AC-FT 2,500

16303000 PUNALUU STREAM NEAR PUNALUU

LOCATION.--Lat 21°33'33", long 157°54'06", on left bank at Punaluu ditch diversion dam, 1.4 mi (2.2 km) west of Kahana, and 1.8 mi (2.9 km) southwest of Punaluu.
DRAINAGE AREA.--2.78 mi^2 (7.20 km^2).
PERIOD OF RECORD.--May 1953 to current year.
GAGE.--Water-stage recorder and masonry control. Altitude of gage is 212 ft (65 m) from topographic map.
AVERAGE DISCHARGE.--21 years, 16.6 ft^3/s (0.470 m^3/s), 12,030 acre-ft/yr (14.8 hm^3/yr).
EXTREMES.--Current year: Maximum discharge, 5,700 ft^3/s (161 m^3/s) July 17, gage height, 7.60 ft (2.316 m), from rating curve extended as explained below; minimum, 8.2 ft^3/s (0.23 m^3/s) Oct. 10.
Period of record: Maximum discharge, 5,700 ft^3/s (161 m^3/s) July 17, 1974, gage height, 7.60 ft (2.316 m), from rating curve extended above 170 ft^3/s (4.81 m^3/s) on basis of slope-area measurements at gage heights 5.77 ft (1.759 m) and 7.60 ft (2.316 m); no flow at times.
REVISIONS.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in WRD for Hawaii and other Pacific Areas, 1971-73.

Water year	Date	Discharge (ft^3/s)	Gage height (feet)
1971	Apr. 24, 1971	1,550	4.37
1972	Apr. 17, 1972	1,900	4.83
1973	May 27, 1973	493	2.52

REMARKS.--Records poor. Records do not include flow of Punaluu ditch (see sta 16302000). Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report. All published peak discharges prior to Oct. 1, 1970, have been found to be in error; revised records are on file in the district office and will be published in the next water-supply paper.
REVISIONS (FISCAL YEARS).--WSP 1569: Drainage area. WSP 1937: 1956(P), 1957(M), 1959(M). The figures of peak discharges for water years 1971-72 have been revised as shown in the following table. They supersede figures published in WRD for Hawaii and other Pacific Areas, 1971-72.
REVISED PEAK DISCHARGE.--1971: Nov. 25 (2200) 1,490 ft^3/s (4.28 ft); Apr. 24 (1630) 1,550 ft^3/s (4.37 ft).
1972: Jan. 22 (1000) 1,630 ft^3/s (4.49 ft); Apr. 17 (0900) 1,900 ft^3/s (4.83 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	22	51	85	24	13	14	19	23	25	20	16
2	12	14	34	51	17	70	14	25	24	23	25	18
3	10	13	24	25	15	18	14	17	23	22	23	16
4	11	13	22	19	14	15	14	16	107	21	21	25
5	11	13	21	18	16	20	18	16	25	21	20	17
6	10	13	19	17	14	30	16	15	23	26	19	17
7	11	12	60	24	16	18	15	14	20	32	19	16
8	12	21	38	20	19	40	14	14	19	24	18	15
9	9.6	29	20	21	15	22	14	14	19	22	19	16
10	8.6	52	18	19	17	18	13	13	24	22	19	16
11	9.1	92	18	34	15	15	22	13	20	24	19	15
12	9.6	62	18	26	15	60	14	13	19	30	21	19
13	12	27	16	22	17	20	15	25	19	29	19	17
14	63	48	16	37	27	18	16	120	21	32	18	16
15	17	28	15	23	25	17	15	150	20	31	18	15
16	45	19	15	19	23	16	13	80	21	31	17	15
17	15	16	15	16	15	15	13	50	29	434	17	15
18	55	15	14	16	15	80	21	60	34	40	19	16
19	26	15	14	15	14	40	300	25	27	30	18	15
20	22	29	14	15	14	25	120	27	22	28	19	16
21	17	18	14	15	13	20	60	22	22	26	17	78
22	18	16	14	14	13	18	40	21	23	24	21	20
23	15	15	19	14	14	25	70	21	24	25	22	18
24	15	19	18	16	13	20	60	20	21	23	18	16
25	14	19	16	15	18	18	35	23	20	25	17	16
26	14	22	15	21	16	17	25	23	20	27	17	16
27	13	20	15	45	16	16	20	21	22	24	16	16
28	13	24	15	21	14	16	19	21	105	23	16	18
29	21	21	15	47	------	15	18	27	213	22	16	16
30	37	19	69	41	------	15	17	25	31	21	16	16
31	14	------	29	58	------	15	------	34	------	21	16	------
TOTAL	571.9	746	701	829	464	765	1,059	984	1,040	1,208	580	561
MEAN	18.4	24.9	22.6	26.7	16.6	24.7	35.3	31.7	34.7	39.0	18.7	18.7
MAX	63	92	69	85	27	80	300	150	213	434	25	78
MIN	8.6	12	14	14	13	13	13	13	19	21	16	15
AC-FT	1,130	1,480	1,390	1,640	920	1,520	2,100	1,950	2,060	2,400	1,150	1,110

CAL YR 1973 TOTAL 5,337.5 MEAN 14.6 MAX 92 MIN 8.0 AC-FT 10,590
WTR YR 1974 TOTAL 9,508.9 MEAN 26.1 MAX 434 MIN 8.6 AC-FT 18,860

PEAK DISCHARGE (BASE, 930 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-19	0730	4.88	1,940	7-17	1100	7.60	5,700
6-29	0230	3.83	1,180	9-21	1500	4.11	1,370

NOTE.--No gage-height record Mar. 1 to Apr. 11, Apr. 19 to May 22.

16304200 KALUANUI STREAM NEAR PUNALUU

LOCATION.--Lat 21°35'22", long 157°54'38", on right bank 0.8 mi (1.3 km) downstream from Sacred Falls, 1.6 mi (2.6 km) west of Punaluu Beach Park, and 1.7 mi (2.7 km) south of cemetery in Hauula.

DRAINAGE AREA.--1.11 mi^2 (2.87 km^2).

PERIOD OF RECORD.--May 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 110 ft (34 m) from topographic map.

AVERAGE DISCHARGE.--7 years, 4.04 ft^3/s (0.114 m^3/s), 2,930 acre-ft/yr (3.61 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,640 ft^3/s (46.4 m^3/s) July 17, gage height, 10.84 ft (3.304 m), from rating curve extended as explained below; minimum, 0.12 ft^3/s (0.0030 m^3/s) Sept. 20, 21, 26.

Period of record: Maximum discharge, 2,010 ft^3/s (56.9 m^3/s) Feb. 1, 1969, gage height, 10.0 ft (3.05 m), from rating curve extended above 14 ft^3/s (0.40 m^3/s) on basis of slope-area measurements at gage heights 8.85 (2.697) and 10.0 ft (3.05 m); maximum gage height, 10.84 ft July 17, 1974; no flow for several days in July and August 1971.

REMARKS.--Records fair except those above 100 ft^3/s (2.8 m^3/s), which are poor. No diversion above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	3.7	13	22	3.9	.85	.34	6.5	2.3	1.6	.44	.28
2	1.1	1.2	5.1	6.0	1.7	17	.38	6.5	3.5	1.5	7.3	2.3
3	.71	.92	2.0	1.9	1.9	1.1	.34	1.6	2.7	1.2	3.5	1.5
4	.52	.77	1.6	1.3	1.5	2.7	.91	1.3	10	.98	.82	13
5	.48	.59	1.3	.98	1.4	13	8.2	2.3	1.9	.85	.66	1.2
6	.39	.54	1.1	.91	.98	9.4	5.6	1.1	1.5	1.6	1.4	.63
7	2.7	.49	30	6.7	4.2	2.9	2.1	.79	1.2	5.8	.71	.39
8	3.4	3.0	11	2.2	6.3	9.4	1.8	.69	2.7	1.5	.45	.27
9	.68	2.7	1.7	4.2	2.1	2.5	1.6	3.9	1.4	.98	.56	1.2
10	.44	8.2	1.4	1.1	4.4	1.3	.91	1.7	7.5	.74	.82	1.7
11	2.3	21	3.1	3.5	1.8	1.1	2.7	1.4	1.9	.64	3.4	.65
12	.87	15	3.4	4.4	1.1	19	3.2	1.8	1.1	5.6	8.6	1.8
13	6.2	3.6	1.3	6.0	2.3	2.5	5.0	5.4	.91	3.1	1.1	.92
14	21	14	.98	6.7	7.7	1.5	4.0	68	4.4	6.7	.86	.36
15	3.6	5.2	.79	6.0	7.2	1.7	3.4	34	1.3	4.6	1.5	.23
16	14	1.9	.69	3.4	2.7	.98	3.4	20	6.3	7.0	.76	.18
17	5.5	1.7	.64	1.5	1.3	.85	1.4	6.0	6.0	128	.49	.17
18	20	1.2	.54	1.3	.98	15	15	6.5	1.8	4.2	5.0	.18
19	8.7	1.5	.45	.98	.91	18	85	3.7	1.1	3.7	1.0	.16
20	3.1	15	.41	.85	.74	3.1	20	8.2	.85	2.5	4.0	.16
21	2.3	3.0	.38	.69	.64	1.5	9.1	3.7	1.7	1.6	1.6	9.6
22	4.8	1.9	.34	.79	.64	1.3	11	2.9	5.8	1.3	4.6	1.1
23	1.7	3.0	.64	.74	.74	4.2	8.0	3.5	3.5	1.2	6.0	.31
24	.95	4.8	2.8	5.4	.64	1.1	5.8	1.7	1.5	1.1	1.0	.24
25	1.2	3.7	1.1	2.2	1.5	.79	2.5	2.4	.91	.83	.74	.20
26	1.0	4.8	.54	3.9	2.1	.69	1.9	2.3	.91	2.1	.62	.14
27	.88	4.4	.59	12	7.0	.64	1.5	1.7	2.3	2.7	.52	.19
28	.95	3.7	2.5	1.7	.91	.54	1.4	1.1	13	1.1	.44	.18
29	4.7	2.7	.91	5.6	------	.50	1.5	1.5	39	.73	.37	.65
30	5.6	1.6	18	6.3	------	.45	1.5	5.6	2.9	.58	.31	.21
31	1.2	------	6.5	16	------	.38	------	19	------	.52	.28	------
TOTAL	122.27	135.81	114.80	137.24	69.28	135.97	209.48	226.78	131.88	196.55	59.85	40.10
MEAN	3.94	4.53	3.70	4.43	2.47	4.39	6.98	7.32	4.40	6.34	1.93	1.34
MAX	21	21	30	22	7.7	19	85	68	39	128	8.6	13
MIN	.39	.49	.34	.69	.64	.38	.34	.69	.85	.52	.28	.14
AC-FT	243	269	228	272	137	270	416	450	262	390	119	80

CAL YR 1973 TOTAL 1,054.69 MEAN 2.89 MAX 30 MIN .08 AC-FT 2,090
WTR YR 1974 TOTAL 1,580.01 MEAN 4.33 MAX 128 MIN .14 AC-FT 3,130

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12 -7	2215	8.74	604	7-17	1115	10.84	1,640
5-14	2015	9.79	1,060				

HAWAII, ISLAND OF OAHU

16325000 KAMANANUI STREAM AT PUPUKEA MILITARY ROAD, NEAR MAUNAWAI

LOCATION.--Lat 21°37'25", long 158°01'04", on right bank 75 ft (23 m) upstream from Pupukea Military Road and 3.5 mi (5.6 km) southeast of Maunawai.

DRAINAGE AREA.--3.13 mi^2 (8.11 km^2).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1961, 1963, June 1963 to current year.

GAGE.--Water-stage recorder and combination pipe culverts and paved road control. Altitude of gage is 590 ft (180 m) from topographic map.

AVERAGE DISCHARGE.--11 years, 12.0 ft^3/s (0.340 m^3/s), 8,690 acre-ft/yr (10.7 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,450 ft^3/s (41.1 m^3/s) July 17, gage height, 8.57 ft (2.612 m), from rating curve extended as explained below; minimum, 0.40 ft^3/s (0.011 m^3/s) Sept. 30.

Period of record: Maximum discharge, 1,720 ft^3/s (48.7 m^3/s) Apr. 20, 1968, gage height, 9.13 ft (2.783 m), from rating curve extended above 42 ft^3/s (1.19 m^3/s) on basis of slope-area measurement at gage height 8.12 ft (2.475 m); minimum, no flow Aug. 26 to Sept. 1, Sept. 23, Oct. 15-25, 1971.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.3	20	54	21	4.3	3.4	18	8.0	4.1	2.5	1.4
2	2.0	2.4	28	8.7	6.2	50	3.4	14	5.7	3.1	8.5	4.3
3	1.3	2.0	6.2	4.3	12	6.0	3.4	11	6.6	2.6	8.9	11
4	.89	1.9	4.5	3.2	9.6	4.5	4.2	9.5	21	2.3	3.4	9.0
5	.67	1.8	3.7	2.8	4.3	65	15	9.3	7.1	2.1	2.9	6.8
6	.53	1.7	3.2	2.8	60	52	15	7.5	5.2	2.0	3.1	2.1
7	.53	1.6	3.0	14	41	13	8.0	6.7	4.6	35	2.9	1.7
8	14	1.5	25	7.1	28	20	4.9	6.2	5.1	7.2	2.4	1.5
9	2.0	4.6	4.2	6.4	11	13	5.2	6.7	5.7	3.2	2.4	1.4
10	1.1	2.3	3.6	3.8	15	6.7	3.7	7.6	20	2.6	2.6	2.6
11	.82	67	5.4	3.2	8.4	5.7	4.8	6.0	8.0	2.2	6.1	2.8
12	2.4	45	5.6	11	6.4	45	6.3	9.0	5.1	16	35	2.0
13	14	9.4	4.3	3.8	8.7	9.1	9.2	15	4.2	12	4.8	5.2
14	76	4.6	2.9	4.1	24	6.2	12	203	7.1	8.9	2.8	2.2
15	6.0	13	2.6	7.1	15	5.7	8.2	204	5.4	11	5.7	1.4
16	15	4.1	2.4	3.7	14	4.9	13	45	6.4	22	3.6	1.3
17	8.3	3.4	2.3	2.8	7.5	4.6	4.8	21	4.3	321	2.1	1.2
18	70	3.2	2.2	2.5	6.4	112	21	17	4.3	26	3.5	1.2
19	16	2.9	2.1	2.3	6.2	24	599	14	3.8	12	3.7	7.3
20	7.5	18	2.0	2.1	5.6	12	353	17	3.4	7.6	2.9	6.9
21	5.1	15	2.0	2.0	5.2	6.0	83	15	3.7	5.7	3.1	2.1
22	9.6	5.9	1.9	2.0	5.2	5.2	115	11	14	4.9	3.3	1.8
23	6.0	5.1	2.5	2.0	5.6	11	36	15	15	4.2	14	1.2
24	3.6	4.9	3.1	10	6.4	5.1	30	9.1	5.9	4.3	3.1	.82
25	3.4	9.2	4.3	5.9	4.8	4.3	21	7.5	4.1	3.8	2.0	.67
26	3.3	4.9	2.2	3.5	4.8	4.2	16	7.7	3.6	7.1	1.9	.82
27	2.9	5.2	2.1	30	16	4.0	14	8.4	5.1	7.6	1.7	.82
28	2.8	22	4.4	9.0	5.7	4.0	12	6.6	20	4.0	1.6	.67
29	3.1	7.9	2.6	12	------	3.8	12	5.9	113	3.1	1.4	.53
30	7.7	4.2	14	20	------	3.8	11	6.7	7.5	2.9	1.4	.46
31	3.6	------	15	45	------	3.6	------	10	------	2.8	1.4	------
TOTAL	292.54	277.0	187.3	291.1	364.0	518.7	1,447.5	750.4	332.9	553.3	144.7	83.19
MEAN	9.44	9.23	6.04	9.39	13.0	16.7	48.3	24.2	11.1	17.8	4.67	2.77
MAX	76	67	28	54	60	112	599	204	113	321	35	11
MIN	.53	1.5	1.9	2.0	4.3	3.6	3.4	5.9	3.4	2.0	1.4	.46
AC-FT	580	549	372	577	722	1,030	2,870	1,490	660	1,100	287	165

CAL YR 1973 TOTAL 2,158.75 MEAN 5.91 MAX 120 MIN .18 AC-FT 4,280
WTR YR 1974 TOTAL 5,242.63 MEAN 14.4 MAX 599 MIN .46 AC-FT 10,400

PEAK DISCHARGE (BASE, 950 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-19	1130	8.54	1,440	7-17	1330	8.57	1,450
5-14	2200	7.46	1,020				

16330000 KAMANANUI STREAM AT MAUNAWAI

LOCATION.--Lat 21°38'20", long 158°03'27", on right bank at Maunawai, 25 ft (7.6 m) upstream from Elehaha Stream, 4.9 mi (7.9 km) northeast of Waialua School, and 7.3 mi (11.7 km) southwest of Kahuku School.
DRAINAGE AREA.--9.79 mi^2 (25.4 km^2).
PERIOD OF RECORD.--February 1958 to current year.
GAGE.--Water-stage recorder. Altitude of gage is 20 ft (6.1 m) from topographic map. Prior to May 13, 1965, at datum 2.00 ft (0.610 m) higher and May 13, 1965, to May 17, 1966, at datum 1.00 ft (0.305 m) higher.
AVERAGE DISCHARGE.--16 years, 16.2 ft^3/s (0.459 m^3/s), 11,740 acre-ft/yr (14.5 hm^3/yr).
EXTREMES.--Current year: Maximum discharge, 5,610 ft^3/s (159 m^3/s) Apr. 19, gage height, 10.43 ft (3.179 m), from rating curve extended as explained below; minimum, 0.12 ft^3/s (0.003 m^3/s) Oct. 7.
Period of record: Maximum discharge, 5,610 ft^3/s (159 m^3/s) Apr. 19, 1974, gage height 10.43 ft (3.179 m), from rating curve extended above 150 ft^3/s (4.25 m^3/s) on basis of slope-area measurements at gage heights 6.25 ft (1.905 m), 8.13 ft (2.478 m), 10.14 ft (3.091 m), and 10.43 ft (3.179 m); no flow at times.
REVISIONS.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in WRD for Hawaii and other Pacific Areas, 1971-73.

Water year	Date	Discharge (ft^3/s)	Gage height (feet)
1971	Apr. 24, 1971	3,540	8.69
1972	Apr. 16, 1972	1,370	5.96
1973	Feb. 24, 1973	640	4.55

REMARKS.--Records poor. No diversion above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report. All published peak discharges prior to Oct. 1, 1970, have been found to be in error; revised records are on file in the district office and will be published in the next water-supply paper.
REVISIONS (FISCAL YEARS).--WSP 1937: 1958-60. Revised peak discharges for the water year 1971, superseding those published in WRD for Hawaii and other Pacific Areas, 1971, are given herewith: Nov. 26 (0030) 1,390 ft^3/s (6.00 ft); Jan. 13 (about 1100) 2,520 ft^3/s (7.58 ft); Jan. 16 (0700) 3,010 ft^3/s (8.14 ft); Apr. 6 (0130) 1,830 ft^3/s (6.67 ft); Apr. 23 (2300) 2,020 ft^3/s (6.94 ft); Apr. 24 (1700) 3,540 ft^3/s (8.69 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.8	26	137	78	4.3	3.2	16	12	10	1.6	.70
2	2.4	1.9	92	25	13	64	3.0	14	6.7	5.5	12	.80
3	1.6	1.7	13	8.6	15	12	2.8	13	7.0	3.5	10	2.0
4	.81	1.3	7.0	5.1	30	5.6	3.7	9.3	20	3.0	3.0	6.0
5	.43	1.1	5.1	3.7	7.6	126	18	9.3	11	2.8	1.7	4.0
6	.21	.81	4.1	3.3	95	129	19	7.6	6.1	2.6	1.8	2.8
7	.13	.73	3.7	18	165	35	17	6.4	5.3	30	2.5	1.9
8	4.6	.60	42	16	53	27	7.3	5.8	5.1	6.0	1.8	1.2
9	3.9	2.8	7.0	10	26	28	6.7	6.1	5.8	4.0	1.5	1.1
10	1.4	3.0	4.6	7.3	23	11	5.1	7.0	15	3.0	2.0	1.5
11	.60	81	5.6	4.6	19	7.9	4.1	5.5	12	2.5	3.0	2.6
12	1.3	81	6.4	15	11	52	7.6	7.3	6.1	15	18	1.7
13	11	19	7.3	6.7	15	17	9.3	8.3	4.8	10	5.0	3.9
14	124	6.7	3.7	5.1	36	8.9	22	245	8.0	7.0	2.6	3.2
15	11	16	3.0	8.3	25	7.0	13	310	6.0	8.0	4.0	1.5
16	29	6.1	2.5	6.1	21	5.8	19	83	7.0	20	2.0	.89
17	16	3.9	2.4	3.7	13	5.1	8.3	33	5.5	500	1.6	.73
18	146	3.2	2.2	3.0	8.6	124	24	23	4.8	40	3.0	.60
19	26	2.7	1.9	2.5	7.3	39	1,490	19	4.5	12	1.8	1.1
20	12	24	1.8	2.2	6.4	21	427	20	4.0	8.0	2.0	9.3
21	7.3	41	1.6	2.1	6.1	8.9	101	21	3.6	6.0	1.5	3.3
22	12	8.6	1.5	2.1	4.8	7.6	89	16	12	4.0	1.8	2.2
23	11	6.7	1.7	1.9	4.6	15	46	18	10	3.2	9.0	1.7
24	4.8	5.3	3.5	7.6	5.6	8.9	34	14	5.0	3.5	3.0	.89
25	3.7	9.6	5.8	9.6	4.3	5.6	26	10	4.2	3.0	2.0	.60
26	3.3	7.0	3.2	4.6	4.1	4.6	19	8.9	3.6	4.0	1.6	.48
27	2.7	5.1	2.1	63	13	4.1	16	11	5.0	6.0	1.3	.48
28	2.4	34	3.7	13	8.3	3.9	14	7.9	30	4.5	1.1	.43
29	2.4	18	3.9	21	------	3.7	12	7.0	300	3.0	1.0	.34
30	6.4	6.4	17	27	------	3.5	11	7.3	30	2.2	.90	.30
31	4.3	------	24	45	------	3.3	------	9.5	------	1.8	.80	------
TOTAL	455.48	402.04	309.3	488.1	718.7	798.7	2,478.1	979.4	560.1	734.1	104.90	58.24
MEAN	14.7	13.4	9.98	15.7	25.7	25.8	82.6	31.6	18.7	23.7	3.38	1.94
MAX	146	81	92	137	165	129	1,490	310	300	500	18	9.3
MIN	.13	.60	1.5	1.9	4.1	3.3	2.8	5.5	3.6	1.8	.80	.30
AC-FT	903	797	613	968	1,430	1,580	4,920	1,940	1,110	1,460	208	116

CAL YR 1973 TOTAL 3,092.87 MEAN 8.47 MAX 176 MIN .01 AC-FT 6,130
WTR YR 1974 TOTAL 8,087.16 MEAN 22.2 MAX 1,490 MIN .13 AC-FT 16,040

PEAK DISCHARGE (BASE, 1,300 CFS, REVISED)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2- 6	2300	5.89	1,320	5-14	2245	6.29	1,560
4-19	1015	10.43	5,610	7-17	/1400	-	/2,000

/ About.

NOTE.--No gage-height reocrd June 14 to Sept. 6.

16343000 HELEMANO STREAM AT HALEIWA

LOCATION.--Lat 21°34'40", long 158°06'12", on left bank at upstream side of private road bridge, 0.3 mi (0.5 km) east of Weed Circle, and 1.1 mi (1.8 km) southeast of Waialua School at Haleiwa.

DRAINAGE AREA.--14.2 mi^2 (36.8 km^2).

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1.57 ft (0.479 m) above mean sea level.

AVERAGE DISCHARGE.--6 years (1968-74), 15.5 ft^3/s (0.439 m^3/s), 11,230 acre-ft/yr (13.8 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 18,200 ft^3/s (515 m^3/s) Apr. 19, gage height, 22.5 ft (6.86 m), from floodmark, from rating curve extended as explained below; minimum, 0.01 ft^3/s (<0.001 m^3/s) Oct. 1.

Period of record: Maximum discharge, 18,200 ft^3/s (515 m^3/s) Apr. 19, 1974, gage height, 22.5 ft (6.86 m), from floodmark, from rating curve extended above 300 ft^3/s (8.50 m^3/s) on basis of slope-area measurements at gage heights 10.54 ft (3.213 m), 14.2 ft (4.328 m), 15.34 ft (4.676 m), 17.63 ft (5.374 m), and 22.5 ft (6.86 m); no flow at times.

REMARKS.--Records fair. Minor regulation by reservoir on upstream tributary. Diversions into basin for irrigation of sugarcane; low flow affected by irrigation return flow and releases. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	1.3	1.5	72	59	1.8	.15	2.1	.20	6.8	.30	.14
2	.02	.26	58	31	14	22	.15	2.7	.16	1.1	3.0	.46
3	.02	.18	11	6.8	7.1	11	.15	1.9	.14	.38	1.5	.08
4	.02	.16	2.7	2.1	24	2.2	.15	1.9	31	.14	.50	.08
5	.02	.13	.83	.55	7.8	25	.15	1.2	10	.11	.20	.08
6	.04	.10	.37	.26	3.8	138	.20	.69	2.1	.08	.10	.08
7	.04	.10	.26	.47	2.2	37	.80	.46	.69	1.4	.12	.08
8	.04	.09	73	5.3	5.3	8.5	1.1	.34	.28	18	.11	.08
9	.04	.07	7.6	4.0	7.5	17	.40	.28	.18	6.9	.12	.08
10	.05	.08	1.6	1.4	3.8	4.7	.16	.28	.16	.74	.11	.07
11	.05	47	.47	.78	1.9	2.2	.34	.28	.16	.25	.12	.07
12	.05	112	.16	7.1	1.4	101	13	.25	.14	.40	.14	.07
13	.05	38	.15	11	.68	29	1.8	.25	.16	6.1	.14	.04
14	74	7.8	.13	13	3.8	6.0	8.5	111	.16	6.7	.11	.04
15	69	22	.12	52	19	2.8	2.0	399	.16	12	.11	.04
16	4.8	6.4	.10	24	36	1.7	.83	79	.18	26	.11	.04
17	3.7	1.1	.09	21	18	1.0	.43	18	.16	1,030	.11	.05
18	98	.37	.08	12	3.8	243	.40	6.4	.16	44	.12	.05
19	46	.24	.08	13	1.4	87	2,800	4.6	.18	14	.12	.06
20	2.5	1.8	.07	12	.63	29	600	4.2	.18	7.6	.11	.06
21	.06	20	.06	6.9	.47	8.8	40	6.6	.18	5.0	.11	.06
22	.03	7.0	.06	1.6	.31	5.0	45	7.2	.14	3.0	.18	2.3
23	.02	4.0	.06	.51	.18	4.4	26	13	.07	2.0	.67	.50
24	.02	2.2	.07	.28	.16	4.0	73	2.4	.04	3.0	.04	.10
25	.02	40	.07	.22	.22	2.3	22	1.1	.04	1.5	.36	.05
26	.02	17	.07	1.4	.24	1.3	11	.59	.06	2.0	.20	.04
27	.02	2.8	.07	4.6	.28	.78	7.0	1.2	.06	4.0	.18	.04
28	.02	1.6	.08	18	3.4	.55	5.0	1.2	.08	2.0	.12	.04
29	.02	3.8	.09	3.6	------	.34	3.6	.59	84	1.2	.11	.04
30	186	7.3	16	3.0	------	.22	2.7	.86	20	.70	.11	.04
31	14	------	19	1.1	------	.16	------	.38	------	.40	.12	------
TOTAL	498.68	344.88	193.94	330.97	226.37	797.75	3,666.01	669.95	151.22	1,207.50	9.45	4.96
MEAN	16.1	11.5	6.26	10.7	8.08	25.7	122	21.6	5.04	39.0	.30	.17
MAX	186	112	73	72	59	243	2,800	399	84	1,030	3.0	2.3
MIN	.01	.07	.06	.22	.16	.16	.15	.25	.04	.08	.04	.04
AC-FT	989	684	385	656	449	1,580	7,270	1,330	300	2,400	19	9.8

CAL YR 1973 TOTAL 1,445.24 MEAN 3.96 MAX 186 MIN 0 AC-FT 2,870
WTR YR 1974 TOTAL 8,101.68 MEAN 22.2 MAX 2,800 MIN .01 AC-FT 16,070

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
3-18	1830	9.89	2,060	5-15	0100	11.65	3,360
4-19	/1000	22.5	18,200	7-17	1400	17.15	10,100

/ About.

NOTE.--No gage-height record Apr. 19-21.

16345000 OPAEULA STREAM NEAR WAHIAWA

LOCATION.--Lat 21°33'55", long 158°00'10", on left bank 4.3 mi (6.9 km) northeast of Leilehua High School in Wahiawa and 8.1 mi (13.0 km) east of Waialua School.

DRAINAGE AREA.--2.98 mi^2 (7.72 km^2).

PERIOD OF RECORD.--August 1959 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 1,120 ft (341 m) from topographic map.

AVERAGE DISCHARGE.--15 years, 14.3 ft^3/s (0.405 m^3/s), 10,360 acre-ft/yr (12.8 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 5,540 ft^3/s (157 m^3/s) July 17, gage height, 11.94 ft (3.639 m), from rating curve extended as explained below; minimum, 0.55 ft^3/s (0.016 m^3/s) Sept. 19.

Period of record: Maximum discharge, 5,540 ft^3/s (157 m^3/s) July 17, 1974, gage height, 11.94 ft (3.639 m), from rating curve extended above 110 ft^3/s (3.12 m^3/s) on basis of slope-area measurements at gage heights 6.74 ft (2.054 m) and 10.12 ft (3.085 m); minimum, 0.03 ft^3/s (0.001 m^3/s) July 31, Aug. 31, 1971.

REMARKS.--Records good. No diversion above station. Records of chemical analyses, periodic determinations of water temperature, and suspended-sediment discharge for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEAR).--WSP 1937: 1960.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	3.8	30	71	31	4.0	1.9	13	10	6.5	2.0	1.0
2	3.8	5.7	45	20	8.2	40	1.6	13	4.6	4.3	16	1.4
3	3.2	3.0	7.9	7.4	8.1	6.0	1.5	10	7.7	3.6	14	8.7
4	1.7	2.3	5.2	4.3	8.0	7.0	2.7	4.9	50	3.1	5.1	20
5	1.1	2.1	4.3	3.2	4.1	15	27	8.5	8.3	2.7	2.9	13
6	.88	1.7	3.7	3.3	3.0	50	14	5.3	5.3	2.7	3.6	3.1
7	.84	1.5	43	20	12	12	8.0	3.8	4.2	29	5.4	1.7
8	9.8	1.4	84	9.6	29	15	6.6	3.3	4.2	12	2.5	1.3
9	3.5	4.8	6.5	12	11	10	7.0	9.2	6.3	4.1	1.9	1.2
10	1.6	26	4.4	5.8	12	6.0	4.7	10	16	3.2	2.0	1.5
11	1.1	119	5.3	3.5	11	4.0	6.9	6.5	8.9	2.5	5.6	2.8
12	3.5	130	7.3	23	5.3	35	7.6	5.7	4.3	20	39	1.9
13	8.8	24	6.5	27	9.2	6.0	24	25	3.2	14	8.0	6.3
14	115	7.9	3.1	21	34	4.0	15	254	12	17	3.6	2.5
15	13	36	2.5	32	43	3.2	7.8	177	6.8	26	3.2	1.3
16	39	7.0	2.2	13	27	2.8	16	58	4.7	31	4.5	.93
17	14	4.8	2.0	6.9	7.5	2.5	5.4	18	5.3	520	2.5	.74
18	116	4.2	1.8	4.6	5.0	350	30	20	7.1	22	1.8	.63
19	17	3.2	1.7	3.8	4.4	62	640	14	3.5	11	6.0	5.4
20	12	45	1.5	3.2	4.0	18	158	28	2.7	9.3	5.8	8.6
21	8.8	23	1.4	2.7	4.5	7.4	42	16	2.6	7.5	5.5	37
22	13	7.6	1.3	2.5	3.5	5.7	26	10	16	7.1	5.6	13
23	8.6	5.0	1.6	3.1	3.0	14	32	12	14	4.5	16	3.0
24	4.2	21	3.2	14	2.5	6.4	50	7.8	6.7	4.1	5.2	1.7
25	3.9	30	9.8	15	3.5	4.0	12	5.9	4.0	3.8	2.4	1.2
26	3.2	13	3.0	6.3	5.0	3.3	8.1	7.8	2.7	5.1	1.7	1.2
27	2.4	12	1.8	26	25	2.9	6.5	9.2	8.2	11	1.6	.92
28	2.2	16	4.5	9.0	6.0	2.7	5.5	5.3	29	5.5	1.4	.85
29	27	9.2	4.2	4.0	------	2.5	5.0	4.9	120	3.6	1.3	.99
30	79	5.9	58	4.4	------	2.3	5.0	6.0	13	2.6	1.2	1.1
31	7.3	------	29	59	------	2.1	------	20	------	2.2	1.1	------
TOTAL	528.02	576.1	385.7	440.6	329.8	705.8	1,177.8	792.1	391.3	801.0	178.4	144.96
MEAN	17.0	19.2	12.4	14.2	11.8	22.8	39.3	25.6	13.0	25.8	5.75	4.83
MAX	116	130	84	71	43	350	640	254	120	520	39	37
MIN	.84	1.4	1.3	2.5	2.5	2.1	1.5	3.3	2.6	2.2	1.1	.63
AC-FT	1,050	1,140	765	874	654	1,400	2,340	1,570	776	1,590	354	288

CAL YR 1973 TOTAL 3,788.54 MEAN 10.4 MAX 130 MIN .18 AC-FT 7,510
WTR YR 1974 TOTAL 6,451.58 MEAN 17.7 MAX 640 MIN .63 AC-FT 12,800

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12- 7	2315	6.54	1,290	5-14	2245	7.24	1,720
4-19	0915	9.91	3,730	7-17	1300	11.94	5,540

16400000 HALAWA STREAM NEAR HALAWA

LOCATION.--Lat 21°09'31", long 156°45'53", on right bank 600 ft (183 m) downstream from Hipuapua Stream and 1.5 mi (2.4 km) west of Halawa.

DRAINAGE AREA.--4.62 mi^2 (11.97 km^2).

PERIOD OF RECORD.--July 1917 to July 1932, November 1937 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 210 ft (64 m) from topographic map. Prior to June 25, 1923, at site 350 ft (107 m) upstream at different datum. June 25, 1923, to July 18, 1932, and Nov. 17, 1937, to Feb. 3, 1965, at present site at datum 2.00 ft (0.610 m) higher.

AVERAGE DISCHARGE.--50 years (1917-31, 1938-74), 29.6 ft^3/s (0.838 m^3/s), 21,450 acre-ft/yr (26.4 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,780 ft^3/s (50.4 m^3/s) Mar. 2, gage height, 8.33 ft (2.539 m), from rating curve extended as explained below; minimum, 2.1 ft^3/s (0.059 m^3/s) Sept. 25.

Period of record: Maximum discharge, 26,900 ft^3/s (762 m^3/s) Feb. 4, 1965, gage height, 19.91 ft (6.069 m), from floodmarks, from rating curve extended above 86 ft^3/s (2.44 m^3/s) on basis of slope-area measurement of peak flow; minimum, 0.76 ft^3/s (0.022 m^3/s) about Nov. 23, 1962.

REMARKS.--Records fair. No diversion above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1319: 1928, 1929(M), 1930-31, 1938-50(M), drainage area. WSP 1719: 1954.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	10	122	7.4	26	35	3.9	22	26	12	6.4	5.2
2	5.6	7.5	306	14	14	231	3.9	34	14	7.5	13	8.3
3	4.4	6.8	44	6.0	66	17	3.8	9.3	11	6.2	9.5	114
4	4.0	6.0	23	13	51	17	7.7	7.9	72	5.4	6.3	19
5	5.7	5.6	16	5.7	16	51	8.0	6.6	21	5.9	5.9	7.6
6	3.8	5.2	21	162	12	70	12	5.6	12	6.2	6.2	5.7
7	5.3	4.9	23	180	24	27	26	6.2	9.1	35	5.2	5.0
8	12	5.9	138	20	24	43	9.5	7.0	9.3	9.1	4.6	4.4
9	5.3	6.6	32	38	24	16	6.8	14	8.8	6.9	26	13
10	4.0	7.4	34	14	32	11	4.7	16	14	5.0	7.7	5.6
11	54	169	29	10	39	9.1	33	12	9.5	4.9	23	4.3
12	12	193	21	12	18	144	32	11	7.5	15	38	3.9
13	47	34	13	18	44	59	36	79	6.4	23	9.4	4.0
14	70	14	11	50	31	44	20	46	24	36	11	3.5
15	116	26	8.8	37	14	45	14	182	15	61	9.5	3.2
16	66	10	7.7	13	19	15	13	65	25	46	12	3.0
17	22	10	8.2	8.8	11	12	6.8	39	32	133	6.9	3.6
18	115	8.0	7.0	8.0	10	11	84	89	21	18	33	3.5
19	90	7.2	6.4	7.4	8.8	50	122	83	14	12	33	3.0
20	112	6.4	5.9	9.0	7.9	26	67	61	8.4	9.1	31	2.7
21	33	6.4	5.6	10	7.4	10	54	26	12	7.7	16	2.5
22	52	6.9	5.7	8.4	6.6	8.0	32	19	17	6.8	39	2.3
23	17	25	5.2	10	6.3	37	39	14	9.7	6.2	12	2.2
24	13	35	4.6	25	5.9	9.7	47	12	7.5	5.4	7.9	2.2
25	12	28	4.4	9.3	5.7	7.0	14	10	12	6.3	6.6	2.1
26	8.9	30	4.2	19	5.4	6.4	10	9.1	7.7	9.3	5.9	2.6
27	11	24	4.0	64	6.3	6.8	7.9	8.0	6.9	30	5.3	3.3
28	11	38	5.7	13	5.7	5.2	8.2	7.4	21	12	5.0	3.1
29	11	105	7.8	17	------	4.7	9.7	6.8	21	6.4	4.5	2.8
30	86	24	20	152	------	4.5	6.8	6.3	8.2	7.0	4.4	2.4
31	20	------	24	89	------	4.0	------	31	------	7.8	5.9	------
TOTAL	1,036.0	865.8	968.2	1,050.0	541.0	1,036.4	742.7	945.2	483.0	562.1	410.1	248.0
MEAN	33.4	28.9	31.2	33.9	19.3	33.4	24.8	30.5	16.1	18.1	13.2	8.27
MAX	116	193	306	180	66	231	122	182	72	133	39	114
MIN	3.8	4.9	4.0	5.7	5.4	4.0	3.8	5.6	6.4	4.9	4.4	2.1
AC-FT	2,050	1,720	1,920	2,080	1,070	2,060	1,470	1,870	958	1,110	813	492

CAL YR 1973 TOTAL 8,694.0 MEAN 23.8 MAX 306 MIN 2.3 AC-FT 17,240
WTR YR 1974 TOTAL 8,888.5 MEAN 24.4 MAX 306 MIN 2.1 AC-FT 17,630

PEAK DISCHARGE (BASE, 1,900 CFS).--No peak above base.

16403900 KAWAINUI STREAM NEAR PELEKUNU

LOCATION.--Lat 21°07'59", long 156°52'38", on right bank 900 ft (274 m) upstream from confluence with Kapuhi Stream, 2.1 mi (3.4 km) south of former village of Pelekunu, and 5.7 mi (9.2 km) north of Kamalo.

DRAINAGE AREA.--1.17 mi^2 (3.03 km^2).

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 770 ft (235 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 8.73 ft^3/s (0.247 m^3/s), 6,320 acre-ft/yr (7.79 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 955 ft^3/s (27.0 m^3/s) Jan. 6, gage height, 6.00 ft (1.829 m), from rating curve extended above 43 ft^3/s (1.22 m^3/s); minimum, 1.0 ft^3/s (0.028 m^3/s) Sept. 29.

Period of record: Maximum discharge, 1,630 ft^3/s (46.2 m^3/s) Jan. 8, 1969, gage height, 7.36 ft (2.243 m), from rating curve extended above 43 ft^3/s (1.22 m^3/s); minimum, 0.70 ft^3/s (0.020 m^3/s) Sept. 22, 1968.

REMARKS.--Records good except those above 90 ft^3/s (2.55 m^3/s), which are poor. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.0	50	8.2	14	7.3	4.4	7.8	4.8	2.8	2.3	1.7
2	1.4	2.6	142	6.5	8.7	56	4.3	6.7	4.2	2.5	2.9	1.5
3	1.3	2.4	38	10	6.9	15	4.0	5.2	6.2	2.3	2.9	3.1
4	1.3	2.2	17	9.4	5.7	16	6.4	4.8	9.6	2.3	2.3	3.8
5	1.3	2.1	11	12	5.0	20	5.6	4.3	7.2	2.4	2.7	1.9
6	1.3	2.0	8.9	184	4.6	25	5.7	4.2	5.5	2.3	2.3	1.6
7	2.0	1.9	6.7	190	4.9	17	8.3	4.5	5.0	4.9	2.1	1.5
8	2.2	1.9	60	30	5.0	16	5.7	4.9	5.7	2.5	1.9	1.5
9	1.4	1.8	20	41	5.5	12	4.6	5.4	4.8	2.2	2.8	1.8
10	1.3	1.8	19	18	7.1	10	4.3	8.7	5.7	2.0	2.0	1.4
11	4.4	9.7	14	14	7.9	8.6	6.0	6.4	4.5	2.0	6.3	1.3
12	1.9	30	10	19	7.0	47	6.8	5.4	4.1	2.5	4.4	1.3
13	2.4	13	7.9	20	9.5	23	16	5.5	3.8	3.2	2.5	1.3
14	5.8	7.6	6.6	18	7.6	16	11	8.5	7.9	5.2	2.9	1.2
15	3.0	5.7	5.8	40	6.4	13	12	19	5.0	11	2.3	1.2
16	2.4	4.5	5.1	23	6.4	11	12	9.6	4.2	12	2.0	1.2
17	1.9	3.7	5.0	14	5.4	9.6	9.2	8.8	3.9	17	1.9	1.3
18	7.6	3.2	4.2	11	4.6	12	21	10	3.6	9.1	2.5	1.3
19	5.8	2.9	3.8	8.3	4.1	13	31	19	3.3	7.0	3.2	1.2
20	8.2	3.0	3.4	6.7	3.8	9.6	22	19	3.4	5.5	2.9	1.2
21	6.6	2.7	3.1	5.8	3.5	8.8	23	12	3.9	4.9	2.7	1.2
22	8.6	2.8	3.0	5.5	3.2	7.4	17	12	5.2	4.3	2.6	1.1
23	5.1	6.6	2.8	6.0	3.0	40	14	8.8	3.4	3.8	2.0	1.1
24	4.4	12	2.7	7.0	3.0	13	11	7.6	4.0	3.5	1.8	1.1
25	3.5	7.8	2.6	5.0	3.0	9.8	9.2	6.7	3.8	3.7	1.7	1.1
26	2.8	6.5	2.5	5.1	3.0	5.7	7.8	6.0	3.1	3.7	1.6	1.2
27	4.4	6.7	2.5	7.2	3.8	7.2	6.9	5.4	3.0	4.4	1.6	1.1
28	3.0	10	2.5	5.1	2.6	6.3	7.3	5.0	2.8	3.0	1.6	1.1
29	5.1	20	8.9	4.7	------	5.6	6.2	4.6	2.9	2.8	1.5	1.1
30	5.2	9.2	18	12	------	5.1	5.7	4.3	2.6	2.7	1.5	1.2
31	3.6	------	22	15	------	4.8	------	5.2	------	2.5	1.5	------
TOTAL	111.0	189.3	501.0	761.5	155.2	470.8	307.4	245.3	137.1	140.0	75.2	43.6
MEAN	3.58	6.31	16.2	24.6	5.54	15.2	10.2	7.91	4.57	4.52	2.43	1.45
MAX	8.6	30	142	190	14	56	31	19	9.6	17	6.3	3.8
MIN	1.3	1.8	2.5	4.7	2.6	4.8	4.0	4.2	2.6	2.0	1.5	1.1
AC-FT	220	375	994	1,510	308	934	610	487	272	278	149	86

CAL YR 1973 TOTAL 2,836.6 MEAN 7.77 MAX 142 MIN 1.3 AC-FT 5,630
WTR YR 1974 TOTAL 3,137.4 MEAN 8.60 MAX 190 MIN 1.1 AC-FT 6,220

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12- 1	2200	4.53	409	1- 6	2300	6.00	955
12- 8	0130	5.01	564	3- 2	0100	5.56	779

16404000 PELEKUNU STREAM NEAR PELEKUNU

LOCATION.--Lat 21°08'11", long 156°52'43", on right bank, 0.4 mi (0.6 km) upstream from Pilipililau Stream, 1.9 mi (3.1 km) south of former village of Pelekunu, and 5.8 mi (9.3 km) north of Kamalo.

DRAINAGE AREA.--2.59 mi^2 (6.71 km^2).

PERIOD OF RECORD.--December 1919 to January 1929, September 1937 to November 1947, June 1948 to August 1957, August 1971 to current year. Occasional low-flow measurements and annual maximum, water years 1968-71.

GAGE.--Water-stage recorder. Altitude of gage is 552 ft (168.250 m) above mean sea level (levels by Bureau of Reclamation). Prior to Aug. 25, 1957, at site 300 ft (91 m) downstream at different datum.

AVERAGE DISCHARGE.--29 years (1920-28, 1937-47, 1948-56, 1971-74), 16.8 ft^3/s (0.476 m^3/s), 12,170 acre-ft/yr (15.0 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,100 ft^3/s (31.2 m^3/s) Jan. 6, gage height, 5.35 ft (1.631 m), from rating curve extended above 60 ft^3/s (1.70 m^3/s); minimum, 2.2 ft^3/s (0.062 m^3/s) Sept. 29.

Period of record: Maximum discharge, 4,120 ft^3/s (117 m^3/s) Nov. 20, 1940, gage height, 6.81 ft (2.076 m), from rating curve extended above 39 ft^3/s (1.10 m^3/s) by test on model of station site; minimum, 2.2 ft^3/s (0.062 m^3/s) Sept. 29, 1974.
Flood of undetermined magnitude destroyed station on Jan. 26, 1948.

REMARKS.--Records good. No diversion above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEAR).--WSP 1569: 1940(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	6.4	67	14	30	18	8.7	14	8.7	5.2	4.3	4.0
2	3.5	5.8	171	12	19	81	8.7	12	7.9	4.8	4.8	3.5
3	3.3	5.4	50	18	17	23	7.9	9.1	12	4.6	4.8	6.2
4	3.3	4.8	25	16	14	24	14	8.7	18	4.6	4.3	8.5
5	3.3	4.8	19	21	12	35	11	8.3	12	4.8	4.8	4.3
6	3.5	4.6	16	164	12	49	11	7.9	9.1	4.8	4.3	3.5
7	4.8	4.6	12	199	13	27	17	8.3	8.3	7.9	4.3	3.3
8	5.4	4.3	84	51	12	24	10	8.7	10	5.2	4.0	3.3
9	3.8	4.3	29	68	14	18	8.7	10	7.5	4.8	4.8	3.8
10	3.8	4.3	26	32	18	15	7.9	18	9.1	4.3	4.0	3.3
11	9.1	24	19	24	20	12	13	12	7.5	4.6	12	3.0
12	4.8	71	15	36	16	73	12	9.6	6.8	5.2	7.5	2.8
13	5.4	30	14	36	23	46	31	9.6	6.4	5.8	4.6	2.8
14	13	15	12	31	17	29	19	14	13	7.9	4.8	2.8
15	6.8	11	11	71	14	24	23	51	7.9	20	4.3	2.8
16	5.8	9.1	9.6	39	15	19	21	17	6.8	20	4.0	2.8
17	4.6	7.9	9.6	25	12	16	17	15	6.4	34	3.8	2.8
18	18	7.1	8.7	20	10	22	48	17	6.4	12	4.3	2.8
19	10	6.8	7.9	17	10	21	67	41	6.1	9.1	5.2	2.8
20	15	6.8	7.5	15	9.1	15	49	35	6.4	7.5	5.2	2.8
21	12	6.4	7.5	15	8.7	14	53	21	6.8	7.1	4.6	2.6
22	16	6.8	7.1	13	8.3	12	38	21	8.3	6.1	4.6	2.6
23	9.1	17	7.1	16	7.9	69	28	21	6.4	5.4	3.8	2.6
24	8.3	28	6.8	19	7.9	24	21	12	6.8	5.2	3.5	2.6
25	7.5	16	6.4	13	7.9	18	17	11	6.8	5.8	3.5	2.6
26	6.1	13	6.4	13	7.9	14	14	9.6	5.8	5.4	3.5	2.6
27	8.3	13	6.1	26	8.7	13	12	9.1	5.4	6.4	3.5	2.6
28	6.8	24	6.1	14	7.1	12	13	8.7	5.2	4.8	3.3	2.6
29	9.6	45	14	12	------	11	12	8.3	5.4	4.6	3.5	2.4
30	10	19	28	24	------	10	10	7.9	5.2	4.3	3.5	2.8
31	7.5	------	33	35	------	9.1	------	9.1	------	4.0	3.8	------
TOTAL	232.4	426.2	741.8	1,109	371.5	797.1	622.9	464.9	238.4	236.2	141.2	97.9
MEAN	7.50	14.2	23.9	35.8	13.3	25.7	20.8	15.0	7.95	7.62	4.55	3.26
MAX	18	71	171	199	30	81	67	51	18	34	12	8.5
MIN	3.3	4.3	6.1	12	7.1	9.1	7.9	7.9	5.2	4.0	3.3	2.4
AC-FT	461	845	1,470	2,200	737	1,580	1,240	922	473	469	280	194

CAL YR 1973 TOTAL 5,718.3 MEAN 15.7 MAX 171 MIN 3.3 AC-FT 11,340
WTR YR 1974 TOTAL 5,479.5 MEAN 15.0 MAX 199 MIN 2.4 AC-FT 10,870

PEAK DISCHARGE (BASE, 460 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12- 8	0330	4.22	637	3- 2	0100	4.90	900
1- 6	2330	5.35	1,100				

16404200 PILIPILILAU STREAM NEAR PELEKUNU

LOCATION.--Lat 21°08'08", long 156°53'09", on right bank 500 ft (152 m) downstream from left-bank tributary, 1.9 mi (3.1 km) south of former village of Pelekunu, and 5.8 mi (9.3 km) north of Kamalo.

DRAINAGE AREA.--0.49 m^2 (1.27 km^2).

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,000 ft (305 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 1.54 ft^3/s (0.0436 m^3/s), 1,120 acre-ft/yr (1.38 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 274 ft^3/s (7.76 m^3/s) Dec. 8, gage height, 3.78 ft (1.152 m), from rating curve extended above 3.8 ft^3/s (0.11 m^3/s); minimum, 0.56 ft^3/s (0.016 m^3/s) Sept. 29.

Period of record: Maximum discharge, 274 ft^3/s (7.76 m^3/s) Dec. 8, 1973, gage height, 3.78 ft (1.152 m), from rating curve extended above 3.8 ft^3/s (0.11 m^3/s); minimum, 0.53 ft^3/s (0.015 m^3/s) Nov. 22, 1968.

REMARKS.--Records good except those above 8 ft^3/s (0.23 m^3/s), which are poor. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.68	.68	2.7	1.4	2.5	2.4	1.3	1.2	.94	.78	.68	.65
2	.68	.65	12	1.4	1.8	9.2	1.3	1.2	.90	.78	.71	.65
3	.68	.65	2.3	1.5	1.7	2.1	1.5	1.1	.94	.78	.71	.81
4	.68	.65	1.4	1.5	1.6	2.1	1.4	1.1	.98	.78	.71	.74
5	.71	.65	1.2	1.8	1.6	3.0	1.3	1.0	.90	.78	.78	.68
6	.71	.65	1.2	20	1.5	3.7	1.4	1.0	.90	.78	.71	.65
7	.74	.65	1.0	21	1.7	2.4	1.3	1.1	.90	.82	.68	.65
8	.78	.65	18	3.9	1.6	2.1	1.3	1.0	.90	.74	.65	.65
9	.71	.65	2.7	6.4	1.5	1.9	1.2	1.1	.86	.74	.65	.71
10	.68	.65	2.1	2.9	1.7	1.7	1.2	1.2	.90	.71	.65	.68
11	.74	2.5	1.9	2.5	1.7	1.6	1.3	1.1	.86	.74	.74	.68
12	.68	4.2	1.8	4.0	1.6	5.1	1.3	1.0	.82	.71	.68	.65
13	.82	1.2	1.6	3.6	1.9	2.9	1.9	1.0	.82	.71	.65	.65
14	.74	.84	1.6	2.8	1.6	2.6	1.3	1.3	.94	.74	.65	.65
15	.68	.78	1.6	6.6	1.4	2.4	1.4	2.8	.82	.90	.65	.65
16	.68	.74	1.5	3.2	1.4	2.0	1.2	1.1	.82	.90	.65	.62
17	.68	.71	1.5	2.6	1.4	1.9	1.4	1.1	.82	1.5	.65	.65
18	1.1	.71	1.4	2.3	1.3	1.9	2.6	1.1	.82	.82	.68	.65
19	.82	.71	1.4	2.1	1.3	1.8	3.5	1.5	.78	.78	.65	.62
20	.86	.71	1.4	2.0	1.3	1.6	2.4	1.4	.78	.78	.65	.62
21	.86	.71	1.4	2.0	1.2	1.6	2.3	1.1	.78	.74	.65	.62
22	.86	.71	1.4	1.9	1.2	1.6	1.9	1.1	.78	.74	.65	.62
23	.74	.94	1.3	2.0	1.2	5.9	1.6	1.1	.78	.71	.65	.62
24	.74	1.4	1.3	2.0	1.2	2.1	1.4	1.0	.78	.71	.65	.62
25	.74	.94	1.3	1.7	1.2	1.9	1.3	1.0	.78	.74	.62	.62
26	.71	.82	1.3	1.6	1.1	1.8	1.3	.98	.78	.71	.62	.62
27	.74	.74	1.3	1.9	1.1	1.6	1.3	.94	.78	.74	.62	.62
28	.71	.82	1.3	1.6	1.1	1.4	1.3	.94	.78	.71	.62	.62
29	.74	1.5	1.6	1.6	------	1.4	1.2	.90	.78	.68	.62	.59
30	.71	.90	2.0	2.8	------	1.4	1.2	.90	.78	.68	.65	.62
31	.71	------	2.1	2.9	------	1.3	------	.94	------	.68	.65	------
TOTAL	23.11	29.11	76.6	115.5	41.4	76.4	46.3	35.30	25.20	24.11	20.58	19.48
MEAN	.75	.97	2.47	3.73	1.48	2.46	1.54	1.14	.84	.78	.66	.65
MAX	1.1	4.2	18	21	2.5	9.2	3.5	2.8	.98	1.5	.78	.81
MIN	.68	.65	1.0	1.4	1.1	1.3	1.2	.90	.78	.68	.62	.59
AC-FT	46	58	152	229	82	152	92	70	50	48	41	39

CAL YR 1973 TOTAL 481.07 MEAN 1.32 MAX 18 MIN .65 AC-FT 954
WTR YR 1974 TOTAL 533.09 MEAN 1.46 MAX 21 MIN .59 AC-FT 1,060

PEAK DISCHARGE (BASE, 80 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12- 8	0330	3.78	274	3- 2	0130	3.17	119
1- 6	2300	3.64	232				

16405100 MOLOKAI TUNNEL AT EAST PORTAL

LOCATION.--Lat 21°08'38", long 156°55'16", on left bank 100 ft (30 m) downstream from the east portal, 5.3 mi (8.5 km) southeast of Kalaupapa, and 7.5 mi (12.1 km) northeast of Kaunakakai.

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 989 ft (301.4 m) from tunnel plans.

AVERAGE DISCHARGE.--8 years, 2.83 ft^3/s (0.0801 m^3/s), 2,050 acre-ft/yr (2.53 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 29 ft^3/s (0.82 m^3/s) Jan. 27, May 18, 1973; no flow at times.

REMARKS.--Records good. Tunnel diverts from Waikolu Stream and two tributaries; diversion is augmented by water pumped from two wells in Waikolu Valley near the east portal. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.4	9.5	1.3	1.2	.61	.06	1.6	0	0	0	0
2	1.1	1.2	26	.82	0	5.1	0	.79	0	0	0	0
3	.99	1.5	3.2	1.8	0	0	0	0	.02	0	0	.12
4	.99	1.8	.74	2.1	0	.60	.02	0	0	0	0	0
5	.99	1.4	.23	3.5	0	4.0	.01	0	0	0	.03	0
6	.90	.99	.48	21	0	5.8	0	0	0	0	0	0
7	.90	.90	.60	19	0	0	.03	0	0	0	0	0
8	1.2	.90	9.6	4.0	0	0	.12	0	0	.05	0	0
9	1.3	1.4	8.0	12	0	0	0	0	0	0	0	0
10	.99	1.9	7.2	2.2	0	0	0	0	.04	0	0	.04
11	2.2	18	4.2	.90	0	.64	.58	0	0	0	0	0
12	2.0	21	2.2	9.5	.01	2.0	.01	0	0	0	0	0
13	2.5	5.6	.74	9.4	.02	.41	1.1	.02	0	0	.04	0
14	9.5	2.3	.36	4.2	0	.10	.02	0	0	0	0	0
15	2.8	.18	.27	16	0	.28	.14	1.2	0	0	0	0
16	2.5	.54	.23	6.6	0	0	.03	.02	0	0	0	.04
17	2.2	1.2	.80	1.9	0	0	0	0	.04	1.6	0	0
18	14	2.5	.56	1.5	0	.10	1.8	0	0	0	0	0
19	6.2	1.2	.33	.90	0	0	1.3	1.1	0	0	.04	0
20	12	.04	.12	.54	0	0	.24	.08	0	0	0	0
21	7.6	.14	.12	.48	0	0	.55	0	0	0	0	0
22	9.8	.20	.10	.24	0	0	.08	0	0	.03	0	0
23	3.0	3.5	.10	0	0	1.7	.01	0	0	0	0	0
24	1.9	12	.25	0	0	0	0	.82	.34	0	0	0
25	2.4	5.6	.10	0	.04	0	0	1.3	0	0	0	0
26	1.5	1.6	.08	0	0	.84	0	1.3	0	0	0	1.4
27	2.2	1.2	.08	.74	0	0	0	1.3	0	0	0	1.4
28	2.4	2.4	.08	0	0	0	.01	.76	.04	0	0	1.4
29	1.9	6.2	2.4	0	------	0	0	0	0	.01	0	1.4
30	3.4	1.5	10	2.9	------	0	.95	0	0	0	0	1.4
31	2.2	------	8.0	2.2	------	0	------	0	------	0	0	------
TOTAL	104.66	100.29	96.67	125.72	1.27	22.18	7.06	10.29	.48	1.69	.11	7.20
MEAN	3.38	3.34	3.12	4.06	.045	.72	.24	.33	.016	.055	.004	.24
MAX	14	21	26	21	1.2	5.8	1.8	1.6	.34	1.6	.04	1.4
MIN	.90	.04	.08	0	0	0	0	0	0	0	0	0
AC-FT	208	199	192	249	2.5	44	14	20	1.0	3.4	.2	14

CAL YR 1973 TOTAL 1,520.95 MEAN 4.17 MAX 29 MIN .04 AC-FT 3,020
WTR YR 1974 TOTAL 477.62 MEAN 1.31 MAX 26 MIN 0 AC-FT 947

16405300 MOLOKAI TUNNEL AT WEST PORTAL

LOCATION.--Lat 21°07'27", long 156°59'50", on left bank 50 ft (15 m) upstream from the west portal, 2.5 mi (4.0 km) northeast of Kaunakakai, and 4.7 mi (7.6 km) south of Kalaupapa.

PERIOD OF RECORD.--July 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 970 ft (295.7 m) from tunnel plans.

AVERAGE DISCHARGE.--9 years, 5.18 ft^3/s (0.147 m^3/s), 3,750 acre-ft/yr (4.62 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 34 ft^3/s (0.96 m^3/s) Feb. 5, 1972; minimum daily, 1.8 ft^3/s (0.051 m^3/s) Oct. 15, 1967.

REMARKS.--Records excellent. Tunnel diverts from Waikolu Stream and two tributaries; diversion is augmented by water pumped from two wells in Waikolu Valley near east portal and one well in the tunnel near east portal. Water is used for irrigation in west-central Molokai. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	3.3	8.4	4.1	3.3	2.2	2.5	4.1	2.3	2.3	2.2	2.2
2	3.0	3.1	27	3.1	2.2	7.7	2.3	3.5	2.3	2.3	2.2	2.2
3	3.0	3.0	6.2	2.8	2.2	2.2	2.3	2.4	2.3	2.3	2.2	2.3
4	3.0	3.9	3.3	5.6	2.3	3.2	2.3	2.4	2.3	2.3	2.2	2.3
5	3.0	3.5	2.6	4.1	2.2	4.3	2.3	2.3	2.3	2.3	2.3	2.3
6	3.0	2.8	2.8	21	2.2	9.4	2.3	2.3	2.3	2.3	2.2	2.3
7	2.8	3.1	2.8	21	2.2	2.2	2.4	2.3	2.3	2.3	2.2	2.3
8	3.1	3.1	11	6.6	2.2	2.2	2.6	2.3	2.3	2.3	2.2	2.3
9	3.1	3.3	9.0	14	2.2	2.2	2.4	2.3	2.3	2.3	2.2	2.3
10	3.0	4.1	9.4	4.5	2.2	2.2	2.4	2.3	2.4	2.3	2.2	2.4
11	3.9	17	6.5	3.3	2.3	3.0	3.0	2.3	2.3	2.2	2.2	2.3
12	4.1	23	4.5	11	2.3	3.5	2.4	2.3	2.3	2.2	2.2	2.3
13	3.5	8.0	3.3	11	2.2	3.1	3.6	2.3	2.3	2.2	2.3	2.3
14	12	4.8	2.8	6.8	2.2	2.2	2.4	2.3	2.3	2.2	2.2	2.3
15	4.9	2.4	2.8	16	2.2	2.6	2.6	4.3	2.3	2.2	2.2	2.3
16	4.1	2.6	2.6	9.7	2.2	2.2	2.4	2.3	2.3	2.2	2.2	2.4
17	4.1	3.1	2.8	4.3	2.2	2.2	2.3	2.3	2.4	4.0	2.2	2.3
18	14	4.3	3.2	3.7	2.2	2.4	4.1	2.3	2.3	2.2	2.2	2.2
19	7.2	3.9	2.8	3.3	2.2	2.2	3.9	2.9	2.3	2.2	2.3	2.2
20	13	2.3	2.4	3.0	2.2	2.3	2.6	3.0	2.3	2.2	2.2	2.2
21	8.3	2.3	2.4	2.6	2.2	2.3	2.9	2.3	2.3	2.2	2.2	2.0
22	13	2.4	2.4	2.4	2.2	2.4	2.4	2.3	2.3	2.3	2.2	2.0
23	4.9	3.1	2.4	2.2	2.2	4.4	2.4	2.3	2.3	2.2	2.2	2.3
24	3.5	14	2.6	2.2	2.2	2.4	2.4	3.0	2.6	2.2	2.2	1.9
25	4.1	8.4	2.3	2.2	2.3	2.4	2.4	3.7	2.3	2.2	2.2	2.0
26	3.5	4.1	2.3	2.2	2.2	2.4	2.4	3.7	2.3	2.2	2.2	2.8
27	3.7	3.3	2.3	3.0	2.2	2.6	2.4	3.5	2.3	2.2	2.2	2.8
28	4.6	4.1	2.3	2.3	2.2	2.4	2.4	3.1	2.3	2.2	2.2	2.8
29	3.5	7.8	2.3	2.2	------	2.3	2.4	2.3	2.3	2.3	2.2	2.8
30	4.8	4.1	12	3.6	------	2.3	3.1	2.3	2.3	2.2	2.2	2.8
31	3.9	------	12	5.9	------	2.3	------	2.3	------	2.2	2.2	------
TOTAL	159.2	158.2	161.5	189.7	63.1	91.7	78.3	83.3	69.5	71.2	68.5	69.9
MEAN	5.14	5.27	5.21	6.12	2.25	2.96	2.61	2.69	2.32	2.30	2.21	2.33
MAX	14	23	27	21	3.3	9.4	4.1	4.3	2.6	4.0	2.3	2.8
MIN	2.8	2.3	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2	1.9
AC-FT	316	314	320	376	125	182	155	165	138	141	136	139

CAL YR 1973 TOTAL 2,220.1 MEAN 6.08 MAX 28 MIN 2.2 AC-FT 4,400
WTR YR 1974 TOTAL 1,264.1 MEAN 3.46 MAX 27 MIN 1.9 AC-FT 2,510

HAWAII, ISLAND OF MOLOKAI

16405500 WAIKOLU STREAM AT ALTITUDE 900 FT (274 M), NEAR KALAUPAPA

LOCATION.--Lat 21°08'43", long 156°55'18", on right bank 1.8 mi (2.9 km) southwest of Haupu Bay, 2.3 mi (3.7 km) upstream from mouth, and 5.2 mi (8.4 km) southeast of Kalaupapa.

DRAINAGE AREA.--1.99 mi^2 (5.15 km^2).

PERIOD OF RECORD.--May 1956 to October 1961, July 1962 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 900 ft (274 m) from topographic map. Prior to July 1, 1962, at site 200 ft (61 m) upstream at datum 6.14 ft (1.871 m) higher.

AVERAGE DISCHARGE (since Molokai tunnel diversion began).--13 years (1960-61, 1962-74), 8.14 ft^3/s (0.231 m^3/s), 5,900 acre-ft/yr (7.27 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,430 ft^3/s (40.5 m^3/s) Dec. 8, gage height, 5.30 ft (1.615 m), from rating curve extended above 43 ft^3/s (1.22 m^3/s); minimum, 0.57 ft^3/s (0.016 m^3/s) Oct. 25, 26, Oct. 29 to Nov. 11.

Period of record: Maximum discharge, 2,080 ft^3/s (58.9 m^3/s) Apr. 13, 1965, gage height, 6.12 ft (1.865 m), from rating curve extended above 43 ft^3/s (1.22 m^3/s); minimum, 0.09 ft^3/s (0.003 m^3/s) Jan. 15-18, 1972.

Flood of Oct. 31, 1961, reached a stage of 13.62 ft (4.151 m), from floodmarks, former site and datum, discharge, 6,220 ft^3/s (176 m^3/s), by slope-area measurement.

REMARKS.--Records fair except those above 90 ft^3/s (2.55 m^3/s), which are poor. Since Nov. 16, 1960, water diverted above station at times, either into or from Molokai tunnel. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEAR).--WSP 1719: 1959. (WATER YEARS).--WSP 2137: 1963(P), 1964(M), 1965(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	.70	22	3.4	16	26	2.3	1.1	2.6	2.0	2.3	1.8
2	.70	.57	99	3.1	4.0	62	2.3	2.3	2.8	2.0	2.3	2.0
3	.70	.57	4.3	5.5	2.8	5.0	2.3	3.1	3.1	2.0	2.3	2.8
4	.70	.57	2.6	7.2	2.6	5.3	6.5	3.1	7.8	1.8	2.3	5.0
5	.70	.57	2.3	13	2.3	18	5.3	2.8	5.7	1.8	3.4	2.8
6	.70	.57	2.0	137	2.3	25	4.0	2.6	4.0	2.0	2.8	2.0
7	.70	.57	1.8	99	4.0	7.3	8.2	2.6	3.4	2.0	2.6	1.8
8	.70	.57	95	7.3	4.3	6.5	5.3	2.6	3.6	2.3	2.6	1.8
9	.70	.57	9.0	33	4.6	4.6	3.6	3.1	4.0	2.0	2.6	1.8
10	.70	.57	8.0	4.0	6.1	2.6	2.6	8.0	3.4	2.0	2.8	1.8
11	.70	17	2.8	3.1	10	2.0	11	5.0	3.6	2.0	8.3	1.8
12	.70	63	1.3	21	5.7	50	8.2	3.7	2.6	2.0	6.5	1.8
13	.70	13	2.0	16	14	14	19	3.1	2.6	2.0	2.8	1.8
14	1.7	3.1	2.0	11	7.3	8.6	10	4.2	4.0	3.1	2.6	1.8
15	.70	3.6	2.0	40	3.6	9.6	5.7	36	4.0	11	2.3	1.8
16	.70	4.3	1.8	14	4.6	3.6	8.2	4.3	2.6	12	2.0	1.8
17	.70	2.8	2.0	4.3	3.6	2.6	3.1	3.1	2.6	23	1.8	2.0
18	6.5	1.5	1.8	4.0	2.8	4.2	21	5.7	2.3	4.0	1.8	2.0
19	1.1	1.5	1.5	3.1	2.6	4.3	29	16	2.3	2.8	2.0	2.0
20	2.4	1.5	1.8	2.8	2.6	3.1	13	10	2.3	2.6	2.6	2.0
21	1.3	1.3	1.8	2.8	2.3	2.6	17	4.6	2.3	2.3	2.8	2.0
22	1.8	1.5	1.8	3.1	2.0	2.3	12	3.1	2.6	2.3	2.6	2.0
23	.70	3.4	1.8	4.0	1.8	51	5.3	2.6	2.8	2.3	2.6	2.0
24	.70	16	1.8	11	1.8	4.6	3.4	1.3	2.6	2.6	2.6	2.0
25	.57	6.0	1.8	4.0	1.8	3.1	2.8	.70	2.3	2.8	2.6	1.5
26	.57	2.3	1.8	3.1	1.8	2.6	2.6	.70	2.3	2.6	2.6	.87
27	.70	2.0	1.8	8.2	1.8	2.3	2.3	.70	2.0	2.8	2.6	.87
28	.70	4.9	1.8	4.6	1.8	2.3	3.4	1.1	6.0	2.6	2.3	.87
29	.70	8.9	6.1	2.8	------	2.3	3.1	2.3	2.6	2.3	2.0	.87
30	.70	2.6	22	20	------	2.3	1.5	2.3	2.3	2.3	1.8	.87
31	.70	------	13	20	------	2.3	------	2.3	------	2.3	1.8	------
TOTAL	32.04	166.03	320.5	515.4	120.9	342.0	224.0	144.10	97.1	111.6	85.0	56.25
MEAN	1.03	5.53	10.3	16.6	4.32	11.0	7.47	4.65	3.24	3.60	2.74	1.88
MAX	6.5	63	99	137	16	62	29	36	7.8	23	8.3	5.0
MIN	.57	.57	1.3	2.8	1.8	2.0	1.5	.70	2.0	1.8	1.8	.87
AC-FT	64	329	636	1,020	240	678	444	286	193	221	169	112

CAL YR 1973 TOTAL 1,667.39 MEAN 4.57 MAX 143 MIN .48 AC-FT 3,310
WTR YR 1974 TOTAL 2,214.92 MEAN 6.07 MAX 137 MIN .57 AC-FT 4,390

PEAK DISCHARGE (BASE, 590 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-8	0300	5.30	1,430	3-1	2330	3.96	640
1-6	2230	4.56	956				

16408000 WAIKOLU STREAM BELOW PIPELINE CROSSING, NEAR KALAUPAPA

LOCATION.--Lat 21°09'45", long 156°55'54", on left bank 0.7 mi (1.1 km) upstream from mouth and 4.4 mi (7.1 km) southeast of Molokai Lighthouse near Kalaupapa.

DRAINAGE AREA.--3.68 mi^2 (9.53 km^2).

PERIOD OF RECORD.--July 1919 to November 1930, August 1931 to July 1932, September 1937 to January 1948, July 1948 to current year. Prior to August 1931, published as "at pipeline crossing, near Kalaupapa."

GAGE.--Water-stage recorder. Datum of gage is 252 ft (76.810 m) above mean sea level (hand levels by Bureau of Reclamation). Prior to Nov. 19, 1930, at site 500 ft (152 m) upstream at different datums. Aug. 14, 1931, to July 20, 1932, and Sept. 20, 1937, to Jan. 26, 1948, at present site at datum 1.49 ft (0.454 m) higher, and July 30, 1948, to June 30, 1962, at present site at datum 1.00 ft (0.305 m) higher.

AVERAGE DISCHARGE (since Molokai tunnel diversion began).--14 years (1960-74), 16.0 ft^3/s (0.453 m^3/s), 11,590 acre-ft/yr (14.3 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,100 ft^3/s (31.2 m^3/s) Dec. 8, gage height, 5.59 ft (1.704 m), from rating curve extended as explained below; minimum daily, 3.0 ft^3/s (0.085 m^3/s) Nov. 11.

Period of record: Maximum discharge, 6,600 ft^3/s (187 m^3/s) Oct. 31, 1961, gage height, 13.75 ft (4.191 m), present datum, from floodmarks, from rating curve extended above 39 ft^3/s (1.10 m^3/s) on basis of slope-area measurement of peak flow; minimum, 2.0 ft^3/s (0.057 m^3/s) Nov. 1, 2, 1925, June 5, 1926.

REMARKS.--Records fair except those above 80 ft^3/s (2.27 m^3/s), which are poor. Diversion above station for domestic use in Kalaupapa, and since Nov. 16, 1960, water has been diverted above station both to and from Molokai tunnel. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1155: 1932(M), 1938-44(M), 1946-48(M). WSP 1319: 1923(M), 1930(M), 1932, 1938-40, 1945(M), drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	5.8	34	8.4	28	32	9.7	8.1	7.9	7.1	5.8	5.5
2	6.8	6.0	189	7.1	12	114	9.7	8.9	7.9	6.9	6.0	5.5
3	6.6	6.0	15	8.1	10	15	9.7	10	7.9	6.4	5.8	5.8
4	6.8	5.5	8.4	14	9.2	14	15	9.2	12	6.4	5.8	8.6
5	7.0	4.8	7.4	16	8.9	26	13	8.9	10	6.4	6.4	6.9
6	6.8	4.7	7.1	153	8.7	39	12	8.7	8.9	6.4	6.2	6.0
7	6.8	4.7	6.0	141	11	16	16	8.9	7.9	6.6	5.8	5.8
8	6.6	4.5	123	20	12	15	12	9.4	8.1	6.9	5.8	5.8
9	6.4	4.2	19	48	11	13	11	9.7	8.4	6.2	5.8	5.8
10	6.6	3.7	19	14	13	10	9.7	15	8.1	6.2	5.5	5.5
11	6.8	71	12	12	19	9.4	19	13	8.1	6.4	9.5	5.5
12	6.8	185	8.9	32	12	63	16	11	7.6	6.6	10	5.5
13	7.3	51	8.4	27	23	28	25	9.4	7.4	6.4	6.9	5.5
14	8.3	11	8.4	20	15	17	20	9.7	8.9	7.1	6.2	5.5
15	6.6	10	8.1	54	9.4	20	13	46	8.9	14	6.2	5.5
16	6.6	7.9	7.6	23	11	12	16	11	7.6	17	6.0	5.1
17	6.8	6.4	7.6	12	8.9	10	11	9.2	7.4	31	6.0	5.5
18	22	4.5	7.1	11	8.1	17	30	11	7.1	8.9	5.8	5.5
19	7.8	4.7	6.6	9.7	7.9	15	50	22	7.1	7.1	5.8	5.3
20	10	5.8	6.6	9.2	7.6	11	25	18	7.1	6.6	6.0	5.5
21	8.1	5.3	6.2	8.7	7.4	10	28	11	7.1	6.4	6.0	5.3
22	9.6	4.8	5.8	8.9	7.1	10	23	9.7	7.4	6.2	6.0	5.1
23	7.3	7.4	5.3	10	6.9	65	15	8.9	7.6	6.0	6.0	4.8
24	7.2	41	5.1	17	6.9	14	12	7.9	7.4	6.0	5.8	5.1
25	7.2	14	4.7	11	6.6	12	11	7.1	7.1	6.4	5.5	4.8
26	7.0	5.3	4.2	8.9	6.4	11	10	6.9	7.1	6.2	5.5	4.5
27	7.3	4.7	3.8	15	6.2	10	9.7	6.6	7.4	6.4	5.5	4.5
28	7.0	8.0	3.7	12	6.2	10	12	7.1	11	6.2	5.3	4.3
29	6.4	17	6.1	8.9	------	9.7	10	7.6	8.1	6.0	5.3	4.3
30	5.8	4.7	26	29	------	9.7	8.7	7.9	7.4	6.0	5.5	4.3
31	5.8	------	23	40	------	9.7	------	7.9	------	5.8	5.5	------
TOTAL	234.7	519.4	603.1	808.9	299.4	667.5	486.2	345.7	241.9	244.2	189.2	162.6
MEAN	7.57	17.3	19.5	26.1	10.7	21.5	16.2	11.2	8.06	7.88	6.10	5.42
MAX	22	185	189	153	28	114	50	46	12	31	10	8.6
MIN	5.8	3.7	3.7	7.1	6.2	9.4	8.7	6.6	7.1	5.8	5.3	4.3
AC-FT	466	1,030	1,200	1,600	594	1,320	964	686	480	484	375	323

CAL YR 1973 TOTAL 4,463.5 MEAN 12.2 MAX 189 MIN 3.7 AC-FT 8,850
WTR YR 1974 TOTAL 4,802.8 MEAN 13.2 MAX 189 MIN 3.7 AC-FT 9,530

16414000 KAUNAKAKAI GULCH AT KAUNAKAKAI

LOCATION.--Lat 21°06'21", long 157°00'34", on left bank 0.6 mi (1.0 km) upstream from Molokai Ranch pipeline crossing, 1.3 mi (2.1 km) northeast of Kaunakakai Post Office, and 1.7 mi (2.7 km) upstream from mouth.

DRAINAGE AREA.--6.57 mi^2 (17.02 km^2).

PERIOD OF RECORD.--December 1949 to current year. Prior to July 1958, published as Kaunakakai Stream at Kaunakakai.

GAGE.--Water-stage recorder. Altitude of gage is 240 ft (73 m) from topographic map.

AVERAGE DISCHARGE.--24 years (1950-74), 1.60 ft^3/s (0.0453 m^3/s), 1,160 acre-ft/yr (1.43 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,100 ft^3/s (31.2 m^3/s) Jan. 7, gage height, 6.68 ft (2.036 m), from rating curve extended as explained below; no flow most of time.

Period of record: Maximum discharge, 3,060 ft^3/s (86.7 m^3/s) Oct. 31, 1961, gage height, 9.30 ft (2.835 m), from rating curve extended above 620 ft^3/s (17.6 m^3/s) on basis of slope-area measurement of peak flow; no flow at times each year.

REMARKS.--Records good. Flow has been augmented by occasional spillage from Molokai tunnel since May 1965.

REVISIONS (FISCAL YEARS).--WSP 1289: 1950-51. WSP 1569: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	.04		0		0				
2		0	68	0		3.7		0				
3		0	3.8	0		.18		0				
4		0	0	0		0		0				
5		0	0	0		0		0				
6		0	0	58		1.0		0				
7		0	0	206		.21		0				
8		0	33	14		0		0				
9		0	.60	28		0		0				
10		0	3.2	3.8		0		0				
11		0	.62	.23		0		0				
12		1.3	0	12		28		0				
13		.12	0	5.8		15		0				
14		0	0	3.7		1.4		0				
15		0	0	19		0		4.8				
16		0	0	13		0		.01				
17		0	0	2.8		0		0				
18		0	0	.06		0		0				
19		0	0	0		0		0				
20		0	0	0		0		0				
21		0	0	0		0		0				
22		0	0	0		0		0				
23		0	0	0		13		0				
24		0	0	0		.43		0				
25		0	0	0		0		0				
26		0	0	0		0		0				
27		0	0	0		0		0				
28		0	0	0		0		0				
29		0	0	0	------	0		0				
30		0	0	0	------	0		0				
31		------	8.6	0	------	0	------	0	------			------
TOTAL	0	1.42	117.82	366.43	0	62.92	0	4.81	0	0	0	0
MEAN	0	.047	3.80	11.8	0	2.03	0	.16	0	0	0	0
MAX	0	1.3	68	206	0	28	0	4.8	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	2.8	234	727	0	125	0	9.5	0	0	0	0

CAL YR 1973 TOTAL 264.25 MEAN .72 MAX 68 MIN 0 AC-FT 524
WTR YR 1974 TOTAL 553.40 MEAN 1.52 MAX 206 MIN 0 AC-FT 1,100

PEAK DISCHARGE (BASE, 280 CFS).--Dec. 8 (0500) 357 cfs (5.12 ft); Jan. 7 (0100) 1,100 cfs (6.68 ft).

HAWAII, ISLAND OF MOLOKAI

16419500 PAPIO GULCH AT HALAWA

LOCATION.--Lat 21°08'55", long 156°44'16", on left bank 200 ft (61 m) downstream from wooden bridge on Highway 45 and 0.8 mi (1.3 km) south of Halawa.

DRAINAGE AREA.--0.94 mi^2 (2.43 km^2).

PERIOD OF RECORD.--July 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 640 ft (195 m) from topographic map.

AVERAGE DISCHARGE.--11 years, 0.940 ft^3/s (0.0266 m^3/s), 681 acre-ft/yr (840,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 98 ft^3/s (2.78 m^3/s) Jan. 7, gage height, 3.16 ft (0.963 m); no flow on many days.

Period of record: Maximum discharge, 2,720 ft^3/s (77.0 m^3/s) Apr. 13, 1965, gage height, 11.25 ft (3.429 m), from rating curve extended above 37 ft^3/s (1.05 m^3/s) on basis of slope-area measurements at gage heights 4.60 ft (1.402 m), 7.15 ft (2.170 m), and 11.25 ft (3.429 m); no flow at times.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Diversion above station for domestic use at Puu O Hoku Ranch. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	1.1	.07	.58	.21	.21	.07	.04			0
2	0	0	25	.62	.46	6.5	.21	.09	.04			0
3	0	0	2.3	.15	.34	.83	.21	.06	.04			.07
4	0	0	.83	.21	1.0	.38	.27	.05	.04			.47
5	0	0	.46	.09	.58	.79	.27	.04	.06			.26
6	0	0	.42	4.8	.34	1.2	.24	.04	.06			.02
7	0	0	.27	18	.46	.58	.34	.04	.05			0
8	0	0	6.9	1.1	.50	.42	.34	.04	.05			0
9	0	0	.83	1.2	.34	.38	.21	.03	.05			0
10	.10	0	1.3	.50	.34	.24	.21	.03	.02			0
11	1.0	3.7	.58	.42	.38	.38	.21	.01	0			0
12	.21	2.8	.38	.93	.27	3.9	.21	0	0			0
13	.50	.27	.21	1.0	.34	3.6	.21	.09	0			0
14	1.5	.05	.18	4.4	.42	2.0	.21	.18	0			0
15	5.0	.02	.15	3.1	.27	1.5	.21	9.5	0			0
16	.62	.03	.12	1.1	.21	.73	.18	1.9	0			0
17	1.0	0	.09	.68	.18	.54	.15	.42	2.3			0
18	5.0	0	.07	.54	.18	.50	.38	1.0	.18			0
19	3.0	0	.07	.46	.18	.46	2.5	.38	.04			0
20	4.5	0	.07	.38	.18	.38	1.8	.83	.04			0
21	2.0	0	.07	.46	.15	.30	.73	.38	.02			0
22	3.0	0	.07	.38	.15	.27	.46	.18	0			0
23	1.0	0	.06	.42	.15	1.3	.34	.09	0			0
24	0	0	.06	.54	.12	.50	.27	.06	0			0
25	0	0	.06	.34	.12	.30	.27	.06	0			0
26	0	0	.05	.30	.12	.27	.15	.06	0			0
27	0	0	.05	.52	.12	2.8	.09	.05	0			0
28	0	0	.04	.27	.12	.46	.09	.05	0			0
29	4.0	6.2	.05	.24	------	.30	.09	.05	0			0
30	.50	.38	.15	3.2	------	.27	.07	.05	0			------
31	0	------	.07	4.3	------	.24	------	.04	------			
TOTAL	32.93	13.45	42.06	50.72	8.60	32.53	11.13	15.87	3.03	0	0	.82
MEAN	1.06	.45	1.36	1.64	.31	1.05	.37	.51	.10	0	0	.027
MAX	5.0	6.2	25	18	1.0	6.5	2.5	9.5	2.3	0	0	.47
MIN	0	0	.04	.07	.12	.21	.07	0	0	0	0	0
AC-FT	65	27	83	101	17	65	22	31	6.0	0	0	1.6

CAL YR 1973 TOTAL 111.43 MEAN .31 MAX 25 MIN 0 AC-FT 221
WTR YR 1974 TOTAL 211.14 MEAN .58 MAX 25 MIN 0 AC-FT 419

PEAK DISCHARGE (BASE, 210 CFS).--No peak above base.

NOTE.--No gage-height record Oct. 1 to Nov. 7.

HAWAII, ISLAND OF MAUI

16501000 PALIKEA STREAM BELOW DIVERSION DAM, NEAR KIPAHULU

LOCATION.--Lat 20°41'03", long 156°04'10", on left bank 50 ft (15 m) downstream from old diversion dam, 2 mi (3.2 km) northwest of Kipahulu, and 2.1 mi (3.4 km) upstream from mouth.

DRAINAGE AREA.--6.29 mi² (16.29 km²).

PERIOD OF RECORD.--February 1927 to September 1929, December 1931 to September 1935, December 1935 to February 1938, May to October, December 1938, January 1939, August 1939 to current year. Published as Oheo Stream at elevation 1,550 ft (472 m) near Kipahulu 1927-29 and as Oheo Stream below diversion dam, near Kipahulu 1930-56.

GAGE.--Water-stage recorder. Datum of gage is 1,546 ft (471 m) above mean sea level (by vertical angles). Prior to Sept. 6, 1929, at site 100 ft (30 m) upstream at different datum.

AVERAGE DISCHARGE.--39 years (1927-28, 1932-34, 1936-37, 1939-74), 58.5 ft³/s (1.657 m³/s), 42,380 acre-ft/yr (52.3 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,790 ft³/s (164 m³/s) Nov. 12, gage height, 9.83 ft (2.996 m); minimum, 0.01 ft³/s (<0.001 m³/s) Sept. 19-25.

Period of record: Maximum discharge, 16,100 ft³/s (456 m³/s) Jan. 23, 1965, gage height, 18.3 ft (5.58 m), from floodmarks, from rating curve extended above 3,300 ft³/s (93.5 m³/s) on basis of computations of peak flow over dam at gage heights 12.68 (3.865) and 17.5 ft (5.33 m); no flow at times.

REMARKS.--Records good. No diversion above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1155: 1939(M). WSP 1569: Drainage area. WSP 1719: 1932-34, 1937-40, 1948, 1949-50(P), 1951, 1952-54(P), 1956-58(P). WSP 1937: 1932-38(M), 1940-47(M), 1948-49(P), 1950(M), 1951-53(P), 1956(P), 1957(M), 1958-59(P), 1960(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.64	44	178	.88	1.7	.91	.03	59	.19	12	.54	.03
2	.09	5.0	74	.09	.41	6.7	.03	46	2.3	4.3	.56	.10
3	4.3	2.3	11	.03	.19	54	.03	2.1	97	1.2	.35	1.9
4	3.1	2.2	3.2	.96	.07	266	.02	1.0	233	.81	.07	.35
5	.15	1.9	2.0	1.1	.03	389	.17	.41	117	.48	.48	.05
6	.03	1.4	1.8	33	.02	574	25	.19	52	.24	2.6	.03
7	.24	.56	1.1	519	.44	146	79	.81	68	42	11	.05
8	1.4	.91	.81	8.9	65	332	171	19	12	9.2	1.1	.05
9	.15	.35	3.8	7.4	135	24	80	51	2.2	2.1	77	.03
10	.02	.12	3.5	1.8	71	3.5	15	39	6.8	.29	6.1	.05
11	11	214	15	.81	38	1.6	2,130	3.7	1.0	.09	109	.03
12	.47	2,070	5.8	1.9	6.7	173	95	.56	.48	.03	23	7.5
13	.06	460	.29	1.1	38	38	120	78	.24	.05	.91	.23
14	28	18	.09	.56	26	8.3	20	282	8.6	19	.72	.02
15	66	51	.03	2.5	98	2.5	77	655	46	67	.24	.02
16	64	12	.03	1.4	61	1.8	62	209	39	128	.19	.02
17	4.1	3.9	.03	.48	9.2	1.1	243	99	402	427	.09	.02
18	2.7	1.4	.03	.19	.72	74	590	176	149	11	7.2	.02
19	.64	62	.03	.07	16	184	715	230	16	3.0	23	.02
20	6.4	618	.03	.02	20	24	419	132	4.0	1.0	6.9	.01
21	.41	36	.03	.02	75	3.3	346	72	11	.48	.72	.01
22	4.8	139	.03	.51	4.4	1.6	624	208	28	.41	23	.01
23	2.9	169	.03	117	5.2	7.0	274	18	15	.29	1.4	.01
24	29	706	.03	291	45	1.8	15	3.0	2.7	.07	.15	.01
25	4.4	339	.03	21	40	1.0	3.1	30	14	.03	.09	.01
26	1.1	192	.03	49	16	.64	1.8	4.4	4.5	6.0	.09	.02
27	18	132	.03	8.2	55	7.3	1.1	1.4	2.6	15	.03	.24
28	1.4	44	.03	.64	2.1	.72	.72	.91	21	.72	.03	.15
29	60	13	.03	.41	------	.29	.72	.56	114	.07	.03	.05
30	36	122	.29	.19	------	.15	19	.35	21	4.8	.03	.29
31	78	------	.41	117	------	.05	------	.29	------	.96	.03	------
TOTAL	429.50	5,461.04	301.54	1,187.16	830.18	2,328.26	6,126.72	2,422.68	1,490.61	757.62	296.65	11.33
MEAN	13.9	182	9.73	38.3	29.6	75.1	204	78.2	49.7	24.4	9.57	.38
MAX	78	2,070	178	519	135	574	2,130	655	402	427	109	7.5
MIN	.02	.12	.03	.02	.02	.05	.02	.19	.19	.03	.03	.01
AC-FT	852	10,830	598	2,350	1,650	4,620	12,150	4,810	2,960	1,500	588	22

CAL YR 1973 TOTAL 16,184.42 MEAN 44.3 MAX 2,070 MIN .01 AC-FT 32,100
WTR YR 1974 TOTAL 21,643.29 MEAN 59.3 MAX 2,130 MIN .01 AC-FT 42,930

PEAK DISCHARGE (BASE, 3,700 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-12	1230	9.83	5,790	5-15	1300	9.55	4,300
1- 7	0200	9.78	5,620				

16508000 HANAWI STREAM NEAR NAHIKU

LOCATION.--Lat 20°48'37", long 156°07'00", on left bank 200 ft (61 m) upstream from Koolau ditch intake and trail, 1.9 mi (3.1 km) southwest of Nahiku, and 4.5 mi (7.2 km) southeast of Keanae.

DRAINAGE AREA.--3.49 mi^2 (9.04 km^2).

PERIOD OF RECORD.--January 1914 to January 1916, November 1921 to current year. Monthly discharge only April to June 1915, published in WSP 1319.

GAGE.--Water-stage recorder. Datum of gage is 1,318 ft (401.7 m) above mean sea level (by vertical angles). Prior to Nov. 1, 1921, at site 50 ft (15 m) downstream at datum 0.12 ft (0.037 m) lower.

AVERAGE DISCHARGE.--52 years (1922-74), 22.9 ft^3/s (0.649 m^3/s), 16,590 acre-ft/yr (20.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 2,380 ft^3/s (67.4 m^3/s) Nov. 12, gage height, 7.72 ft (2.353 m), from rating curve extended as explained below; minimum, 1.6 ft^3/s (0.045 m^3/s) Sept. 26-30.

Period of record: Maximum discharge, about 5,570 ft^3/s (158 m^3/s) Jan. 18, 1916, gage height, 11.6 ft (3.54 m), present site and datum, from rating curve extended above 410 ft^3/s (11.6 m^3/s) by test of model of station site; minimum, 1.6 ft^3/s (0.045 m^3/s) Nov. 14, 19, 20, 1962, Feb. 10, 11, 16, 17, 1963, Sept. 19, 1973, Sept. 26-30, 1974.

REMARKS.--Records good. No diversion above station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1045: 1922-43(M). WSP 1569: Drainage area. WSP 1719: 1915(M), 1922, 1924-25, 1927, 1930-35, 1937, 1939-40, 1942-43.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	2.8	132	3.1	6.9	4.1	3.5	27	8.1	3.4	2.9	2.4
2	2.5	2.6	78	3.0	4.4	3.0	3.4	17	5.6	3.3	2.9	2.3
3	2.3	2.4	12	2.9	3.7	3.0	3.3	11	9.4	3.2	2.7	2.2
4	2.2	2.3	6.4	2.9	3.3	99	4.1	9.9	21	3.1	2.8	2.2
5	2.1	2.3	5.5	2.8	3.0	122	3.5	9.0	8.3	3.1	5.1	2.1
6	2.1	2.2	5.3	2.8	2.9	226	8.5	8.3	6.7	3.1	3.2	2.1
7	2.1	2.2	4.9	2.8	14	29	26	8.8	8.6	3.4	2.9	2.1
8	2.1	2.2	43	2.6	37	30	58	9.8	6.8	3.0	2.8	2.0
9	2.0	2.0	48	2.5	64	9.1	7.9	41	6.5	2.9	3.9	2.0
10	1.9	2.0	21	2.5	45	5.7	5.0	37	6.4	2.8	3.0	2.1
11	5.5	123	12	2.4	26	4.7	4.8	11	5.5	2.7	9.8	2.0
12	3.1	1,100	12	2.4	31	4.3	7.0	9.0	5.0	2.7	7.3	2.0
13	2.9	407	6.7	2.4	21	45	192	10	4.6	2.8	3.8	1.9
14	5.2	11	5.9	2.3	7.8	27	26	61	4.8	2.9	4.8	1.9
15	4.2	6.5	5.4	2.3	6.2	14	31	112	7.5	8.5	3.5	1.8
16	3.5	4.0	5.1	2.2	8.4	6.4	37	15	4.7	57	3.1	1.8
17	2.7	3.2	4.9	2.2	4.5	5.0	80	19	4.4	71	2.9	1.8
18	71	2.9	4.7	2.8	3.7	152	300	30	4.1	7.3	2.8	1.8
19	12	2.7	4.5	2.5	3.4	207	394	90	3.9	5.8	2.9	1.7
20	15	72	4.3	2.2	3.1	17	232	65	3.9	4.0	2.8	1.7
21	7.9	7.7	4.1	2.1	3.1	7.6	128	19	4.4	3.6	2.8	1.7
22	5.1	19	4.0	2.3	2.9	5.9	259	16	4.8	3.3	3.9	1.7
23	4.5	43	3.8	116	2.8	5.1	70	8.8	5.8	3.2	2.7	1.7
24	3.7	257	3.7	102	2.7	4.6	16	7.2	4.2	3.1	2.6	1.6
25	3.2	135	3.6	6.9	2.9	4.4	10	6.5	5.6	4.0	2.5	1.7
26	3.0	25	3.5	15	2.9	4.3	8.4	5.9	4.8	8.6	2.5	1.7
27	6.8	14	3.5	6.3	3.3	4.1	9.7	5.6	4.1	8.0	2.4	1.6
28	3.7	16	3.3	3.5	2.8	3.9	11	5.4	3.8	3.5	2.4	1.6
29	5.6	8.4	3.3	3.0	------	3.7	9.6	5.2	3.8	3.1	2.3	1.6
30	4.2	46	3.2	45	------	3.6	11	5.2	3.5	3.0	2.4	1.6
31	3.0	------	3.1	233	------	3.5	------	6.1	------	2.9	2.6	------
TOTAL	197.8	2,326.4	460.7	586.7	322.7	1,064.0	1,959.7	691.7	180.6	242.3	105.0	56.4
MEAN	6.38	77.5	14.9	18.9	11.5	34.3	65.3	22.3	6.02	7.82	3.39	1.88
MAX	71	1,100	132	233	64	226	394	112	21	71	9.8	2.4
MIN	1.9	2.0	3.1	2.1	2.7	3.0	3.3	5.2	3.5	2.7	2.3	1.6
AC-FT	392	4,610	914	1,160	640	2,110	3,890	1,370	358	481	208	112

CAL YR 1973 TOTAL 8,138.1 MEAN 22.3 MAX 1,100 MIN 1.7 AC-FT 16,140
WTR YR 1974 TOTAL 8,194.0 MEAN 22.4 MAX 1,100 MIN 1.6 AC-FT 16,250

PEAK DISCHARGE (BASE, 1,700 CFS).--Nov. 12 (0500) 2,380 cfs (7.72 ft); Mar. 19 (1645) 1,790 cfs (6.58 ft).

16512000 KOOLAU DITCH AT NAHIKU WEIR, NEAR NAHIKU

LOCATION.--Lat 20°48'56", long 156°07'15", on right bank between Kapaula and Waiohue Gulches, 1.8 mi (2.9 km) southwest of Nahiku, and 3.8 mi (6.1 km) southeast of Keanae.

PERIOD OF RECORD.--February 1919 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Datum of gage is 1,289.14 ft (392.930 m) above mean sea level. Prior to Apr. 28, 1922, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--55 years, 34.0 ft^3/s (0.963 m^3/s), 24,630 acre-ft/yr (30.4 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 99 ft^3/s (2.80 m^3/s) Apr. 27, May 11, 1963, May 25, 1964; no flow at times.

REMARKS.--Records excellent. Ditch diverts water from nearly all streams from the Makapipi west to the Alo for power, domestic use, and irrigation in central Maui. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	17	69	13	32	23	15	67	32	15	13	11
2	11	15	80	12	24	17	15	59	25	15	13	10
3	9.9	14	42	12	20	16	14	42	35	14	12	9.5
4	9.5	14	31	12	17	57	16	39	58	14	13	9.1
5	9.1	13	29	11	15	83	14	36	36	14	18	8.9
6	8.7	12	27	11	14	63	27	34	30	14	13	8.5
7	8.8	12	24	11	26	67	45	35	33	15	13	8.6
8	8.8	12	55	10	52	68	69	38	29	13	12	8.2
9	8.5	11	56	10	84	40	32	60	28	13	18	8.0
10	8.0	11	43	9.6	68	28	22	74	28	12	14	8.5
11	21	57	50	10	54	24	22	46	25	12	35	7.8
12	13	95	50	10	58	22	29	39	22	12	31	8.3
13	13	56	32	10	52	38	69	45	21	12	19	7.7
14	23	36	28	9.6	40	60	65	45	21	13	21	7.6
15	19	38	26	9.6	33	52	51	80	28	25	17	7.3
16	18	29	24	9.2	40	29	33	59	21	60	15	7.3
17	14	25	23	9.2	27	23	51	58	21	74	14	7.2
18	74	21	21	11	23	62	87	74	19	33	14	7.0
19	46	20	20	11	21	80	88	80	18	28	14	7.0
20	52	63	20	9.2	19	58	86	82	18	21	14	6.7
21	33	35	19	8.8	18	41	85	70	20	18	14	6.6
22	25	51	18	9.6	17	33	87	65	21	17	19	6.7
23	24	58	18	44	16	28	79	48	23	16	14	6.4
24	22	93	17	82	15	25	59	40	19	15	13	6.3
25	20	80	16	29	16	23	47	36	22	17	12	6.3
26	19	76	15	31	15	22	42	32	20	30	12	6.3
27	27	60	15	39	17	20	45	29	18	29	11	6.0
28	21	59	14	19	15	19	45	27	17	17	11	6.0
29	28	46	14	15	------	17	38	26	17	15	11	5.9
30	23	40	14	17	------	16	41	25	16	14	11	6.1
31	19	------	13	82	------	15	------	27	------	14	12	------
TOTAL	649.3	1,169	923	586.8	848	1,169	1,418	1,517	741	631	473	226.8
MEAN	20.9	39.0	29.8	18.9	30.3	37.7	47.3	48.9	24.7	20.4	15.3	7.56
MAX	74	95	80	82	84	83	88	82	58	74	35	11
MIN	8.0	11	13	8.8	14	15	14	25	16	12	11	5.9
AC-FT	1,290	2,320	1,830	1,160	1,680	2,320	2,810	3,010	1,470	1,250	938	450

CAL YR 1973 TOTAL 11,953.2 MEAN 32.7 MAX 95 MIN 6.5 AC-FT 23,710
WTR YR 1974 TOTAL 10,351.9 MEAN 28.4 MAX 95 MIN 5.9 AC-FT 20,530

16518000 WEST WAILUAIKI STREAM NEAR KEANAE

LOCATION.--Lat 20°49'16", long 156°08'37", on left bank 500 ft (152 m) upstream from Koolau ditch crossing and trail bridge and 2.8 mi (4.5 km) south of Keanae Post Office.

DRAINAGE AREA.--3.66 mi^2 (9.48 km^2).

PERIOD OF RECORD.--January 1914 to December 1915, May 1916 to October 1917, November 1921 to current year. Monthly discharge only for some periods, published in WSP 1319.

GAGE.--Water-stage recorder. Datum of gage is 1,343.6 ft (409.53 m) above mean sea level (by vertical angles).

AVERAGE DISCHARGE.--54 years (1914-15, 1916-17, 1922-74), 35.6 ft^3/s (1.008 m^3/s), 25,790 acre-ft/yr (31.8 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 3,620 ft^3/s (103 m^3/s) Nov. 12, gage height, 9.17 ft (2.795 m), from rating curve extended above 650 ft^3/s (18.4 m^3/s); minimum, 0.78 ft^3/s (0.022 m^3/s) Sept. 30.

Period of record: Maximum discharge, 9,900 ft^3/s (280 m^3/s) Jan. 14, 1923, gage height, 13.5 ft (4.11 m), from floodmarks, from rating curve extended above 650 ft^3/s (18.4 m^3/s); minimum, 0.5 ft^3/s (0.014 m^3/s) July 26, 1922.

REMARKS.--Records good. No diversion above station. Water is diverted by Koolau ditch, 500 ft (152 m) below station, for domestic supply and irrigation of sugarcane in central Maui. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1569: Drainage area. WSP 2137: 1915-16(M), 1923-25(M), 1929-31(M), 1934-35(M), 1937-39(M), 1941-43(M), 1946-47(M), 1948(P), 1949(M), 1952-53(M), 1955-56(M), 1959-60(M), (WATER YEARS) 1960(P), 1961(M), 1963(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	3.4	88	2.2	14	6.5	3.5	30	10	3.1	3.2	2.0
2	2.5	3.1	124	2.0	26	3.9	3.4	16	5.4	2.9	3.3	2.5
3	2.0	2.9	21	2.0	9.9	3.1	3.2	9.4	12	2.7	2.9	2.7
4	1.8	2.7	11	2.1	8.7	80	6.5	8.3	29	2.7	4.1	7.8
5	1.7	2.5	8.5	1.9	6.1	93	5.7	7.1	8.1	2.8	9.3	3.1
6	1.5	2.4	7.3	1.7	5.6	172	18	6.5	6.2	3.1	3.8	2.0
7	1.5	2.3	6.3	3.7	24	27	44	8.0	8.0	4.2	3.5	1.9
8	1.6	2.1	70	3.1	78	19	64	11	6.0	2.6	3.1	1.7
9	1.4	1.9	73	2.0	86	11	12	55	5.8	2.5	4.4	1.6
10	1.3	1.8	27	1.7	54	7.6	7.0	49	6.3	2.2	3.2	1.9
11	10	248	15	1.5	47	6.3	9.2	15	5.1	2.1	12	1.7
12	3.4	1,680	15	1.6	53	6.4	45	10	4.7	2.1	8.6	1.6
13	4.5	565	8.3	1.3	36	56	285	9.5	4.3	2.5	4.4	1.5
14	14	23	7.0	1.2	14	27	49	23	5.0	3.7	6.4	1.4
15	6.3	12	6.2	1.1	11	26	46	101	8.1	15	3.9	1.3
16	4.8	8.5	5.4	1.1	10	11	56	21	4.5	96	3.3	1.2
17	3.1	6.8	5.0	.94	7.1	7.8	87	28	4.2	68	3.0	1.2
18	112	5.9	4.6	3.6	6.1	135	398	31	5.5	10	2.8	1.2
19	22	5.2	4.2	3.8	5.4	285	302	126	5.2	8.5	3.3	1.2
20	25	7.7	3.9	1.8	4.9	26	203	92	4.2	5.3	2.9	1.1
21	14	6.2	3.7	1.2	4.7	12	141	26	5.6	4.5	3.2	1.1
22	8.9	9.8	3.5	6.0	4.2	8.8	303	16	5.3	3.9	4.8	1.1
23	7.0	43	3.2	175	3.8	7.4	70	11	6.8	3.5	2.7	1.0
24	5.5	291	3.1	103	3.6	6.5	24	9.1	4.8	3.3	2.4	1.0
25	4.9	157	3.0	13	3.9	5.9	15	8.1	6.0	7.1	2.2	.97
26	4.3	31	2.8	20	3.6	8.0	12	7.2	4.9	11	2.1	.94
27	12	20	2.9	8.3	4.1	8.3	19	6.5	4.0	12	2.0	.91
28	5.8	32	2.6	4.7	3.5	5.3	14	6.0	3.7	4.5	1.9	.91
29	6.4	16	2.5	3.8	------	4.7	10	5.6	3.5	3.7	1.7	.88
30	4.6	13	2.7	99	------	4.2	9.7	5.3	3.2	3.5	2.1	.88
31	3.8	------	2.4	314	------	3.7	------	7.8	------	3.1	2.6	------
TOTAL	301.2	3,206.2	543.1	788.34	538.2	1,084.4	2,265.2	765.4	195.4	302.1	119.1	50.29
MEAN	9.72	107	17.5	25.4	19.2	35.0	75.5	24.7	6.51	9.75	3.84	1.68
MAX	112	1,680	124	314	86	285	398	126	29	96	12	7.8
MIN	1.3	1.8	2.4	.94	3.5	3.1	3.2	5.3	3.2	2.1	1.7	.88
AC-FT	597	6,360	1,080	1,560	1,070	2,150	4,490	1,520	388	599	236	100

CAL YR 1973 TOTAL 11,235.34 MEAN 30.8 MAX 1,680 MIN .94 AC-FT 22,290
WTR YR 1974 TOTAL 10,158.93 MEAN 27.8 MAX 1,680 MIN .88 AC-FT 20,150

PEAK DISCHARGE (BASE, 1,900 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-12	1730	9.17	3,620	4-18	2015	7.27	1,960
3-19	1645	8.79	3,240				

16523000 KOOLAU DITCH NEAR KEANAE

LOCATION.--Lat 20°49'53", long 156°10'30", on right bank on west side of Keanae Valley, 2.6 mi (4.2 km) southwest of Keanae Post Office, and 5.1 mi (8.2 km) southeast of Kailua.

PERIOD OF RECORD.--January 1910 to December 1912, November 1917 to February 1918, April 1918 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,237.7 ft (377.25 m) above mean sea level (by plane-table traverse). Jan. 1, 1910, to Dec. 31, 1912, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--58 years (1910-12, 1918-74), 101 ft^3/s (2.860 m^3/s), 73,200 acre-ft/yr (90.3 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 266 ft^3/s (7.53 m^3/s) Apr. 19, 1935; no flow at times.

REMARKS.--Records excellent. Ditch diverts at altitude 1,260 ft (384 m) from nearly all streams from the Makapipi west to the Alo for power, domestic use, and irrigatiou in central Maui. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	44	173	32	96	78	1.3	195	114	39	37	29
2	30	40	222	30	98	49	4.0	168	65	37	37	35
3	27	38	165	30	71	41	5.1	105	121	36	34	33
4	25	36	102	31	60	145	54	93	181	35	42	38
5	24	34	82	29	51	191	48	82	97	36	74	29
6	23	33	74	28	52	220	112	76	75	36	40	25
7	24	33	66	33	102	180	163	90	94	46	38	25
8	25	33	156	30	190	188	212	104	72	34	36	24
9	23	30	182	26	222	111	104	182	70	33	49	23
10	23	29	180	25	214	76	66	213	74	31	41	25
11	99	141	158	25	150	65	73	136	62	30	126	22
12	40	220	159	25	160	64	145	105	56	29	101	23
13	46	208	90	24	138	115	212	115	50	31	52	21
14	120	155	76	23	103	176	215	112	56	40	70	21
15	67	117	70	22	102	195	172	212	82	118	48	20
16	54	83	63	22	116	92	176	181	53	202	42	20
17	38	68	60	21	72	71	208	162	52	212	38	19
18	192	60	56	42	62	153	215	206	53	95	37	19
19	174	54	53	38	56	216	218	209	49	90	42	18
20	196	114	50	24	52	192	221	222	47	57	38	18
21	118	81	48	22	50	119	222	202	60	49	39	17
22	80	124	46	36	48	90	221	172	63	44	65	17
23	69	146	43	143	44	76	222	124	70	41	38	17
24	59	219	41	218	42	68	205	100	53	38	34	16
25	54	221	39	100	44	63	153	89	63	59	32	17
26	51	218	38	102	43	65	120	79	55	103	31	17
27	107	193	38	105	48	72	130	72	49	99	30	16
28	59	174	36	51	40	55	133	68	46	47	29	16
29	75	150	35	41	------	35	100	64	45	41	28	16
30	60	103	34	90	------	4.6	108	63	41	39	29	16
31	48	------	33	215	------	4.3	------	87	------	36	34	------
TOTAL	2,066	3,199	2,668	1,683	2,526	3,269.9	4,238.4	4,088	2,068	1,863	1,411	652
MEAN	66.6	107	86.1	54.3	90.2	105	141	132	68.9	60.1	45.5	21.7
MAX	196	221	222	218	222	220	222	222	181	212	126	38
MIN	23	29	33	21	40	4.3	1.3	63	41	29	28	16
AC-FT	4,100	6,350	5,290	3,340	5,010	6,490	8,410	8,110	4,100	3,700	2,800	1,290

CAL YR 1973 TOTAL 34,449 MEAN 94.4 MAX 224 MIN 17 AC-FT 68,330
WTR YR 1974 TOTAL 29,732.3 MEAN 81.5 MAX 222 MIN 1.3 AC-FT 58,970

16531000 KULA DIVERSION FROM HAIPUAENA STREAM NEAR OLINDA

LOCATION.--Lat 20°28'24", long 156°13'27", on left bank of Haipuaena Stream, 3.4 mi (5.5 km) east of Olinda, and 6.2 mi (10.0 km) south of Kailua.

PERIOD OF RECORD.--July 1945 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 4,320 ft (1,317 m) from topographic map.

AVERAGE DISCHARGE.--29 years, 0.639 ft^3/s (0.0181 m^3/s), 463 acre-ft/yr (571,000 m^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 3.17 ft^3/s (0.090 m^3/s) Mar. 20, 1948; no flow Nov. 4, 1964, Dec. 3, 5, 1970.

REMARKS.--Records excellent. Water is diverted from Haipuaena Stream at station for domestic use and irrigation of truck crops in the Olinda and Kula areas. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	.10	1.2	.04	.19	.04	.03	.67	.68	.10	.25	.05
2	.30	.08	1.9	.04	.18	.09	.02	.67	.62	.10	.19	.10
3	.19	.06	1.1	.04	.18	.21	.02	.71	.74	.17	.15	.25
4	.12	.04	.52	.04	.21	.55	.07	.67	1.4	.21	.19	.77
5	.09	.04	.36	.04	.19	1.8	.18	.36	.79	.17	.94	.52
6	.07	.04	.28	.04	.75	2.1	1.0	.26	.45	.14	.43	.28
7	.06	.03	.23	1.0	1.3	1.3	1.5	.26	.34	.14	.26	.15
8	.06	.04	.83	.70	1.8	1.1	2.0	1.0	.26	.11	.19	.11
9	.05	.04	.85	.45	1.6	.80	.70	1.8	.21	.10	.21	.08
10	.05	.04	1.4	.38	1.3	.40	.34	1.7	.23	.08	.32	.06
11	.30	.11	.82	.30	1.3	.28	1.2	1.2	.26	.06	.45	.05
12	.31	.35	.52	.26	1.1	.53	2.0	1.0	.18	.05	.66	.04
13	.32	.09	.38	.15	1.1	.56	1.8	.64	.14	.07	.25	.14
14	.88	.59	.26	.10	.94	.54	.73	1.3	.12	.29	.19	.09
15	1.3	.57	.23	.08	.57	.62	1.2	1.5	.62	.94	.19	.06
16	1.2	.38	.17	.06	.43	.45	1.9	1.0	.59	1.9	.17	.04
17	.63	.28	.14	.05	.34	.30	2.2	1.1	.38	1.6	.14	.04
18	1.2	.21	.11	.05	.26	.21	2.6	1.8	.36	.81	.10	.04
19	1.7	.17	.09	.08	.21	.52	1.2	1.6	.34	.40	.33	.03
20	1.8	.19	.08	.07	.17	.59	1.1	1.5	.19	.30	.48	.02
21	1.3	.17	.07	.04	.14	.38	1.2	1.1	.18	.21	.32	.02
22	.62	.14	.06	.08	.11	.23	1.1	.76	.23	.25	.58	.02
23	.45	.52	.05	.71	.09	.17	.76	.47	.54	.30	.49	.02
24	.36	1.5	.05	.64	.08	.14	.85	.34	.25	.19	.23	.02
25	.26	1.0	.04	.52	.06	.10	.62	.32	.23	.25	.14	.02
26	.21	1.4	.04	.49	.05	.09	.40	.32	.17	.54	.10	.02
27	.54	1.6	.04	.49	.06	.08	.76	.23	.14	.96	.07	.02
28	.44	1.6	.05	.45	.05	.06	1.5	.18	.30	.32	.06	.02
29	.21	1.2	.04	.32	------	.05	.82	.15	.11	.19	.05	.02
30	.17	1.0	.05	.82	------	.04	.45	.11	.10	.17	.05	.03
31	.12	------	.04	.26	------	.03	------	.11	------	.40	.05	------
TOTAL	15.83	13.58	12.00	8.79	14.76	14.36	30.25	24.83	11.15	11.52	8.23	3.13
MEAN	.51	.45	.39	.28	.53	.46	1.01	.80	.37	.37	.27	.10
MAX	1.8	1.6	1.9	1.0	1.8	2.1	2.6	1.8	1.4	1.9	.94	.77
MIN	.05	.03	.04	.04	.05	.03	.02	.11	.10	.05	.05	.02
AC-FT	31	27	24	17	29	28	60	49	22	23	16	6.2

CAL YR 1973 TOTAL 173.19 MEAN .47 MAX 1.9 MIN .01 AC-FT 344
WTR YR 1974 TOTAL 168.43 MEAN .46 MAX 2.6 MIN .02 AC-FT 334

16538000 SPRECKELS DITCH AT HAIPUAENA WEIR, NEAR HUELO

LOCATION.--Lat 20°51'15", long 156°11'25", on right bank near Spreckels ditch trail between Haipuaena and Puohokamoa Streams, 2.7 mi (4.3 km) west of Keanae, and 4.5 mi (7.2 km) southeast of Huelo.

PERIOD OF RECORD.--April 1922 to current year. Published as "at Haipuaena, near Huelo" 1930-35.

GAGE.--Water-stage recorder and sharp-crested weir. Datum of gage is 1,470.96 ft (448.349 m) above mean sea level (East Maui Irrigation Co. bench mark). Apr. 29, 1922, to Feb. 19, 1930, at same site at different datum. Feb. 20, 1930, to Oct. 25, 1935, at site 100 ft (30 m) upstream at different datum.

AVERAGE DISCHARGE (since termination of powerplant diversion).--13 years (1961-74), 29.4 ft^3/s (0.833 m^3/s), 21,300 acre-ft/yr (26.3 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 150 ft^3/s (4.25 m^3/s) Feb. 10, 1955, Feb. 18, 1956; no flow at times.

REMARKS.--Records excellent. Spreckels ditch diverts from all streams between the Nuaailua and the Kailua above Koolau ditch east of the Puohokamoa, and below Koolau ditch west of the Puohokamoa. About 6 ft^3/s (0.17 m^3/s) was diverted above station to East Maui Irrigation Co. powerplant at Kolea Gulch prior to June 30, 1961, when the plant was abandoned. Water used for domestic supply and irrigation in central Maui. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 770: 1932-33.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	8.2	23	4.4	19	26	6.5	69	25	7.9	8.0	6.2
2	5.4	7.6	67	4.2	16	10	6.2	46	14	7.0	9.7	13
3	4.5	7.0	22	4.6	13	8.3	5.7	27	34	6.8	7.2	41
4	4.3	6.5	14	6.1	11	81	18	25	60	6.4	10	28
5	4.1	6.2	12	4.7	9.3	94	12	17	22	6.5	27	9.6
6	3.9	5.8	11	4.0	29	127	42	15	16	6.4	9.7	7.0
7	4.2	5.7	9.8	53	43	44	61	26	22	12	9.3	6.2
8	4.8	6.5	55	19	80	36	77	28	14	6.3	7.5	5.6
9	4.2	6.3	67	9.3	92	21	21	71	14	5.9	11	5.2
10	3.9	5.1	60	6.8	68	15	13	90	19	5.2	9.3	5.4
11	36	76	37	4.3	61	13	34	32	13	4.8	50	4.9
12	9.0	116	44	4.3	78	16	57	23	11	4.8	33	4.9
13	20	73	18	3.8	79	34	92	21	9.4	5.6	12	4.5
14	54	33	14	3.5	39	28	63	34	12	15	19	4.2
15	32	22	12	3.4	23	43	40	42	21	57	10	4.0
16	20	14	10	3.2	24	22	68	23	11	97	10	3.9
17	11	13	9.8	3.2	16	15	86	45	9.7	85	8.0	3.8
18	94	10	8.7	14	13	44	126	57	16	23	7.6	3.8
19	58	9.0	7.8	14	12	72	107	85	10	28	13	3.5
20	71	9.0	7.2	4.8	11	38	100	103	8.9	13	11	3.2
21	31	8.4	6.9	3.9	10	21	100	50	17	11	10	3.1
22	13	13	6.6	12	8.9	16	106	32	15	9.9	24	3.1
23	12	47	6.3	89	8.2	14	84	22	18	10	8.7	3.0
24	8.7	133	6.0	84	7.7	12	50	18	13	8.1	7.0	2.9
25	8.0	99	5.8	23	8.4	11	32	16	14	27	6.3	2.8
26	12	64	5.6	44	7.7	18	23	14	14	37	6.0	2.9
27	35	41	5.6	37	9.9	15	27	13	10	33	5.7	2.6
28	14	45	5.3	17	8.1	9.4	38	12	33	11	5.4	2.4
29	12	32	5.1	12	------	8.2	22	11	13	8.8	5.1	2.3
30	10	18	5.1	49	------	7.5	19	11	8.6	8.4	6.0	2.3
31	8.8	------	4.8	76	------	6.8	------	26	------	7.6	11	------
TOTAL	616.4	940.3	572.4	621.5	805.2	926.2	1,536.4	1,104	517.6	575.4	377.5	195.3
MEAN	19.9	31.3	18.5	20.0	28.8	29.9	51.2	35.6	17.3	18.6	12.2	6.51
MAX	94	133	67	89	92	127	126	103	60	97	50	41
MIN	3.9	5.1	4.8	3.2	7.7	6.8	5.7	11	8.6	4.8	5.1	2.3
AC-FT	1,220	1,870	1,140	1,230	1,600	1,840	3,050	2,190	1,030	1,140	749	387

CAL YR 1973 TOTAL 10,462.0 MEAN 28.7 MAX 133 MIN 1.9 AC-FT 20,750
WTR YR 1974 TOTAL 8,788.2 MEAN 24.1 MAX 133 MIN 2.3 AC-FT 17,430

16541000 KOOLAU DITCH AT HAIPUAENA, NEAR HUELO

LOCATION.--Lat 20°51'17", long 156°11'19", on right bank at Haipuaena Stream, 1,000 ft (305 m) upstream from intake at Puohokamoa Stream, 3.3 mi (5.3 km) southeast of Kailua, and 4.5 mi (7.2 km) southeast of Huelo.

PERIOD OF RECORD.--April 1932 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 1,240 ft (378 m) from topographic map. Prior to Mar. 21, 1933, at datum 1.94 ft (0.591 m) lower, and Mar. 21, 1933, to Mar. 20, 1935, at datum 0.25 ft (0.076 m) lower, than present datum.

AVERAGE DISCHARGE.--42 years, 117 ft^3/s (3.313 m^3/s), 84,770 acre-ft/yr (105 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 300 ft^3/s (8.50 m^3/s) July 1, 17, 1963; no flow at times.

REMARKS.--Records excellent. Ditch is extension of Wailoa ditch east of Alo Stream; it receives water from Makapipi ditch at Hanawi Stream and diverts from nearly all streams from there west to the Alo. Water is used for power, domestic supply, and irrigation in central Maui. Periodic determinations of water temperature for water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	44	176	32	107	79	.38	197	120	40	37	29
2	30	41	230	31	102	50	.38	168	65	38	37	35
3	26	38	168	31	77	41	3.3	108	126	36	34	49
4	25	36	108	31	62	149	55	97	190	36	43	39
5	24	34	90	29	53	191	48	86	100	36	79	28
6	22	33	80	28	56	222	111	79	80	35	40	24
7	24	34	69	36	105	181	155	92	97	48	38	24
8	24	34	173	30	196	186	198	103	78	35	36	22
9	23	30	201	26	222	116	109	191	74	32	51	22
10	22	29	186	25	215	82	66	233	79	31	42	24
11	95	178	165	25	160	68	75	142	66	29	130	22
12	40	295	166	25	169	68	147	110	60	29	105	22
13	51	255	98	24	153	126	244	118	52	30	54	20
14	121	169	82	23	111	175	226	120	58	39	72	20
15	70	132	73	23	105	208	181	208	86	113	50	20
16	57	96	66	22	123	101	203	176	57	227	43	19
17	41	76	62	21	78	76	214	175	54	226	39	19
18	212	64	58	43	65	159	280	208	54	103	38	18
19	174	58	54	40	59	217	277	195	52	93	41	18
20	196	115	52	25	54	184	258	258	48	59	38	17
21	124	88	49	22	52	126	262	204	62	50	41	17
22	94	131	46	36	48	96	259	176	63	44	66	17
23	79	164	44	171	44	81	227	128	71	41	38	17
24	67	282	42	235	42	70	200	104	54	39	34	16
25	60	258	40	104	44	62	155	96	66	57	32	16
26	52	227	39	118	43	61	125	86	58	95	31	17
27	106	200	38	107	50	75	126	77	50	111	30	16
28	60	179	37	53	40	21	130	71	47	48	29	15
29	78	160	35	42	------	.44	105	66	46	41	28	15
30	62	110	35	101	------	.38	108	62	41	39	29	15
31	49	------	33	228	------	.38	------	90	------	37	34	------
TOTAL	2,145	3,590	2,795	1,787	2,635	3,272.20	4,548.06	4,224	2,154	1,917	1,439	652
MEAN	69.2	120	90.2	57.6	94.1	106	152	136	71.8	61.8	46.4	21.7
MAX	212	295	230	235	222	222	280	258	190	227	130	49
MIN	22	29	33	21	40	.38	.38	62	41	29	28	15
AC-FT	4,250	7,120	5,540	3,540	5,230	6,490	9,020	8,380	4,270	3,800	2,850	1,290

CAL YR 1973	TOTAL 36,552	MEAN 100	MAX 295	MIN 17	AC-FT 72,500
WTR YR 1974	TOTAL 31,158.26	MEAN 85.4	MAX 295	MIN .38	AC-FT 61,800

16541500 MANUEL LUIS DITCH AT PUOHOKAMOA GULCH, NEAR HUELO

LOCATION.--Lat 20°51'48", long 156°10'49", on right bank at lower portal of tunnel between Haipuaena and Puohokamoa Streams, 2.2 mi (3.5 km) west of Keanae, and 4.4 mi (7.1 km) southeast of Huelo.

PERIOD OF RECORD.--December 1917 to November 1924, January 1925 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Altitude of gage is 920 ft (280 m) from topographic map.

AVERAGE DISCHARGE.--55 years (1918-24, 1925-74), 8.48 ft^3/s (0.240 m^3/s), 6,140 acre-ft/yr (7.57 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 142 ft^3/s (4.02 m^3/s) Jan. 3, 1927; no flow at times.

REMARKS.--Records excellent. Ditch is extension of Center ditch and picks up water from streams between the Kolea and the Waikanoi for irrigation in central Maui. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1719: 1918-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.15	.28	2.4	.22	7.5	1.1	2.4	3.4	2.4	.28	.22	.13
2	.11	.23	5.6	.22	3.0	.49	.86	2.3	.89	.25	.24	.11
3	.11	.22	2.2	.20	2.2	.41	.76	1.3	1.3	.19	.19	.51
4	.07	.22	1.7	.23	1.7	3.4	.80	1.2	3.1	.16	.19	.44
5	.07	.22	1.5	.20	1.4	6.7	.54	1.0	1.2	.16	.23	.13
6	.07	.22	1.3	.16	1.5	14	.83	.92	1.0	.16	.19	.11
7	.08	.25	1.1	1.5	1.5	3.1	1.1	.95	.92	.49	.21	.10
8	.11	1.0	6.5	.29	2.2	2.5	2.0	.88	.83	.21	.16	.08
9	.07	.28	4.7	.17	2.6	1.7	.78	5.3	.74	.16	.29	.08
10	.07	.22	2.8	.16	2.3	1.3	.52	1.8	.87	.16	.22	.07
11	.90	19	3.9	.14	2.8	1.2	1.4	.83	.82	.13	1.3	.07
12	.26	67	3.0	.14	2.5	1.2	3.5	.67	.78	.11	1.3	.09
13	.84	38	1.2	.11	6.7	2.1	17	1.0	.73	.21	.33	.07
14	2.6	2.8	1.0	.11	4.7	2.6	5.4	1.2	.66	.64	.41	.07
15	.61	1.7	.99	.11	2.3	3.2	5.3	2.9	.64	.96	.26	.07
16	.62	1.3	.82	.11	2.9	1.5	11	2.3	.57	13	.21	.07
17	.34	1.0	.75	.10	2.0	1.2	13	2.0	.48	9.2	.16	.07
18	29	.86	.67	1.2	1.6	4.2	97	4.3	.41	.93	.16	.07
19	2.7	.73	.60	.98	1.4	12	88	7.5	.36	.73	.23	.07
20	2.5	.73	.54	.18	1.2	6.1	51	7.9	.34	.47	.24	.06
21	1.3	.61	.48	.12	1.1	3.6	36	3.2	.38	.40	.17	.04
22	.99	.74	.45	.26	.83	2.6	81	2.5	.41	.34	.72	.02
23	.57	3.8	.41	3.9	.73	2.1	33	1.8	.47	.30	.25	.01
24	.43	29	.39	6.2	.68	1.6	12	1.5	.36	.28	.17	.01
25	.39	34	.34	.77	.70	1.4	4.3	1.7	.49	.30	.16	.01
26	.34	8.0	.34	1.6	.61	4.1	3.0	1.4	.48	.46	.13	.01
27	.58	4.9	.33	2.6	.73	1.5	2.5	1.2	.42	.57	.11	.01
28	.39	4.3	.28	.86	.54	27	2.7	1.1	.48	.30	.11	.01
29	.42	3.2	.28	.51	------	35	1.8	.95	.35	.25	.11	.01
30	.41	2.4	.28	2.5	------	4.8	1.5	.87	.33	.22	.17	.01
31	.30	------	.23	8.8	------	4.2	------	2.6	------	.22	.20	------
TOTAL	47.40	227.21	47.08	34.65	59.92	157.90	480.99	68.47	23.21	32.24	9.04	2.61
MEAN	1.53	7.57	1.52	1.12	2.14	5.09	16.0	2.21	.77	1.04	.29	.087
MAX	29	67	6.5	8.8	7.5	35	97	7.9	3.1	13	1.3	.51
MIN	.07	.22	.23	.10	.54	.41	.52	.67	.33	.11	.11	.01
AC-FT	94	451	93	69	119	313	954	136	46	64	18	5.2

CAL YR 1973 TOTAL 1,943.25 MEAN 5.32 MAX 95 MIN .07 AC-FT 3,850
WTR YR 1974 TOTAL 1,190.72 MEAN 3.26 MAX 97 MIN .01 AC-FT 2,360

16570000 NAILIILIHAELE STREAM NEAR HUELO

LOCATION.--Lat 20°52'28", long 156°13'06", on left bank 200 ft (61 m) upstream from Wailoa ditch intake, 1,000 ft (305 m) upstream from New Hamakua ditch trail, 1.5 mi (2.4 km) south of Kailua, and 2.4 mi (3.9 km) southeast of Huelo Church.

DRAINAGE AREA.--3.49 mi^2 (9.04 km^2).

PERIOD OF RECORD.--December 1910 to December 1911, October 1913 to June 1918, August to October 1919, December 1919 to June 1924, January 1925 to current year. Gage-height records for July to December 1912 at site 700 ft (213 m) downstream not equivalent owing to diversion. Monthly discharge only for some periods, published in WSP 1319.

GAGE.--Water-stage recorder and masonry control. Datum of gage is 1,205 ft (367.3 m) above mean sea level (by vertical angles). Dec. 9, 1910, to Dec. 31, 1911, nonrecording gage at site 300 ft (91 m) downstream at different datum. Oct. 8, 1913, to Mar. 20, 1922, water-stage recorder at present site at datum 0.50 ft (0.152 m) higher.

AVERAGE DISCHARGE (since termination of upstream diversion).--50 years (1922-23, 1925-74), 35.1 ft^3/s (0.994 m^3/s), 25,430 acre-ft/yr (31.4 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,870 ft^3/s (53.0 m^3/s) Jan. 31, gage height, 7.12 ft (2.170 m), from rating curve extended above 600 ft^3/s (17.0 m^3/s); minimum, 2.5 ft^3/s (0.071 m^3/s) Sept. 28-30.

Period of record: Maximum discharge, 6,410 ft^3/s (182 m^3/s) Nov. 18, 1930, gage height, 10.74 ft (3.274 m), from rating curve extended above 600 ft^3/s (17.0 m^3/s); minimum, 0.70 ft^3/s (0.020 m^3/s) July 14, 1920.

REMARKS.--Records good. No diversion above station since 1922. All low flow diverted into Wailoa ditch (see sta 16588000) 200 ft (61 m) below station for domestic supply, power, and irrigation. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1569: 1925-56. WSP 1937: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	7.4	18	4.5	30	28	6.2	56	24	5.8	6.6	5.3
2	4.2	6.8	32	4.2	16	10	5.9	33	11	5.4	7.3	4.9
3	3.7	6.3	17	4.0	13	7.3	5.6	19	28	5.3	5.8	69
4	3.5	5.9	13	4.5	12	157	9.2	18	50	5.2	5.8	14
5	3.3	5.6	12	4.0	10	122	7.3	14	15	5.2	12	8.0
6	3.2	5.3	11	3.7	8.9	162	24	12	11	4.9	6.6	5.9
7	3.3	5.3	9.9	31	30	29	34	14	15	7.4	6.2	5.3
8	3.6	11	45	10	39	28	53	15	11	4.7	5.5	4.9
9	3.3	5.5	27	6.4	54	18	14	56	11	4.7	8.3	4.7
10	3.0	4.8	32	5.2	61	14	9.3	40	13	4.3	6.4	4.7
11	18	241	33	4.4	37	12	28	16	10	4.0	49	4.5
12	6.6	536	51	4.2	50	19	19	13	8.8	3.9	26	4.5
13	16	183	16	3.8	68	19	151	14	8.0	4.5	9.7	4.2
14	35	25	13	3.5	38	19	39	21	8.1	9.8	14	3.9
15	19	18	12	3.4	21	47	42	23	12	39	8.0	3.8
16	12	14	10	3.3	22	15	56	15	7.8	165	7.1	3.6
17	7.9	12	9.6	3.2	15	12	117	32	7.1	73	6.6	3.6
18	124	10	8.8	11	13	164	415	35	7.2	16	6.5	3.6
19	30	9.5	8.2	9.7	11	134	313	91	7.1	16	7.9	3.4
20	33	9.0	7.8	3.8	10	28	155	89	6.3	10	8.0	3.2
21	24	8.2	7.2	3.3	9.5	17	131	33	9.9	8.8	7.1	3.2
22	21	9.7	6.8	5.7	8.6	14	263	24	9.4	8.1	19	3.1
23	15	87	6.5	159	8.1	12	104	17	13	7.3	7.6	3.0
24	12	264	6.2	66	7.6	11	38	15	8.3	6.8	6.0	3.0
25	10	212	5.9	15	7.6	10	26	13	11	9.6	5.7	2.9
26	9.7	58	5.6	92	7.3	10	21	12	8.5	22	5.4	2.9
27	27	32	5.5	37	8.9	8.6	20	11	7.5	19	5.3	2.8
28	12	46	5.1	15	6.8	8.2	31	10	7.0	8.2	5.0	2.7
29	11	26	5.1	10	------	7.5	17	9.3	6.5	7.0	4.8	2.6
30	9.0	18	5.1	151	------	7.1	15	9.9	5.9	6.7	5.6	2.6
31	8.0	------	4.6	336	------	6.5	------	26	------	6.2	7.8	------
TOTAL	496.8	1,882.3	449.9	1,017.8	623.3	1,156.2	2,169.5	806.2	358.4	503.8	292.6	193.8
MEAN	16.0	62.7	14.5	32.8	22.3	37.3	72.3	26.0	11.9	16.3	9.44	6.46
MAX	124	536	51	336	68	164	415	91	50	165	49	69
MIN	3.0	4.8	4.6	3.2	6.8	6.5	5.6	9.3	5.9	3.9	4.8	2.6
AC-FT	985	3,730	892	2,020	1,240	2,290	4,300	1,600	711	999	580	384

CAL YR 1973 TOTAL 11,990.9 MEAN 32.9 MAX 536 MIN 2.0 AC-FT 23,780
WTR YR 1974 TOTAL 9,950.6 MEAN 27.3 MAX 536 MIN 2.6 AC-FT 19,740

PEAK DISCHARGE (BASE, 1,700 CFS).--Jan. 31 (0415) 1,870 cfs (7.12 ft).

16587000 HONOPOU STREAM NEAR HUELO

LOCATION.--Lat 20°53'20", long 156°15'20" (revised), on left bank 75 ft (23 m) upstream from Wailoa ditch intake, 2.2 mi (3.5 km) southwest of Huelo, and 2.5 mi (4.0 km) west of Kailua.

DRAINAGE AREA.--0.64 mi^2 (1.66 km^2).

PERIOD OF RECORD.--December 1910 to current year. Monthly discharge only for some periods, published in WSP 1319.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,208 ft (368 m) above mean sea level (by vertical angles). Prior to June 19, 1914, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--63 years (1911-74), 4.71 ft^3/s (0.133 m^3/s), 3,410 acre-ft/yr (4.20 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 464 ft^3/s (13.1 m^3/s) Jan. 31, gage height, 3.38 ft (1.030 m), from rating curve extended as explained below; minimum, 0.24 ft^3/s (0.007 m^3/s) Oct. 2-13, Sept. 23-30.

Period of record: Maximum discharge, 5,710 ft^3/s (162 m^3/s) Nov. 18, 1930, gage height, 7.28 ft (2.219 m), from rating curve extended above 110 ft^3/s (3.12 m^3/s) by test of model of station site; minimum, 0.02 ft^3/s (0.001 m^3/s) several days in 1933, 1934.

REMARKS.--Records excellent. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1219: 1914(M), 1916-50(M). WSP 1249: 1948-50(P). WSP 1569: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.29	.47	4.7	1.0	11	1.9	1.8	5.0	1.8	.55	.63	.41
2	.24	.47	5.2	.91	8.0	1.6	1.6	4.4	1.5	.55	.63	.41
3	.24	.47	4.0	.91	6.4	1.8	1.5	3.6	1.8	.55	.55	.47
4	.24	.47	3.6	1.0	5.2	10	1.8	3.4	2.2	.55	.63	.47
5	.24	.47	3.2	.91	4.4	8.6	1.5	2.9	1.5	.55	.63	.41
6	.24	.47	2.9	.81	4.0	13	1.8	2.7	1.4	.55	.55	.35
7	.24	.55	2.7	1.8	3.8	5.2	1.8	2.7	1.5	.63	.63	.35
8	.24	.81	3.9	1.2	4.2	5.0	2.4	2.5	1.2	.55	.55	.35
9	.24	.35	2.7	1.1	4.4	4.0	1.5	3.3	1.2	.55	.63	.35
10	.24	.35	3.8	.91	5.8	3.4	1.2	2.9	1.2	.55	.47	.35
11	.41	10	4.2	.81	4.2	3.2	1.8	2.2	1.1	.55	1.2	.35
12	.29	30	4.7	.81	4.4	4.3	1.5	2.0	1.1	.47	1.1	.35
13	.29	11	3.0	.72	7.1	3.9	4.6	2.0	1.0	.55	.63	.35
14	.63	4.4	2.9	.63	5.7	4.0	4.5	2.4	1.0	.63	.72	.35
15	.47	3.2	2.7	.63	4.4	3.6	2.4	2.4	1.0	1.2	.55	.35
16	.35	2.9	2.5	.63	4.2	2.9	3.4	2.0	.91	8.3	.55	.35
17	.35	2.5	2.4	.55	3.6	2.7	5.9	2.1	.81	3.9	.47	.35
18	5.1	2.2	2.2	1.1	3.4	8.1	20	2.4	.91	1.1	.47	.35
19	.91	1.9	2.0	1.2	3.0	6.6	36	3.8	.81	1.2	.47	.35
20	.81	1.8	1.9	.63	2.9	4.4	17	4.6	.72	.81	.55	.35
21	.63	1.6	1.9	.55	2.7	3.8	13	2.9	.91	1.2	.55	.35
22	.63	1.6	1.8	.72	2.5	3.4	20	2.5	.81	1.0	.72	.35
23	.55	4.8	1.6	7.2	2.4	3.4	13	2.2	.81	.72	.41	.24
24	.47	14	1.5	4.8	2.2	3.0	9.8	2.0	.72	.72	.41	.24
25	.47	21	1.5	1.6	2.0	2.9	8.2	1.9	.81	.81	.35	.24
26	.41	8.0	1.4	13	2.0	2.7	8.0	1.9	.72	.81	.35	.24
27	.91	6.4	1.2	5.6	1.9	2.5	6.8	1.8	.72	1.0	.35	.24
28	.55	7.9	1.2	2.9	1.6	2.4	5.9	1.8	.72	.72	.35	.24
29	.47	5.7	1.5	2.4	------	2.2	8.1	1.6	.63	.63	.35	.24
30	.47	4.6	1.2	21	------	2.0	5.0	1.6	.63	.63	.41	.24
31	.41	------	1.1	58	------	1.9	------	1.9	------	.63	.47	------
TOTAL	18.03	150.38	81.1	136.03	117.4	128.4	211.8	81.4	32.14	33.16	17.33	10.04
MEAN	.58	5.01	2.62	4.39	4.19	4.14	7.06	2.63	1.07	1.07	.56	.33
MAX	5.1	30	5.2	58	11	13	36	5.0	2.2	8.3	1.2	.47
MIN	.24	.35	1.1	.55	1.6	1.6	1.2	1.6	.63	.47	.35	.24
AC-FT	36	298	161	270	233	255	420	161	64	66	34	20

CAL YR 1973 TOTAL 1,237.35 MEAN 3.39 MAX 50 MIN .19 AC-FT 2,450
WTR YR 1974 TOTAL 1,017.21 MEAN 2.79 MAX 58 MIN .24 AC-FT 2,020

PEAK DISCHARGE (BASE, 270 CFS).--Jan. 31 (0400) 464 cfs (3.38 ft).

16588000 WAILOA DITCH AT HONOPOU, NEAR HUELO

LOCATION.--Lat 20°53'20", long 156°15'19", on right bank 100 ft (30 m) downstream from intake at Honopou Stream, 0.5 mi (0.8 km) west of Lupi, and 2.2 mi (3.5 km) southwest of Huelo.

PERIOD OF RECORD.--November 1922 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,208 ft (368.2 m) above mean sea level (by vertical angles).

AVERAGE DISCHARGE.--51 years (1923-74), 178 ft^3/s (5.041 m^3/s), 129,000 acre-ft/yr (159 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 326 ft^3/s (9.23 m^3/s) Apr. 1, 1967; no flow Jan. 24-27, 1923.

REMARKS.--Records excellent. Wailoa ditch receives water from Koolau ditch at Alo Stream and from all streams from there west to Halehaku Gulch at altitude of about 1,200 ft (366 m). Water is used for domestic supply, power, and irrigation in central Maui. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	73	247	54	202	149	36	284	247	71	68	53
2	47	67	273	52	190	102	35	274	140	65	73	63
3	41	63	226	51	155	80	34	215	186	62	62	129
4	39	59	183	56	130	219	111	206	276	61	70	127
5	36	56	155	51	116	285	90	164	195	62	135	66
6	35	53	140	47	130	290	198	148	145	60	76	49
7	36	53	124	171	152	280	181	177	175	93	70	46
8	39	82	231	124	209	255	199	199	138	60	64	43
9	36	54	239	80	207	201	173	233	131	56	95	41
10	33	48	230	63	208	158	120	278	149	51	74	43
11	131	160	232	49	189	134	131	237	122	48	171	39
12	73	277	259	49	184	118	194	193	104	47	200	39
13	60	271	183	44	192	163	197	194	92	53	102	37
14	205	232	151	41	189	187	192	183	97	94	137	35
15	163	201	138	40	190	191	196	276	156	208	89	34
16	123	163	122	38	202	177	198	254	98	250	77	33
17	78	135	112	37	161	145	200	229	91	274	69	32
18	210	115	104	76	137	171	201	277	99	190	67	32
19	217	102	97	103	122	196	201	280	94	165	80	31
20	231	137	91	45	111	193	257	284	80	112	79	29
21	183	127	86	39	104	185	269	278	116	96	69	29
22	159	163	81	63	95	175	288	266	113	87	146	28
23	135	177	76	198	88	154	298	217	146	80	73	28
24	109	290	73	276	82	134	297	185	97	71	61	27
25	101	293	69	199	85	122	279	168	126	125	57	27
26	93	279	66	210	82	111	241	151	104	153	54	28
27	160	274	66	239	98	132	229	136	87	183	52	26
28	120	272	62	140	77	71	285	126	130	91	50	25
29	120	263	61	100	------	45	215	115	99	75	47	24
30	101	211	61	254	------	41	198	112	74	72	54	25
31	81	------	57	241	------	38	------	173	------	66	71	------
TOTAL	3,258	4,750	4,295	3,230	4,087	4,902	5,743	6,512	3,907	3,181	2,592	1,268
MEAN	105	158	139	104	146	158	191	210	130	103	83.6	42.3
MAX	231	293	273	276	209	290	298	284	276	274	200	129
MIN	33	48	57	37	77	38	34	112	74	47	47	24
AC-FT	6,460	9,420	8,520	6,410	8,110	9,720	11,390	12,920	7,750	6,310	5,140	2,520

CAL YR 1973 TOTAL 54,874.4 MEAN 150 MAX 322 MIN 7.5 AC-FT 108,800
WTR YR 1974 TOTAL 47,725.0 MEAN 131 MAX 298 MIN 24 AC-FT 94,660

16589000 NEW HAMAKUA DITCH AT HONOPOU, NEAR HUELO

LOCATION.--Lat 20°53'28", long 156°15'22", on right bank 15 ft (4.6 m) upstream from tunnel portal, 600 ft (183 m) downstream from Honopou Stream crossing, and 2.1 mi (3.4 km) southwest of Huelo.

PERIOD OF RECORD.--January 1918 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,170 ft (356.6 m) above mean sea level (by vertical angles). Prior to May 14, 1921, at site 300 ft (91 m) upstream at different datum. May 14, 1921, to Mar. 18, 1962, at present site at datum 1.00 ft (0.305 m) higher.

AVERAGE DISCHARGE.--56 years, 36.5 ft^3/s (1.034 m^3/s), 26,440 acre-ft/yr (32.6 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 182 ft^3/s (5.15 m^3/s) Nov. 2, 1967; no flow at times.

REMARKS.--Records excellent. Ditch diverts from streams between Waikamoi Stream and Halehaku Gulch above Center and Lowrie ditches for irrigation in central Maui. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	.47	21	.56	.04	30	1.6	91	55	1.6	.52	.40
2	.26	.43	116	.53	.04	3.2	1.5	91	7.3	.86	.50	.34
3	.14	.42	62	.48	.03	1.5	1.4	5.3	40	.57	.47	39
4	.10	.38	5.7	.52	.03	79	2.1	10	130	.53	.44	8.5
5	.08	.37	3.2	.49	.03	154	1.3	2.9	9.0	.53	11	.42
6	.06	.34	2.8	.41	.03	162	21	2.5	6.6	.51	.54	.34
7	.07	.35	2.4	43	.03	113	50	3.7	7.7	2.4	.48	.31
8	.10	3.0	68	1.5	.03	96	61	2.3	5.5	.52	.44	.29
9	.09	.58	71	.80	.03	30	19	88	5.4	.46	.60	.27
10	.07	.43	110	.61	.03	5.2	1.4	145	6.2	.41	.50	.29
11	56	89	76	.53	.02	2.9	11	29	5.5	.38	58	.27
12	.91	168	53	.49	.02	25	42	6.6	4.6	.37	54	.27
13	10	165	2.9	.45	.03	37	39	8.3	4.0	.46	.85	.28
14	99	110	2.2	.43	.02	.05	30	7.5	3.8	1.2	6.0	.24
15	11	36	2.0	.43	.02	.04	30	87	4.6	78	.62	.22
16	.75	4.1	1.8	.38	.03	.04	30	49	3.6	144	.51	.20
17	.43	2.2	1.6	.38	.04	.04	30	40	3.1	155	.48	.18
18	122	1.9	1.5	6.1	.04	.05	30	117	2.8	24	.45	.18
19	125	1.6	1.4	13	3.0	.02	31	119	2.5	34	.51	.18
20	141	12	1.3	.57	3.1	.02	122	156	2.4	.97	.56	.17
21	65	2.9	1.2	.45	2.7	.02	135	124	2.8	.89	.47	.15
22	2.2	14	1.1	4.0	2.4	.03	144	71	2.6	.75	14	.15
23	1.2	57	1.0	106	2.2	.04	145	25	3.0	.66	.62	.15
24	.94	165	.95	156	2.0	.03	133	11	2.2	.60	.46	.15
25	.84	165	.87	23	1.9	.03	55	8.2	3.1	5.6	.43	.17
26	.74	161	.81	54	1.9	.03	15	7.6	2.5	39	.40	.19
27	58	121	.76	69	2.1	.02	8.4	7.0	1.7	53	.38	.19
28	1.7	107	.73	2.7	1.6	.02	68	6.6	4.2	.78	.36	.18
29	.77	85	.71	1.2	------	2.4	9.3	6.2	4.6	.64	.34	.15
30	.72	7.0	.64	101	------	1.9	4.3	5.9	2.3	.58	.42	.16
31	.55	------	.59	63	------	1.7	------	32	------	.54	.56	------
TOTAL	700.12	1,481.47	615.16	652.01	23.44	745.28	1,272.3	1,365.6	338.6	549.81	155.91	53.99
MEAN	22.6	49.4	19.8	21.0	.84	24.0	42.4	44.1	11.3	17.7	5.03	1.80
MAX	141	168	116	156	3.1	162	145	156	130	155	58	39
MIN	.06	.34	.59	.38	.02	.02	1.3	2.3	1.7	.37	.34	.15
AC-FT	1,390	2,940	1,220	1,290	46	1,480	2,520	2,710	672	1,090	309	107

CAL YR 1973 TOTAL 12,941.59 MEAN 35.5 MAX 177 MIN .02 AC-FT 25,670
WTR YR 1974 TOTAL 7,953.69 MEAN 21.8 MAX 168 MIN .02 AC-FT 15,780

16592000 LOWRIE DITCH AT HONOPOU GULCH, NEAR HUELO

LOCATION.--Lat 20°54'57", long 156°15'08", on left bank 0.2 mi (0.3 km) downstream from siphon across Honopou Strean, 1.6 mi (2.6 km) west of Huelo, and 2.7 mi (4.3 km) northwest of Kailua.

PERIOD OF RECORD.--January 1910 to March 1927, February 1930 to current year. Published as "at Opana weir, near Huelo" 1910-27.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 598.0 ft (182.27 m) above mean sea level. Jan. 1, 1910, to Mar. 31, 1927, at site 1.5 mi (2.4 km) downstream at different datum.

AVERAGE DISCHARGE.--60 years (1910-26, 1930-74), 38.2 ft^3/s (0.108 m^3/s), 27,680 acre-ft/yr (34.1 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 116 ft^3/s (3.29 m^3/s) Oct. 31, 1921; no flow at times.

REMARKS.--Records excellent. Lowrie ditch receives water from Center ditch at Nailiilihaele Strean and diverts from additional streams westward to Maliko Gulch for irrigation in central Maui. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	4.9	34	7.2	3.8	15	16	44	32	6.2	5.5	3.9
2	9.7	4.5	68	6.8	2.6	13	13	62	23	5.6	5.4	3.3
3	3.2	4.1	44	6.6	2.1	10	12	30	22	5.2	5.1	19
4	2.8	3.9	24	7.6	1.8	54	14	35	49	5.0	5.0	18
5	2.7	3.8	21	6.6	1.7	91	12	35	27	5.0	5.6	15
6	2.4	3.6	22	6.1	1.8	90	26	41	28	4.9	5.0	14
7	2.5	3.5	28	29	1.7	48	33	27	31	6.5	5.6	13
8	2.9	11	56	8.7	1.4	34	33	19	29	5.2	4.7	6.6
9	2.5	5.2	34	5.7	1.3	25	6.6	34	21	4.6	6.4	2.8
10	2.2	4.1	66	5.1	1.2	21	9.1	78	16	4.2	5.2	2.9
11	5.3	54	30	4.6	22	19	13	25	13	4.0	13	2.7
12	5.4	105	17	4.6	71	25	23	23	11	4.1	24	2.9
13	3.3	89	24	4.2	81	40	24	54	10	5.2	15	2.9
14	15	40	39	4.0	72	34	24	30	10	8.3	9.4	2.6
15	12	33	14	4.0	38	42	23	43	11	12	4.9	2.4
16	12	31	16	7.4	44	10	41	29	9.6	45	4.3	2.3
17	10	30	28	12	29	7.9	29	29	8.9	87	10	2.2
18	67	24	24	6.6	28	31	19	58	8.6	30	10	2.2
19	41	22	20	10	34	44	22	56	8.2	33	11	2.1
20	31	21	19	4.9	32	17	77	85	7.8	29	10	2.1
21	28	11	19	4.9	30	7.1	81	59	8.3	26	9.7	2.0
22	30	11	9.2	14	21	9.4	81	32	8.3	12	13	1.9
23	15	14	9.1	37	15	8.8	80	28	8.3	7.5	9.4	1.9
24	13	95	13	83	14	7.6	78	27	7.7	6.8	9.2	1.9
25	14	92	8.2	15	27	6.7	68	27	8.4	7.8	4.6	1.8
26	11	69	13	25	21	6.1	49	25	7.7	8.1	3.8	1.9
27	11	49	8.8	45	20	8.8	45	25	6.9	9.9	3.6	1.8
28	11	52	8.6	15	21	11	55	30	6.8	14	3.4	1.7
29	12	55	8.6	23	------	42	36	20	6.6	6.4	3.3	1.7
30	8.5	38	8.2	90	------	19	38	12	6.0	6.2	4.0	1.7
31	5.3	------	7.6	60	------	17	------	17	------	5.7	5.0	------
TOTAL	405.7	983.6	741.3	563.6	639.4	814.4	1,080.7	1,139	451.1	420.4	234.1	141.2
MEAN	13.1	32.8	23.9	18.2	22.8	26.3	36.0	36.7	15.0	13.6	7.55	4.71
MAX	67	105	68	90	81	91	81	85	49	87	24	19
MIN	2.2	3.5	7.6	4.0	1.2	6.1	6.6	12	6.0	4.0	3.3	1.7
AC-FT	805	1,950	1,470	1,120	1,270	1,620	2,140	2,260	895	834	464	280

CAL YR 1973 TOTAL 9,987.6 MEAN 27.4 MAX 108 MIN 1.8 AC-FT 19,810
WTR YR 1974 TOTAL 7,614.5 MEAN 20.9 MAX 105 MIN 1.2 AC-FT 15,100

16594000 HAIKU DITCH AT HONOPOU GULCH, NEAR KAILUA

LOCATION.--Lat 20°55'07", long 156°14'58", on right bank on west side of Honopou Gulch, 160 ft (49 m) below new Government Road, 2.5 mi (4.0 km) northwest of Kailua, and 5.0 mi (8.0 km) east of Haiku.

PERIOD OF RECORD.--January 1910 to December 1928, February 1930 to current year. Published as "at Peahi weir, near Huelo" prior to July 1919, as "at Manawai Gulch, near Peahi" July 1919 to December 1928, and as "at Kapalalaea Gulch, near Huelo" February 1930 to January 1940. Monthly discharge only for some periods, published in WSP 1319.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 421.54 ft (128.485 m) above mean sea level. Prior to Oct. 7, 1914, at site at Peahi weir on old Haiku ditch at different datum. Oct. 7, 1914, to Dec. 31, 1928, at site 2.9 mi (4.7 km) dowustream at different datum. Feb. 19, 1930, to Feb. 20, 1940, at site 0.9 mi (1.4 km) downstream at different datum.

AVERAGE DISCHARGE.--59 years (1910-11, 1913-14, 1915-28, 1930-74), 26.0 ft^3/s (0.736 m^3/s), 18,840 acre-ft/yr (23.2 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 209 ft^3/s (5.92 m^3/s) Nov. 13, 1934, Jan. 8, 9, Feb. 25-27, 1935, Jan. 27, 1938; no flow at times.

REMARKS.--Records excellent. Ditch diverts from all streams between Nailiilihaele Stream and Maliko Gulch for irrigation in central Maui. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.73	.76	7.5	1.6	1.2	3.0	3.0	15	2.6	1.2	1.1	.80
2	.66	.74	36	1.6	.79	2.6	2.9	20	2.2	1.2	1.1	.77
3	.61	.68	18	1.5	.67	2.2	2.8	6.5	2.3	1.2	1.1	18
4	.65	.65	5.6	1.9	.60	46	2.8	5.8	23	1.1	1.1	4.3
5	.64	.65	5.1	1.6	.58	78	2.6	5.3	4.8	1.1	1.0	3.1
6	.64	.65	4.7	1.4	.56	109	8.4	4.8	4.1	1.1	1.0	2.7
7	.69	.65	4.2	4.6	.60	26	8.6	3.8	3.8	1.2	1.1	2.2
8	.72	1.1	23	3.6	.61	4.9	6.7	3.1	3.4	1.1	.99	.79
9	.63	.72	13	3.1	.52	3.8	2.2	16	2.8	1.0	1.2	.68
10	.61	.63	34	2.5	.46	3.4	4.5	62	2.1	.99	1.0	.67
11	.79	58	48	1.4	.43	3.2	5.9	6.3	1.8	.99	1.3	.66
12	.67	113	49	1.3	61	2.1	5.9	5.0	1.7	1.0	2.9	.74
13	.63	102	6.3	1.2	88	.49	.48	4.9	1.6	1.1	1.1	.68
14	.84	10	7.0	1.2	80	.48	.37	4.4	1.7	1.2	1.2	.64
15	1.0	2.5	5.0	1.2	42	.51	.32	7.7	1.6	1.2	1.0	.63
16	.90	4.1	4.5	1.2	53	.35	.35	4.2	1.5	32	.96	.64
17	.74	3.6	3.8	1.2	10	.34	.33	3.9	1.5	92	.93	.63
18	69	3.2	2.6	1.7	9.2	1.2	.35	36	1.5	5.8	.99	.61
19	11	2.8	2.4	1.4	8.2	.18	48	41	1.4	4.4	1.1	.61
20	4.7	2.4	2.3	1.2	5.1	.15	88	83	1.4	3.8	.99	.59
21	4.3	1.4	2.3	1.1	4.7	.14	94	33	1.4	3.5	.95	.58
22	3.3	1.3	2.2	1.2	4.0	.13	98	5.4	1.5	2.3	1.0	.56
23	1.3	3.5	2.1	26	2.9	.15	96	4.9	1.4	1.6	.89	.58
24	.96	102	2.1	78	2.8	.12	62	4.5	1.3	1.4	.85	.57
25	.88	101	2.0	4.4	2.9	.11	13	4.1	1.4	1.4	.83	.59
26	.82	55	1.9	9.9	2.7	.11	8.6	3.6	1.4	1.5	.81	.56
27	.97	17	1.8	25	2.6	.10	8.9	2.5	1.2	1.5	.80	.56
28	.83	33	1.8	3.4	2.5	.09	9.6	2.3	1.2	1.3	.83	.56
29	.90	28	1.8	3.1	------	4.9	7.6	2.2	1.2	1.2	.82	.55
30	.88	8.3	1.7	53	------	3.6	6.8	2.2	1.2	1.2	.89	.58
31	.79	------	1.7	43	------	3.2	------	2.5	------	1.1	.92	------
TOTAL	112.78	659.33	303.4	284.5	388.62	300.55	599.00	405.9	80.0	172.68	32.75	46.13
MEAN	3.64	22.0	9.79	9.18	13.9	9.70	20.0	13.1	2.67	5.57	1.06	1.54
MAX	69	113	49	78	88	109	98	83	23	92	2.9	18
MIN	.61	.63	1.7	1.1	.43	.09	.32	2.2	1.2	.99	.80	.55
AC-FT	224	1,310	602	564	771	596	1,190	805	159	343	65	91

CAL YR 1973 TOTAL 4,350.98 MEAN 11.9 MAX 113 MIN .11 AC-FT 8,630
WTR YR 1974 TOTAL 3,385.64 MEAN 9.28 MAX 113 MIN .09 AC-FT 6,720

16599500 OPANA TUNNEL AT KAILIILI

LOCATION.--Lat 20°51'04", long 156°16'17", on left bank at tunnel outlet, 0.3 mi (0.5 km) north of Kailiili, and 2.7 mi (4.3 km) east of Makawao.

PERIOD OF RECORD.--May 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 2,340 ft (713 m) from topographic map.

AVERAGE DISCHARGE.--9 years, 3.27 ft^3/s (0.0926 m^3/s), 2,370 acre-ft/yr (2.92 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 13 ft^3/s (0.37 m^3/s) Apr. 1, 1969, Apr. 9, 10, 1972, Nov. 12, 1973; minimum daily, 0.11 ft^3/s (0.003 m^3/s) Nov. 5-10, 1973.

REMARKS.--Records excellent. Tunnel diverts from Opana Gulch for domestic use in the Kokomo, Makawao and Pukalani areas. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	.14	4.8	.72	7.3	1.8	1.6	4.8	1.8	.72	.32	.14
2	.17	.13	8.2	.72	4.6	1.4	1.4	4.2	1.8	.65	.32	.13
3	.14	.12	5.2	.72	3.7	1.4	1.4	3.8	1.8	.58	.23	3.1
4	.14	.12	2.9	.86	3.8	4.3	1.6	3.6	2.4	.52	.23	3.2
5	.13	.11	2.0	.79	3.2	7.3	1.4	3.2	2.0	.52	.42	.79
6	.13	.11	1.8	.72	2.9	11	2.0	3.0	1.6	.52	.32	.42
7	.13	.11	1.6	8.0	3.8	7.5	2.5	3.0	1.6	.47	.23	.32
8	.13	.11	6.1	7.6	6.3	4.6	3.8	3.1	1.4	.42	.20	.23
9	.13	.11	7.6	6.2	9.0	3.7	2.5	5.0	1.4	.42	.20	.20
10	.13	.11	7.8	3.6	7.3	3.1	1.6	8.6	1.3	.37	.17	.17
11	.14	2.9	3.8	1.8	8.2	2.8	3.0	5.1	1.3	.37	.23	.17
12	.14	13	2.4	1.4	7.3	2.7	3.1	3.6	1.2	.32	.37	.14
13	.17	11	1.8	1.0	7.7	5.4	8.0	3.1	1.1	.32	.20	.13
14	.32	5.8	1.6	.79	5.7	3.6	8.0	2.8	1.0	.37	.20	.13
15	.27	2.6	1.4	.65	4.2	5.2	4.7	3.0	1.1	.72	.17	.13
16	.20	1.6	1.3	.58	3.6	3.6	8.4	2.5	1.0	4.0	.14	.13
17	.14	1.1	1.2	.52	3.2	2.9	6.8	2.5	.94	6.4	.13	.13
18	1.5	.86	1.1	.65	3.0	2.6	12	2.5	.94	2.0	.13	.13
19	1.3	.72	1.0	.58	2.8	6.1	10	4.8	.86	1.3	.13	.12
20	.72	.65	.94	.52	2.5	6.0	10	8.6	.86	.79	.14	.13
21	.72	.58	.94	.47	2.3	3.6	9.6	6.3	.79	.94	.13	.13
22	.47	.52	.86	.52	2.2	2.9	11	3.8	.79	1.4	.17	.13
23	.37	.76	.86	5.2	2.0	2.6	9.2	3.0	.79	.79	.14	.13
24	.27	10	.79	9.4	2.0	2.4	8.2	2.5	.79	.58	.14	.13
25	.20	9.4	.72	4.6	1.8	2.2	7.2	2.3	.72	.72	.13	.13
26	.17	5.7	.72	2.4	1.8	2.0	6.0	2.0	.65	.86	.13	.13
27	.27	3.8	.72	3.0	1.6	2.0	5.8	2.0	.58	.94	.13	.13
28	.27	4.9	.72	2.5	1.6	1.8	6.8	2.0	1.6	.65	.13	.13
29	.20	5.4	.98	2.0	------	1.8	5.4	1.8	1.4	.47	.13	.12
30	.17	4.4	1.0	5.8	------	1.6	4.5	1.8	.86	.42	.13	.12
31	.14	------	.79	11	------	1.6	------	1.8	------	.37	.14	------
TOTAL	9.65	86.86	73.64	85.31	115.4	111.5	167.5	110.1	36.37	29.92	5.98	11.32
MEAN	.31	2.90	2.38	2.75	4.12	3.60	5.58	3.55	1.21	.97	.19	.38
MAX	1.5	13	8.2	11	9.0	11	12	8.6	2.4	6.4	.42	3.2
MIN	.13	.11	.72	.47	1.6	1.4	1.4	1.8	.58	.32	.13	.12
AC-FT	19	172	146	169	229	221	332	218	72	59	12	22

CAL YR 1973 TOTAL 1,033.98 MEAN 2.83 MAX 13 MIN .11 AC-FT 2,050
WTR YR 1974 TOTAL 843.55 MEAN 2.31 MAX 13 MIN .11 AC-FT 1,670

16620000 HONOKOHAU STREAM NEAR HONOKOHAU

LOCATION.--Lat 20°57'48", long 156°35'22", on right bank 1,000 ft (305 m) upstream from intake of Honokohau ditch and 4.1 mi (6.6 km) southeast of Honokohau.

DRAINAGE AREA.--4.11 mi^2 (10.64 km^2).

PERIOD OF RECORD.--September, November and December 1911 (combined flow of stream and ditch below point of diversion), March 1913 to September 1920, May 1922 to current year. Monthly discharge only for some periods, published in WSP 1319.

GAGE.--Water-stage recorder and masonry control. Altitude of gage is 870 ft (265 m) from topographic map. Prior to Mar. 7, 1913, nonrecording gage at site just below Honokohau ditch intake at different datum.

AVERAGE DISCHARGE.--58 years (1913-19, 1922-74), 39.7 ft^3/s (1.124 m^3/s), 28,760 acre-ft/yr (35.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,250 ft^3/s (35.4 m^3/s) Jan. 26, gage height, 5.64 ft (1.719 m), from rating curve extended above 480 ft^3/s (13.6 m^3/s); minimum, 10 ft^3/s (0.28 m^3/s) Sept. 29, 30.

Period of record: Maximum discharge, 3,740 ft^3/s (106 m^3/s) Dec. 14, 1942, Aug. 30, 1957, gage height, 8.40 ft (2.560 m), from rating curve extended above 480 ft^3/s (13.6 m^3/s); minimum, 8.4 ft^3/s (0.24 m^3/s) May 1, 1945, Jan. 5, 1946.

REMARKS.--Records good. No diversion above station. All medium and low flow, together with the inflow from two development tunnels below station, is diverted into Honokohau ditch. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 1937: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	13	36	17	19	16	13	36	21	17	12	14
2	13	12	177	15	16	20	13	32	16	14	19	12
3	13	12	21	14	15	14	13	23	33	13	13	26
4	12	12	16	17	15	15	31	25	46	15	12	18
5	12	12	15	14	15	16	27	15	17	18	20	13
6	12	12	19	34	16	42	29	14	22	14	14	12
7	13	12	16	178	17	16	33	15	18	19	13	11
8	19	12	42	23	23	19	26	21	17	14	12	11
9	13	12	26	87	22	15	15	39	16	13	31	11
10	12	12	32	17	23	13	18	51	36	12	15	12
11	70	128	24	15	29	13	24	33	16	12	53	11
12	15	571	48	21	28	47	18	18	14	14	31	23
13	35	181	16	20	105	22	47	46	13	16	15	13
14	57	23	15	18	40	18	36	48	24	17	19	11
15	43	18	15	30	19	18	18	22	24	45	13	11
16	20	17	14	19	33	14	28	27	15	72	12	11
17	15	17	14	15	16	13	17	37	14	45	12	11
18	77	15	14	15	15	63	93	40	15	16	17	11
19	38	15	14	15	15	185	50	59	14	15	28	11
20	57	14	14	14	14	22	22	38	14	13	28	11
21	25	14	14	14	14	16	63	18	18	13	20	11
22	38	16	14	31	14	15	59	17	18	13	41	11
23	19	70	14	43	14	64	26	17	26	12	14	11
24	15	138	14	27	14	17	21	16	13	12	12	11
25	15	75	13	18	14	15	15	14	14	12	12	11
26	14	27	13	231	14	14	14	14	13	17	12	11
27	25	34	14	51	16	14	14	13	21	24	11	11
28	14	25	15	19	14	14	16	13	32	12	11	11
29	18	17	14	18	------	13	18	13	20	12	11	11
30	16	15	26	61	------	13	17	13	17	15	14	11
31	13	------	64	94	------	13	------	14	------	14	16	------
TOTAL	775	1,551	803	1,205	609	809	834	801	597	570	563	374
MEAN	25.0	51.7	25.9	38.9	21.8	26.1	27.8	25.8	19.9	18.4	18.2	12.5
MAX	77	571	177	231	105	185	93	59	46	72	53	26
MIN	12	12	13	14	14	13	13	13	13	12	11	11
AC-FT	1,540	3,080	1,590	2,390	1,210	1,600	1,650	1,590	1,180	1,130	1,120	742

CAL YR 1973 TOTAL 11,456 MEAN 31.4 MAX 571 MIN 11 AC-FT 22,720
WTR YR 1974 TOTAL 9,491 MEAN 26.0 MAX 571 MIN 11 AC-FT 18,830

PEAK DISCHARGE (BASE, 1,100 CFS).--Jan. 26 (1715) 1,250 cfs (5.64 ft); Mar. 19 (1300) 1,190 cfs (5.54 ft).

16638500 KAHOMA STREAM AT LAHAINA

LOCATION.--Lat 20°53'10", long 156°40'36", on right bank 0.2 mi (0.3 km) west of Kelawea, 0.6 mi (1.0 km) northeast of Lahaina, 0.6 mi (1.0 km) downstream from Kanaha Stream, and 0.9 mi (1.4 km) upstream from mouth.

DRAINAGE AREA.--5.22 mi^2 (13.52 km^2).

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 90 ft (27 m) from topographic map.

AVERAGE DISCHARGE.--11 years (1963-74), 4.24 ft^3/s (0.120 m^3/s), 3,070 acre-ft/yr (3.79 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 950 ft^3/s (26.9 m^3/s) Nov. 12, gage height, 7.80 ft (2.377 m), from rating curve extended as explained below; no flow many days.

Period of record: Maximum discharge, 2,490 ft^3/s (70.5 m^3/s) July 11, 1965, gage height, 11.03 ft (3.362 m), from rating curve extended above 206 ft^3/s (5.83 m^3/s) on basis of slope-area measurements at gage heights 7.58 (2.310), 8.07 (2.460) and 11.03 ft (3.362 m); no flow many days each year.
Maximum discharge of flood of May 13, 1960, 7,750 ft^3/s (219 m^3/s), by slope-area measurement at site 0.5 mi (0.8 km) upstream.

REMARKS.--Records fair except those below 10 ft^3/s (0.28 m^3/s), which are poor. Diversion above station by Pioneer Mill Co. for irrigation of sugarcane. Diversion from Kanaha Stream above station by Maui County Board of Water Supply for domestic use. Recording rain gage located at station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 2137: 1963-65(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	.01	0	0	0	0	.01	0	0	0	
2		0	93	0	0	0	0	0	0	0	0	
3		0	1.4	0	0	0	0	0	0	0	0	
4		0	.06	0	0	0	0	0	0	0	0	
5		0	.01	0	0	0	0	0	0	0	0	
6		0	.58	1.6	0	2.6	0	0	0	0	0	
7		0	.04	72	0	0	0	0	0	0	0	
8		0	.01	1.6	0	.22	0	0	0	0	0	
9		0	0	43	0	0	0	0	0	0	0	
10		0	.36	.03	0	0	0	1.3	0	.27	.27	
11		1.4	0	0	0	0	0	0	0	0	3.7	
12		175	1.8	0	1.0	21	0	0	0	0	0	
13		38	0	0	5.4	3.1	1.9	0	0	0	0	
14		.03	0	0	1.8	0	0	4.6	0	0	0	
15		0	0	2.2	0	0	5.9	.88	0	14	0	
16		0	0	.60	0	0	7.2	.04	0	6.0	0	
17		0	.37	0	0	0	0	0	0	3.1	0	
18		0	0	0	0	0	90	0	0	0	0	
19		0	0	0	0	1.6	14	23	0	0	0	
20		0	0	0	0	0	23	9.6	0	0	0	
21		0	0	0	0	0	30	.92	0	0	0	
22		0	0	0	0	0	70	0	0	0	0	
23		12	0	5.2	0	2.6	1.4	0	1.6	0	0	
24		74	0	6.7	0	0	.09	0	0	0	0	
25		10	0	0	.07	0	.06	0	0	0	0	
26		.01	0	9.0	0	0	.03	0	.16	0	0	
27		0	0	2.2	0	0	.02	.10	0	.05	0	
28		0	0	0	0	0	.21	0	0	0	0	
29		0	.02	0	------	0	.17	0	0	0	0	
30		0	.04	0	------	0	.04	0	0	.05	0	
31		------	22	9.6	------	0	------	0	------	0	0	------
TOTAL	0	310.44	119.70	153.73	8.27	31.12	244.02	40.45	1.76	23.47	3.97	0
MEAN	0	10.3	3.86	4.96	.30	1.00	8.13	1.30	.059	.76	.13	0
MAX	0	175	93	72	5.4	21	90	23	1.6	14	3.7	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	616	237	305	16	62	484	80	3.5	47	7.9	0

CAL YR 1973 TOTAL 1,287.53 MEAN 3.53 MAX 188 MIN 0 AC-FT 2,550
WTR YR 1974 TOTAL 936.93 MEAN 2.57 MAX 175 MIN 0 AC-FT 1,860

PEAK DISCHARGE (BASE, 590 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-12	2030	7.80	950	4-22	0830	7.68	878
4-18	1500	7.48	758				

16700000 WAIAKEA STREAM NEAR MOUNTAIN VIEW

LOCATION.--Lat 19°38'30", long 155°10'28", on left bank 200 ft (61 m) upstream from Olaa Flume Road, 7.3 mi (11.7 km) northwest of Mountain View, and 8.0 mi (12.9 km) southwest of Hilo Post Office.

DRAINAGE AREA.--17.4 mi^2 (45.1 km^2).

PERIOD OF RECORD.--September 1930 to current year. Prior to July 1960, published as "at middle flume house, near Mountain View."

GAGE.--Water-stage recorder and combined Parshall flume and concrete-weir control. Datum of gage is 1,934 ft (589 m) above mean sea level (by stadia survey). Prior to Jan. 21, 1938, at datum 0.23 ft (0.070 m) lower.

AVERAGE DISCHARGE.--44 years, 11.9 ft^3/s (0.337 m^3/s), 8,620 acre-ft/yr (10.6 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 544 ft^3/s (15.4 m^3/s) Apr. 19, gage height, 4.42 ft (1.347 m), from rating curve extended above 160 ft^3/s (4.53 m^3/s); minimum, 0.20 ft^3/s (0.006 m^3/s) Sept. 26-30.

Period of record: Maximum discharge, 565 ft^3/s (16.0 m^3/s) Mar. 14, 1942, Aug. 26, 1970, from rating curve extended above 160 ft^3/s (4.53 m^3/s); maximum gage height, 4.45 ft (1.356 m) Aug. 26, 1970; no flow at times.

REMARKS.--Records good. No diversion above station. Large part of flow comes from 3 tunnels. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 2137: 1939(M), 1942(M), 1944-45(M), 1947(M), 1949(P), 1950-51(M), 1952-53(P), 1955(P), 1956(M), 1957-58(P), 1960(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	6.2	48	3.6	7.0	6.1	8.3	17	10	4.0	2.0	1.2
2	4.2	5.8	76	3.4	6.6	5.7	7.7	16	9.4	3.9	1.7	1.1
3	4.0	5.5	63	3.2	6.4	6.2	7.1	14	9.2	3.7	1.7	1.1
4	3.8	5.3	59	3.0	6.3	13	6.7	13	9.2	3.4	1.6	1.0
5	3.5	5.1	50	2.9	6.1	16	6.3	12	9.6	3.3	1.5	.90
6	3.3	4.8	39	2.7	5.7	29	6.0	11	9.2	3.3	1.4	.80
7	3.1	4.7	30	2.5	5.6	25	6.1	9.9	8.7	3.2	1.4	.80
8	3.0	5.1	26	2.4	6.8	27	9.0	9.2	8.2	3.0	1.3	.70
9	2.9	8.2	21	2.2	13	28	8.9	8.7	7.8	2.8	1.2	.60
10	2.7	6.2	19	2.0	14	27	8.4	9.6	7.5	2.6	1.1	.60
11	2.9	5.4	17	1.8	15	25	8.2	8.5	7.2	2.4	2.2	.55
12	2.7	22	16	1.7	14	22	9.3	7.9	6.6	2.4	2.7	.52
13	2.8	17	14	1.5	14	20	9.0	7.6	6.3	2.2	2.0	.48
14	3.0	15	13	1.4	14	19	8.9	7.6	6.6	2.0	1.7	.48
15	3.3	15	12	1.3	13	17	12	7.3	6.5	1.9	2.1	.48
16	4.0	14	11	1.2	13	17	21	8.2	5.8	2.5	2.0	.48
17	3.5	12	9.6	1.0	12	16	26	18	6.2	5.2	1.7	.48
18	4.7	12	8.8	.95	11	16	37	17	6.6	3.1	1.5	.44
19	5.6	14	8.1	.85	10	20	95	18	5.8	2.7	1.7	.44
20	6.2	44	7.3	.80	9.8	17	68	20	5.6	2.5	2.8	.44
21	6.2	33	6.6	.75	9.3	17	73	21	5.3	2.4	2.1	.40
22	5.8	36	6.2	.60	8.8	16	80	22	5.0	2.3	2.0	.40
23	5.4	39	5.8	2.7	8.4	15	62	21	4.8	2.2	1.9	.40
24	5.2	48	5.4	10	7.9	13	53	20	5.0	2.0	1.7	.40
25	5.2	51	5.0	6.3	7.8	12	48	19	5.3	2.0	1.7	.28
26	4.9	44	4.8	5.3	7.2	14	40	17	4.4	2.8	1.6	.20
27	5.7	41	4.6	5.8	6.9	12	32	16	4.2	2.8	1.5	.20
28	5.7	36	4.3	5.1	6.4	11	27	15	4.2	2.4	1.4	.20
29	6.7	30	4.5	4.9	------	11	22	14	4.3	2.2	1.3	.20
30	6.3	26	4.4	7.4	------	9.7	19	12	4.2	2.0	1.4	.20
31	6.2	------	4.0	7.6	------	8.9	------	11	------	1.8	1.3	------
TOTAL	137.0	611.3	603.4	96.85	266.0	511.6	824.9	428.5	198.7	85.0	53.2	16.47
MEAN	4.42	20.4	19.5	3.12	9.50	16.5	27.5	13.8	6.62	2.74	1.72	.55
MAX	6.7	51	76	10	15	29	95	22	10	5.2	2.8	1.2
MIN	2.7	4.7	4.0	.60	5.6	5.7	6.0	7.3	4.2	1.8	1.1	.20
AC-FT	272	1,210	1,200	192	528	1,010	1,640	850	394	169	106	33

CAL YR 1973 TOTAL 4,158.82 MEAN 11.4 MAX 76 MIN .40 AC-FT 8,250
WTR YR 1974 TOTAL 3,832.92 MEAN 10.5 MAX 95 MIN .20 AC-FT 7,600

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-20	0530	3.54	118	4-19	1830	4.42	544
12- 2	0730	3.82	208	4-22	1300	3.97	275

16701750 WAILUKU RIVER NEAR HUMUULA

LOCATION.--Lat 19°42'55", long 155°18'36", on right bank 300 ft (91 m) upstream from trail terminus, 10 mi (16 km) east of Humuula, and 14 mi (22 km) west of Hilo.

DRAINAGE AREA.--34.8 mi^2 (90.1 km^2).

PERIOD OF RECORD.--February 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,250 ft (1,295 m) from topographic map.

AVERAGE DISCHARGE.--9 years, 2.85 ft^3/s (0.0807 m^3/s), 2,060 acre-ft/yr (2.54 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 3,180 ft^3/s (90.1 m^3/s) Nov. 20, gage height, 11.00 ft (3.353 m), from rating curve extended above 18 ft^3/s (0.51 m^3/s); no flow for many days.

Period of record: Maximum discharge, 3,180 ft^3/s (90.1 m^3/s) Nov. 20, 1973, gage height, 11.00 ft (3.353 m), from rating curve extended above 18 ft^3/s (0.51 m^3/s); no flow at times in 1965, 1969-74.

REMARKS.--Records good except those for period of no gage-height record and those above 40 ft^3/s (1.13 m^3/s), which are fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	.20	208	.15	.50	.25	.15	.85	.50	.05	.01	
2	.11	.14	76	.12	.45	.20	.12	.71	.50	.04	.01	
3	.11	.13	19	.24	.40	.50	.12	.71	.32	.04	.01	
4	.09	.13	10	.18	1.0	2.0	.10	.64	.45	.03	.01	
5	.08	.12	6.6	.12	1.5	10	.12	.50	.50	.03	.01	
6	.06	.11	4.4	.10	.65	75	.12	.45	.45	.03	.01	
7	.06	.12	3.2	.12	.50	40	.32	.45	.28	.03	.01	
8	.05	.15	2.5	.12	.70	15	4.0	.40	.24	.02	.01	
9	.05	.14	1.8	.18	25	25	1.3	.40	.21	.02	.02	
10	.04	.12	1.5	.21	15	6.0	.71	.36	.24	.01	.01	
11	.04	.18	1.7	.21	7.0	3.5	.45	.32	.21	.01	.03	
12	.04	2.0	3.2	.15	2.0	2.6	.85	.32	.15	.01	.05	
13	.04	2.9	.99	.12	1.5	2.8	.78	.45	.12	.01	.01	
14	.04	3.6	.71	.12	1.0	1.8	.50	.36	.28	.01	.01	
15	.07	1.7	.64	.10	2.0	1.2	3.4	.40	.32	.01	0	
16	.32	.54	.50	.08	1.5	.92	88	.45	.18	.01	0	
17	.20	.36	.50	.08	.75	.78	29	1.1	.12	.89	0	
18	.24	.26	.45	.06	.70	.64	32	3.2	.21	.10	.01	
19	.33	.24	.40	.05	.60	.78	43	1.1	.15	.02	0	
20	.20	346	.40	.05	1.5	.64	43	1.7	.10	.01	0	
21	.13	22	.32	.04	2.0	.50	20	2.0	.10	.01	0	
22	.13	15	.28	.04	.60	.40	17	2.2	.05	.01	0	
23	.13	6.8	.32	18	.60	.40	10	.71	.05	.01	0	
24	.14	28	.28	32	.65	.40	7.0	.50	.05	.02	0	
25	.16	83	.24	1.5	.50	.36	5.0	.50	.15	.01	0	
26	.14	8.8	.21	.65	.40	.45	3.5	.40	.10	.02	0	
27	.18	8.2	.21	.60	.45	.50	2.7	.40	.10	.01	0	
28	.15	5.0	.18	.50	.30	.32	2.0	.40	.05	.02	0	
29	.43	3.4	.40	.50	------	.24	1.6	.36	.05	.01	0	
30	.42	2.5	.40	20	------	.21	1.2	.28	.10	.01	0	
31	.24	------	.21	1.5	------	.18	------	.36	------	.01	0	------
TOTAL	4.53	541.84	345.54	77.89	69.75	193.57	318.04	22.98	6.33	1.52	.22	0
MEAN	.15	18.1	11.1	2.51	2.49	6.24	10.6	.74	.21	.049	.007	0
MAX	.43	346	208	32	25	75	88	3.2	.50	.89	.05	0
MIN	.04	.11	.18	.04	.30	.18	.10	.28	.05	.01	0	0
AC-FT	9.0	1,070	685	154	138	384	631	46	13	3.0	.4	0

CAL YR 1973 TOTAL 1,230.63 MEAN 3.37 MAX 346 MIN 0 AC-FT 2,440
WTR YR 1974 TOTAL 1,582.21 MEAN 4.33 MAX 346 MIN 0 AC-FT 3,140

PEAK DISCHARGE (BASE, 310 CFS).--Nov. 20 (0830) 3,180 cfs (11.00 ft); Dec. 1 (1830) 450 cfs (6.00 ft).

NOTE.--No gage-height record Jan. 26 to Mar. 11.

HAWAII, ISLAND OF HAWAII

16701800 WAILUKU RIVER NEAR KAUMANA

LOCATION.--Lat 19°43'15", long 155°16'08", on right bank 0.2 mi (0.3 km) upstream from Waipahoehoe Gulch and 8.4 mi (13.5 km) west of Kaumana.

DRAINAGE AREA.--43.4 mi^2 (112.4 km^2).

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,520 ft (1,073 m) from topographic map.

AVERAGE DISCHARGE.--8 years, 27.2 ft^3/s (0.770 m^3/s), 19,710 acre-ft/yr (24.3 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 9,050 ft^3/s (256 m^3/s) Nov. 20, gage height, 13.00 ft (3.962 m), from rating curve extended above 2,200 ft^3/s (62.3 m^3/s); minimum, 0.09 ft^3/s (0.003 m^3/s) Sept. 16, 17.

Period of record: Maximum discharge, 9,580 ft^3/s (271 m^3/s) Aug. 8, 1967, gage height, 13.35 ft (4.069 m), from rating curve extended above 2,200 ft^3/s (62.3 m^3/s); no flow Mar. 13, 14, 1970.

REMARKS.--Records good. No diversion above station. Recording rain gage located at station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	3.1	1,180	1.9	4.7	2.2	2.1	6.6	4.7	1.4	.88	.43
2	1.0	1.9	757	1.8	3.3	2.2	1.8	5.5	4.6	1.2	.76	.58
3	1.0	1.7	124	4.3	2.6	4.6	1.6	4.9	4.3	1.0	.70	1.2
4	.91	1.7	59	4.0	9.1	11	1.4	5.2	5.4	.91	.67	.58
5	.85	1.4	32	2.0	12	40	1.5	4.4	7.3	.85	.67	.40
6	.79	1.2	21	1.8	6.3	593	1.7	3.5	8.3	.85	.67	.28
7	.73	1.5	16	1.7	3.5	130	3.4	3.1	4.6	1.0	.64	.25
8	.70	2.2	12	1.5	7.1	59	88	3.1	4.0	1.2	.73	.37
9	.64	1.7	9.9	1.5	87	97	16	2.6	3.4	.88	.88	.40
10	.58	1.2	7.6	1.0	47	24	9.2	3.7	3.1	.76	.97	.28
11	.58	5.2	9.7	1.0	31	18	6.6	2.3	3.1	.67	5.3	.22
12	.67	58	30	.90	13	14	11	2.2	2.6	.58	4.2	.17
13	.67	49	7.2	.85	9.9	18	8.8	3.5	2.2	.55	1.2	.15
14	.73	80	5.4	.75	8.3	12	6.6	4.9	2.4	.49	1.0	.13
15	.76	25	4.6	.60	11	8.8	21	6.0	6.3	.49	.88	.11
16	4.4	7.8	3.8	.55	8.8	7.0	935	6.5	3.5	.52	.73	.09
17	2.1	5.4	3.3	.52	5.9	7.4	292	16	2.6	26	.82	.09
18	4.0	4.1	2.8	.49	5.1	6.6	392	40	4.6	4.3	.82	.85
19	4.5	3.7	2.6	.46	4.1	8.6	577	15	3.1	1.4	.79	.67
20	2.3	2,600	2.5	.43	9.4	8.5	558	22	2.2	.97	.97	.28
21	1.5	228	2.2	.40	13	4.9	190	26	1.8	.85	.76	.15
22	1.4	158	2.2	.37	4.9	4.0	190	40	1.6	.91	.67	.19
23	1.2	64	2.2	50	4.9	3.5	89	12	1.4	1.2	.64	1.0
24	1.7	365	2.2	466	5.4	3.8	57	9.4	1.6	1.2	.52	.37
25	2.0	265	2.1	12	4.0	3.1	29	8.3	2.0	.91	.43	.22
26	1.6	61	1.8	6.3	3.1	5.1	19	7.2	1.2	1.7	.40	.22
27	2.1	68	1.7	4.1	3.3	9.4	15	5.9	1.2	1.2	.37	.37
28	1.8	33	1.7	3.8	2.5	4.3	13	5.5	1.7	1.2	.40	.22
29	6.8	21	3.7	3.7	------	3.0	11	5.1	1.7	.94	.37	.15
30	4.1	18	4.7	68	------	2.5	8.8	4.6	1.8	.88	.46	.13
31	3.1	------	2.2	12	------	2.2	------	4.4	------	.88	.49	------
TOTAL	56.31	4,136.8	2,317.1	654.72	330.2	1,117.7	3,556.5	289.4	98.3	57.89	29.79	10.55
MEAN	1.82	138	74.7	21.1	11.8	36.1	119	9.34	3.28	1.87	.96	.35
MAX	6.8	2,600	1,180	466	87	593	935	40	8.3	26	5.3	1.2
MIN	.58	1.2	1.7	.37	2.5	2.2	1.4	2.2	1.2	.49	.37	.09
AC-FT	112	8,210	4,600	1,300	655	2,220	7,050	574	195	115	59	21

CAL YR 1973 TOTAL 10,151.62 MEAN 27.8 MAX 2,600 MIN .11 AC-FT 20,140
WTR YR 1974 TOTAL 12,655.26 MEAN 34.7 MAX 2,600 MIN .09 AC-FT 25,100

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-20	0830	13.00	9,050	1-24	0230	7.51	2,410
12- 1	1130	8.50	3,300	4-18	0030	6.48	1,660

16704000 WAILUKU RIVER AT PIIHONUA

LOCATION.--Lat 19°42'58", long 155°09'13", on left bank 0.2 mi (0.3 km) downstream from Hookelekele Stream, 0.9 mi (1.4 km) west of Piihonua, and 4.1 mi (6.6 km) west of Hilo Post Office.

DRAINAGE AREA.--125 mi^2 (324 km^2).

PERIOD OF RECORD.--July 1928 to July 1940, October 1940 to December 1947, April 1948 to current year. Monthly discharge only July 1928, published in WSP 1319. Prior to July 1960, published as "above Hilo Boarding School ditch intake, near Hilo."

GAGE.--Water-stage recorder. Altitude of gage is 1,070 ft (326 m) from topographic map.

AVERAGE DISCHARGE.--43 years (1928-39, 1941-47, 1948-74, 283 ft^3/s (8.015 m^3/s), 205,000 acre-ft/yr (253 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 22,300 ft^3/s (632 m^3/s) Nov. 20, gage height, 18.93 ft (5.770 m); minimum, 1.6 ft^3/s (0.045 m^3/s) Sept. 26-30.

Period of record: Maximum discharge, 63,400 ft^3/s (1,800 m^3/s) Aug. 11, 1940, gage height, 28.6 ft (8.72 m), from floodmarks, from rating curve extended about 11,000 ft^3/s (312 m^3/s); minimum, 0.25 ft^3/s (0.007 m^3/s) Mar. 9, 1941.

REMARKS.--Records good. Hawaii County Board of Water Supply diverts about 6 ft^3/s (0.17 m^3/s) above station for domestic supply. Kapehu ditch diverted from Kapehu Stream into Wailuku River above station 1938-63. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 865: 1929-36(M). WSP 965: 1941.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	120	6,280	16	168	37	57	41	71	33	33	12
2	52	74	5,590	14	72	32	48	63	55	31	27	77
3	197	57	1,110	14	79	226	42	89	52	26	22	65
4	97	48	672	46	122	612	37	84	51	22	18	21
5	52	40	433	18	104	856	37	81	99	24	17	14
6	41	35	306	14	102	3,850	38	72	88	29	16	10
7	38	61	229	13	53	1,170	64	67	71	40	14	8.0
8	33	107	189	13	86	775	785	65	77	39	15	12
9	30	93	148	13	968	915	275	59	64	21	15	13
10	26	53	121	13	669	371	191	61	53	16	16	11
11	32	42	101	13	602	252	188	77	66	14	94	12
12	32	1,580	217	12	238	190	206	60	50	12	129	8.2
13	26	1,080	99	12	159	223	195	67	42	9.5	33	5.0
14	33	486	76	11	117	157	115	87	41	7.8	24	4.0
15	46	340	63	8.7	156	124	245	82	114	7.5	17	3.5
16	85	155	52	6.1	145	117	4,860	71	55	7.2	15	3.0
17	74	113	44	5.3	99	126	2,590	301	60	181	13	2.5
18	104	90	38	4.5	77	142	3,010	522	93	62	16	2.4
19	136	134	33	3.4	63	440	5,050	358	71	28	21	1.9
20	111	9,860	30	2.2	93	360	4,050	352	46	18	64	2.2
21	75	1,350	26	2.5	221	177	1,910	372	38	14	32	2.3
22	58	1,420	24	2.9	82	127	3,080	440	32	13	26	1.7
23	54	947	22	249	70	98	1,130	218	31	14	24	1.7
24	69	2,840	26	2,720	105	82	744	77	37	18	18	1.9
25	64	2,610	20	248	74	75	368	58	67	16	13	1.8
26	57	807	17	146	61	296	305	39	38	50	11	1.6
27	82	828	16	106	65	331	265	70	30	70	11	1.6
28	87	525	15	85	48	148	145	87	43	40	11	1.6
29	136	344	24	59	------	106	139	77	50	26	8.5	1.6
30	115	261	41	117	------	82	78	66	35	21	18	1.7
31	111	------	22	150	------	67	------	60	------	22	14	------
TOTAL	2,220	26,500	16,084	4,137.6	4,898	12,564	30,247	4,223	1,720	932.0	805.5	305.2
MEAN	71.6	883	519	133	175	405	1,008	136	57.3	30.1	26.0	10.2
MAX	197	9,860	6,280	2,720	968	3,850	5,050	522	114	181	129	77
MIN	26	35	15	2.2	48	32	37	39	30	7.2	8.5	1.6
AC-FT	4,400	52,560	31,900	8,210	9,720	24,920	59,990	8,380	3,410	1,850	1,600	605

CAL YR 1973 TOTAL 100,116.40 MEAN 274 MAX 9,860 MIN .80 AC-FT 198,600
WTR YR 1974 TOTAL 104,636.3 MEAN 287 MAX 9,860 MIN 1.6 AC-FT 207,500

PEAK DISCHARGE (BASE, 8,700 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-20	0600	18.93	22,300	3- 6	1145	15.41	9,930
12- 2	1015	16.89	14,400	4-19	2030	17.10	15,000
1-24	0330	16.13	12,100				

16717000 HONOLII STREAM NEAR PAPAIKOU
(Hydrologic bench-mark station)

LOCATION.--Lat 19°46'00", long 155°09'16", on left bank 0.7 mi (1.1 km) downstream from Pohakupaa Stream, 4.1 mi (6.6 km) west of Papaikou, and 4.8 mi (7.7 km) northwest of Hilo Post Office.

DRAINAGE AREA.--11.6 mi^2 (30.0 km^2).

PERIOD OF RECORD.--June 1911 to March 1913 (published as "at Kaiwiki, near Hilo"), February 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,540 ft (469 m) from topographic map. Prior to Aug. 27, 1911, nonrecording gage and Aug. 27, 1911, to Mar. 24, 1913, water-stage recorder, at site 0.5 mi (0.8 km) upstream at different datum.

AVERAGE DISCHARGE.--8 years, 125 ft^3/s (3.540 m^3/s), 90,560 acre-ft/yr (112 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 8,200 ft^3/s (232 m^3/s) Nov. 20, gage height, 15.70 ft (4.785 m); minimum, 4.7 ft^3/s (0.13 m^3/s) Sept. 30.

Period of record: Maximum discharge, 9,450 ft^3/s (268 m^3/s) Aug. 3, 1967, gage height, 16.95 ft (5.166 m); minimum, 0.8 ft^3/s (0.023 m^3/s) Jan. 31, 1912.

REMARKS.--Records good. No diversion above station. During period 1911-13, Honolii ditch diverted an average of about 3.2 ft^3/s (0.091 m^3/s) above station for fluming cane and domestic use. Records of chemical analyses, periodic determinations of water temperature, and suspended-sediment discharge for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	65	2,590	14	29	18	21	27	37	23	37	15
2	26	38	1,950	11	20	16	19	24	28	26	24	182
3	122	31	124	30	16	34	17	21	34	19	24	54
4	59	28	75	39	57	249	16	27	57	16	19	26
5	29	23	52	19	29	311	16	31	76	18	22	19
6	22	20	41	15	23	1,530	21	32	63	38	21	15
7	21	23	46	12	16	322	45	23	40	31	18	13
8	24	43	48	9.5	40	214	502	27	35	32	19	14
9	22	36	31	8.3	517	223	97	27	31	21	16	15
10	17	22	27	8.9	317	59	64	132	36	17	18	15
11	28	20	25	11	170	41	64	39	51	15	86	18
12	26	1,660	69	9.8	53	37	69	30	33	13	81	13
13	22	463	31	7.4	38	56	67	45	26	12	32	11
14	28	71	25	6.5	32	34	37	68	30	12	27	9.8
15	44	72	21	5.5	53	32	175	66	67	10	21	8.9
16	82	46	18	5.0	56	43	1,970	78	33	19	23	8.5
17	46	35	16	4.7	35	34	1,010	279	39	200	19	8.1
18	73	29	15	4.4	28	51	1,430	317	41	48	21	8.0
19	81	94	14	4.4	25	648	1,860	231	32	27	27	14
20	72	3,530	13	23	27	122	1,350	187	24	20	52	11
21	52	291	12	8.0	71	50	704	140	21	17	32	9.2
22	38	406	12	4.7	31	34	1,470	135	19	14	28	8.3
23	45	336	12	657	27	28	188	54	19	16	26	8.0
24	58	1,230	20	822	39	27	75	40	24	18	18	8.4
25	46	821	13	76	28	32	53	41	42	20	15	8.0
26	39	105	10	42	25	201	42	37	24	57	14	7.7
27	83	262	8.8	31	40	117	36	36	20	74	13	7.4
28	62	84	8.2	27	23	46	31	35	33	48	14	7.3
29	82	53	30	23	------	33	34	28	27	26	12	7.3
30	103	45	39	40	------	27	38	26	21	21	24	6.5
31	82	------	20	36	------	24	------	35	------	23	18	------
TOTAL	1,564	9,982	5,416.0	2,015.1	1,865	4,693	11,521	2,318	1,063	951	821	556.4
MEAN	50.5	333	175	65.0	66.6	151	384	74.8	35.4	30.7	26.5	18.5
MAX	122	3,530	2,590	822	517	1,530	1,970	317	76	200	86	182
MIN	17	20	8.2	4.4	16	16	16	21	19	10	12	6.5
AC-FT	3,100	19,800	10,740	4,000	3,700	9,310	22,850	4,600	2,110	1,890	1,630	1,100

CAL YR 1973 TOTAL 42,134.0 MEAN 115 MAX 3,530 MIN 5.4 AC-FT 83,570
WTR YR 1974 TOTAL 42,765.5 MEAN 117 MAX 3,530 MIN 4.4 AC-FT 84,830

PEAK DISCHARGE (BASE, 4,400 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-12	0745	11.91	4,530	3-19	1945	13.12	5,620
11-20	0615	15.70	8,200	4-19	2100	14.11	6,610
12- 1	1315	13.04	5,540	4-22	1600	11.75	4,400
1-23	2345	14.36	6,860				

16717800 POHAKUPUKA STREAM NEAR PAPAALOA

LOCATION.--Lat 19°57'20", long 155°11'20", on right bank 200 ft (61 m) downstream from Highway 19, 2.8 mi (4.5 km) northwest of Honohina, and 3.0 mi (4.8 km) southeast of Papaaloa.

DRAINAGE AREA.--2.76 mi^2 (7.15 km^2).

PERIOD OF RECORD.--April 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 250 ft (76.2 m) above mean sea level (by stadia survey).

AVERAGE DISCHARGE.--12 years, 27.1 ft^3/s (0.768 m^3/s), 19,630 acre-ft/yr (24.2 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 4,990 ft^3/s (141 m^3/s) Nov. 12, gage height, 12.94 ft (3.944 m), from rating curve extended above 1,100 ft^3/s (31.2 m^3/s); minimum, 0.61 ft^3/s (0.017 m^3/s) Sept. 26-30.

Period of record: Maximum discharge, 5,340 ft^3/s (151 m^3/s) Nov. 26, 1967, gage height, 13.37 ft (4.075 m), from rating curve extended above 1,100 ft^3/s (31.2 m^3/s); minimum, 0.28 ft^3/s (0.008 m^3/s) Nov. 9, 1962.

REMARKS.--Records good. No diversion above station. Irrigation ditches in basin occasionally overflow, but amount reaching stream is small. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	2.8	400	5.2	12	2.7	6.3	8.4	6.9	2.4	2.6	2.2
2	2.6	2.3	200	5.0	5.3	2.7	6.0	8.1	5.8	2.4	2.5	1.1
3	5.6	2.0	50	4.8	3.7	2.6	5.8	7.8	5.5	2.2	1.9	.99
4	6.0	1.8	40	4.5	3.3	18	5.5	7.9	5.6	2.1	3.1	.98
5	2.2	1.7	30	5.5	5.7	49	5.6	8.0	6.9	2.2	4.1	.98
6	1.8	1.6	30	5.6	4.8	209	5.9	7.6	6.9	5.6	3.0	.95
7	1.7	1.5	25	4.8	3.5	32	8.0	7.5	5.6	5.5	2.0	.94
8	1.6	2.2	20	4.4	28	9.4	50	8.0	5.3	3.7	1.5	.94
9	1.5	3.0	20	4.2	114	6.2	15	10	5.2	2.7	1.4	.94
10	1.6	2.4	15	4.1	41	5.1	8.7	81	6.1	2.2	1.2	.94
11	2.6	12	15	3.9	43	5.2	6.9	12	10	2.0	4.1	.94
12	3.4	1,250	10	4.4	12	5.9	6.6	8.2	5.9	1.9	9.9	.83
13	2.3	276	10	4.5	7.1	8.3	9.3	9.3	4.7	1.8	3.1	.73
14	3.2	20	9.0	4.5	5.7	35	6.7	8.0	4.3	1.7	2.1	.72
15	3.1	14	9.8	4.0	6.1	8.0	42	7.2	11	1.7	1.7	.71
16	2.5	14	8.3	4.0	5.5	6.5	325	7.3	5.2	2.4	1.7	.70
17	3.8	13	7.8	3.5	4.6	6.0	157	64	4.2	31	1.4	.69
18	59	13	7.5	3.5	3.8	8.0	305	67	3.7	5.9	1.1	.69
19	26	14	7.2	3.5	3.5	200	312	49	3.4	3.0	1.1	.67
20	44	528	6.9	5.0	3.4	25	207	33	3.4	2.2	4.0	.67
21	22	46	6.8	4.0	6.9	10	187	20	3.2	1.9	2.5	.66
22	6.5	69	6.5	3.5	4.0	7.0	340	14	3.1	1.6	1.9	.66
23	9.6	73	6.3	7.0	3.4	6.5	40	8.8	3.1	1.6	1.5	.65
24	6.1	248	6.1	7.5	3.1	6.0	20	7.6	3.7	1.5	1.2	.65
25	5.0	148	5.9	5.5	3.1	6.5	15	7.2	5.3	1.8	1.1	.67
26	4.0	25	5.7	5.0	3.0	30	12	6.8	3.6	9.5	1.0	.63
27	9.2	92	5.6	4.5	2.9	20	11	6.5	3.0	12	1.0	.62
28	6.5	25	5.4	5.0	2.8	11	10	6.3	2.8	5.1	.98	.62
29	5.7	15	7.3	4.5	------	8.5	9.2	6.1	2.6	2.7	.99	.62
30	5.0	10	7.1	4.5	------	7.4	8.8	5.9	2.5	2.0	1.1	.63
31	5.6	------	5.8	4.0	------	6.8	------	5.7	------	1.7	2.7	------
TOTAL	263.0	2,926.3	990.0	143.9	345.2	764.3	2,147.3	514.2	148.5	126.0	69.47	24.72
MEAN	8.48	97.5	31.9	4.64	12.3	24.7	71.6	16.6	4.95	4.06	2.24	.82
MAX	59	1,250	400	7.5	114	209	340	81	11	31	9.9	2.2
MIN	1.5	1.5	5.4	3.5	2.8	2.6	5.5	5.7	2.5	1.5	.98	.62
AC-FT	522	5,800	1,960	285	685	1,520	4,260	1,020	295	250	138	49

CAL YR 1973 TOTAL 9,766.61 MEAN 26.8 MAX 1,250 MIN .90 AC-FT 19,370
WTR YR 1974 TOTAL 8,462.89 MEAN 23.2 MAX 1,250 MIN .62 AC-FT 16,790

PEAK DISCHARGE (BASE, 1,400 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-12	0900	12.94	4,990	3-19	/2100	9.97	2,740
11-20	0345	8.42	1,780	4-19	1845	9.15	2,220

/ About.

16720000 KAWAINUI STREAM NEAR KAMUELA

LOCATION.--Lat 20°05'18", long 155°40'58", on left bank 250 ft (76 m) upstream from Upper Hanakua ditch intake and 4.5 mi (7.2 km) north of Kamuela.

DRAINAGE AREA.--1.58 mi^2 (4.09 km^2).

PERIOD OF RECORD.--January 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,060 ft (1,237 m) from topographic map.

AVERAGE DISCHARGE.--10 years, 13.3 ft^3/s (0.377 m^3/s), 9,640 acre-ft/yr (11.9 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,690 ft^3/s (47.9 m^3/s) Mar. 19, gage height, 8.06 ft (2.457 m), from rating curve extended as explained below; minimum, 0.02 ft^3/s (0.001 m^3/s) Sept. 23, 24, 26-30.

Period of record: Maximum discharge, 2,400 ft^3/s (68.0 m^3/s) Jan. 11, 1967, gage height, 9.15 ft (2.789 m), from rating curve extended above 53 ft^3/s (1.50 m^3/s) on basis of computation of peak flow over dam; minimum, 0.02 ft^3/s (0.001 m^3/s) Sept. 23, 24, 26-30, 1974.

REMARKS.--Records good. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	1.8	3.6	1.9	3.9	.38	.26	2.1	.16	2.3	19	7.4
2	3.6	1.2	7.2	1.5	2.0	.30	.21	2.2	.15	1.8	7.4	5.0
3	2.3	.86	3.8	3.6	1.3	.70	.18	1.4	.19	1.2	13	12
4	1.5	.61	11	9.2	1.0	.92	1.2	1.1	.33	2.6	6.3	2.5
5	1.0	.46	5.7	7.6	.79	.54	.59	.89	.61	13	13	1.3
6	.91	.33	12	5.3	.63	33	.47	.68	1.2	13	4.3	.86
7	2.0	.23	6.5	185	.57	11	11	2.0	6.0	11	2.6	.63
8	1.7	.39	20	70	.94	21	36	3.1	12	13	1.7	.48
9	2.1	.25	30	39	7.4	25	5.7	17	7.6	9.4	3.2	.39
10	1.3	.16	15	8.0	2.6	3.4	5.7	50	13	4.5	18	.37
11	13	7.1	4.2	2.9	35	1.6	5.3	5.9	22	3.1	69	.39
12	7.1	195	4.3	1.7	12	1.1	36	3.0	7.9	1.6	43	.40
13	7.8	123	2.8	1.1	22	5.9	11	5.5	2.8	1.1	14	.23
14	22	7.5	2.2	.79	12	3.4	11	7.2	14	.81	5.8	.11
15	25	3.7	1.8	.61	3.7	2.4	36	2.8	17	.63	2.4	.09
16	15	2.5	1.2	.52	2.2	2.3	173	4.8	5.5	.73	2.8	.08
17	6.1	2.2	.99	.44	1.5	1.3	42	19	2.7	4.2	7.3	.06
18	40	1.6	.82	.42	1.1	1.9	54	16	1.9	2.5	5.3	.05
19	25	1.3	.65	.64	.91	94	18	36	1.5	1.4	14	.05
20	21	9.2	.60	.42	.76	11	55	29	1.6	.98	13	.03
21	13	8.0	.54	.33	.76	2.6	67	17	2.0	.68	6.8	.03
22	6.4	23	.48	.26	.60	1.3	40	7.5	1.4	.51	16	.03
23	8.1	37	.38	.35	.50	.92	15	3.1	8.6	.42	9.6	.02
24	4.5	86	.32	42	.43	1.0	4.3	1.8	14	8.8	3.6	.03
25	4.9	23	.26	8.5	.44	.82	2.1	1.4	6.3	13	1.8	.03
26	4.8	17	.21	71	.51	2.4	1.4	1.0	2.4	15	1.2	.03
27	6.2	31	.26	12	.55	1.1	2.0	.77	1.9	35	.87	.02
28	4.2	11	6.7	3.2	.51	.72	5.0	.55	1.8	3.8	.64	.02
29	50	8.8	4.5	5.3	------	.52	1.9	.42	1.2	1.8	.47	.02
30	9.1	4.7	7.1	4.8	------	.39	1.5	.32	.89	3.1	23	.20
31	3.0	------	2.8	4.1	------	.31	------	.24	------	8.6	23	------
TOTAL	321.41	608.89	157.91	492.48	116.60	233.22	642.81	243.77	158.63	179.56	352.08	32.85
MEAN	10.4	20.3	5.09	15.9	4.16	7.52	21.4	7.86	5.29	5.79	11.4	1.10
MAX	50	195	30	185	35	94	173	50	22	35	69	12
MIN	.91	.16	.21	.26	.43	.30	.18	.24	.15	.42	.47	.02
AC-FT	638	1,210	313	977	231	463	1,280	484	315	356	698	65

CAL YR 1973 TOTAL 5,457.91 MEAN 15.0 MAX 195 MIN .16 AC-FT 10,830
WTR YR 1974 TOTAL 3,540.21 MEAN 9.70 MAX 195 MIN .02 AC-FT 7,020

PEAK DISCHARGE (BASE, 440 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-12	0845	6.34	852	1-26	1630	7.08	1,170
1- 7	1300	5.87	691	3-19	1515	8.06	1,690

16720300 KAWAIKI STREAM NEAR KAMUELA

LOCATION.--Lat 20°05'13", long 155°40'59", on right bank 0.2 mi (0.3 km) upstream from Upper Hamakua ditch intake and 4.4 mi (7.1 km) north of Kamuela.

DRAINAGE AREA.--0.45 mi^2 (1.17 km^2).

PERIOD OF RECORD.--June 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,090 ft (1,247 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 3.68 ft^3/s (0.104 m^3/s), 2,670 acre-ft/yr (3.29 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 547 ft^3/s (15.5 m^3/s) Mar. 19, gage height, 5.49 ft (1.673 m), from rating curve extended above 33 ft^3/s (0.94 m^3/s); minimum, 0.10 ft^3/s (0.003 m^3/s) Apr. 3.

Period of record: Maximum discharge, 547 ft^3/s (15.5 m^3/s) Mar. 19, 1974, gage height, 5.49 ft (1.673 m), from rating curve extended above 33 ft^3/s (0.94 m^3/s); minimum, 0.03 ft^3/s (0.001 m^3/s) Nov. 12-15, 1968.

REMARKS.--Records good. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	.58	.93	.50	.68	.21	.12	1.2	.33	1.4	6.4	2.4
2	.97	.47	2.6	.65	.47	.17	.12	1.1	.32	1.1	2.1	2.7
3	.67	.42	1.3	1.2	.37	.22	.11	.73	.33	.72	3.5	1.7
4	.52	.40	3.1	3.6	.31	.25	.64	.67	.40	1.6	2.0	.83
5	.43	.36	1.5	2.2	.27	.20	.22	.58	.49	4.4	2.4	.61
6	.42	.36	3.1	1.1	.24	6.7	.17	.54	.71	3.7	1.2	.54
7	.55	.32	1.6	38	.24	2.0	2.9	1.1	2.0	3.7	.85	.50
8	.53	.35	4.8	15	.40	5.0	5.8	1.2	3.4	4.6	.61	.48
9	.55	.32	8.1	7.8	1.7	3.7	1.2	5.3	2.4	3.0	1.3	.49
10	.38	.32	3.6	1.8	.57	.76	1.8	11	4.5	1.7	6.6	.48
11	4.0	2.0	.97	.85	9.5	.43	1.7	1.5	5.7	1.4	25	.49
12	2.1	39	1.2	.56	2.6	.34	8.9	1.1	2.3	.77	4.3	.47
13	2.6	25	.79	.45	5.8	1.5	2.6	2.2	.94	.57	3.1	.42
14	6.5	1.7	.64	.37	2.3	.75	3.3	2.1	4.6	.48	1.2	.40
15	5.6	1.0	.58	.32	.91	.72	10	.85	4.0	.45	.85	.41
16	3.7	.72	.52	.31	.59	.79	41	2.2	1.7	.51	1.4	.42
17	1.7	.68	.48	.28	.43	.41	10	6.4	.87	1.6	3.3	.40
18	10	.52	.44	.29	.36	.88	13	4.3	.67	.94	1.9	.37
19	7.4	.44	.42	.32	.32	25	5.0	10	.64	.64	6.2	.37
20	6.8	3.1	.38	.27	.28	2.4	13	8.3	.93	.49	3.7	.33
21	3.4	2.0	.36	.24	.33	.69	18	4.6	1.2	.42	2.4	.33
22	1.9	4.7	.33	.24	.25	.37	7.2	2.2	.70	.38	6.1	.29
23	2.5	7.9	.32	.25	.22	.28	3.2	.99	2.7	.33	2.6	.28
24	1.3	18	.32	8.8	.19	.34	1.3	.69	3.7	3.6	1.2	.32
25	1.4	4.6	.28	2.6	.33	.30	.72	.59	1.8	4.4	.78	.30
26	1.2	4.3	.28	15	.33	1.4	.57	.49	.80	4.4	.65	.29
27	1.9	7.3	.27	2.3	.32	.45	.62	.46	.71	10	.61	.28
28	1.2	4.6	3.4	.81	.28	.28	1.3	.42	.76	1.2	.55	.26
29	10	2.5	1.7	3.2	------	.22	.73	.39	.57	.64	1.0	.25
30	2.0	1.3	2.2	2.7	------	.17	.76	.37	.49	1.3	9.6	.35
31	.81	------	.77	1.4	------	.15	------	.37	------	3.0	5.0	------
TOTAL	85.63	135.26	47.28	113.41	30.59	57.08	155.98	73.94	50.66	63.44	108.40	17.76
MEAN	2.76	4.51	1.53	3.66	1.09	1.84	5.20	2.39	1.69	2.05	3.50	.59
MAX	10	39	8.1	38	9.5	25	41	11	5.7	10	25	2.7
MIN	.38	.32	.27	.24	.19	.15	.11	.37	.32	.33	.55	.25
AC-FT	170	268	94	225	61	113	309	147	100	126	215	35

CAL YR 1973 TOTAL 1,359.62 MEAN 3.73 MAX 39 MIN .24 AC-FT 2,700
WTR YR 1974 TOTAL 939.43 MEAN 2.57 MAX 41 MIN .11 AC-FT 1,860

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-12	0845	3.42	142	3-19	1500	5.49	547
1- 7	1400	3.36	137	4-16	0415	3.01	109
1-26	1545	4.40	280				

16720500 UPPER HAMAKUA DITCH BELOW KAWAIKI STREAM, NEAR KAMUELA

LOCATION.--Lat 20°05'15", long 155°40'42", on right bank 800 ft (244 m) downstream from Kawaiki Stream intake and 4.4 mi (7.1 km) north of Kamuela.

PERIOD OF RECORD.--January 1964 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,020 ft (1,225 m) from topographic map.

AVERAGE DISCHARGE.--10 years, 8.73 ft^3/s (0.247 m^3/s), 6,320 acre-ft/yr (7.79 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 49 ft^3/s (1.39 m^3/s) Nov. 2, 1967; minimum daily, 0.05 ft^3/s (0.001 m^3/s) Oct. 4-6, 1965.

REMARKS.--Records good. Ditch diverts from Kawainui and Kawaiki Streams for irrigation in vicinity of Kamuela. Recording rain gage located at station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	2.1	3.2	1.4	1.1	.45	.09	1.9	.45	3.1	12	7.8
2	3.9	1.4	6.6	1.6	.89	.38	.09	1.9	.45	2.5	7.6	4.8
3	2.6	1.2	4.1	3.1	.72	.38	.09	1.4	.45	1.6	11	8.5
4	1.7	.89	7.0	6.2	.67	.56	.56	1.1	.56	3.5	6.6	3.1
5	1.2	.84	5.0	6.4	.62	.45	.24	.89	.78	9.9	11	1.7
6	1.1	.62	7.8	4.4	.56	6.8	.17	.72	1.4	12	5.0	1.1
7	2.0	.62	5.8	15	.56	1.9	2.3	1.7	5.7	11	3.1	.89
8	1.6	.67	9.1	17	.67	5.2	4.0	2.5	11	10	2.3	.72
9	2.1	.62	13	22	2.3	3.4	1.0	3.4	8.2	9.0	3.6	.67
10	1.4	.56	8.4	8.4	.94	.84	1.6	8.6	8.8	5.2	7.3	.67
11	11	3.6	4.1	3.6	9.6	.50	1.4	3.8	12	3.8	14	.67
12	6.8	25	4.1	2.3	3.2	.45	3.7	2.6	8.2	2.0	13	.62
13	6.6	14	2.9	1.5	5.6	3.9	2.3	3.9	3.5	1.3	12	.50
14	15	3.8	2.3	1.1	2.9	3.6	2.6	4.4	7.9	.94	6.6	.42
15	15	3.1	1.7	.94	1.3	2.9	4.4	2.4	11	.78	3.2	.38
16	13	2.6	1.3	.89	.89	2.7	13	3.1	6.4	.89	3.2	.38
17	5.9	2.3	1.0	.78	.72	1.4	6.2	7.6	3.2	4.8	2.9	.38
18	16	1.7	.89	.72	.62	2.2	6.8	6.6	2.5	3.1	3.6	.31
19	19	1.3	.72	.89	.62	7.7	3.2	7.8	2.4	1.7	11	.28
20	19	4.7	.67	.72	.56	2.1	6.7	8.0	2.6	1.1	11	.24
21	11	4.1	.62	.62	.56	.78	8.4	7.2	2.9	.84	7.4	.24
22	6.0	6.5	.62	.56	.56	.42	4.3	4.6	1.7	.67	11	.24
23	7.6	9.8	.50	.50	.50	.24	2.3	2.5	8.1	.62	9.1	.24
24	4.4	15	.45	15	.42	.28	2.1	1.7	11	5.0	4.3	.24
25	4.4	6.9	.45	9.2	.45	.28	1.9	1.4	6.5	10	2.3	.20
26	4.6	7.7	.38	12	.62	1.3	1.3	1.0	2.9	12	1.5	.20
27	5.8	12	.38	3.1	.56	.56	1.4	.89	2.3	13	1.3	.20
28	4.1	9.5	5.2	1.3	.50	.31	3.5	.72	2.3	4.3	1.0	.20
29	12	7.1	4.4	3.9	------	.24	1.7	.45	1.4	2.3	.89	.17
30	8.4	5.0	5.9	3.4	------	.14	1.4	.42	1.0	3.8	12	.34
31	3.4	------	2.9	2.1	------	.10	------	.50	------	6.1	13	------
TOTAL	225.0	155.22	111.48	150.62	39.21	52.46	88.74	95.69	137.59	146.84	213.79	36.40
MEAN	7.26	5.17	3.60	4.86	1.40	1.69	2.96	3.09	4.59	4.74	6.90	1.21
MAX	19	25	13	22	9.6	7.7	13	8.6	12	13	14	8.5
MIN	1.1	.56	.38	.50	.42	.10	.09	.42	.45	.62	.89	.17
AC-FT	446	308	221	299	78	104	176	190	273	291	424	72

CAL YR 1973 TOTAL 2,765.49 MEAN 7.58 MAX 25 MIN .38 AC-FT 5,490
WTR YR 1974 TOTAL 1,453.04 MEAN 3.98 MAX 25 MIN .09 AC-FT 2,880

16724800 UPPER HAMAKUA DITCH ABOVE ALAKAHI STREAM, NEAR KAMUELA

LOCATION.--Lat 20°04'31", long 155°40'26", on right bank 0.1 mi (0.2 km) upstream from Alakahi Stream and 3.6 mi (5.8 km) north of Kamuela.

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,890 ft (1,186 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 6.64 ft^3/s (0.188 m^3/s), 4,810 acre-ft/yr (5.93 hm^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 41 ft^3/s (1.16 m^3/s) Aug. 18, 1972; no flow at times each year.

REMARKS.--Records good. Ditch diverts from Kawainui and Kawaiki Streams for irrigation in vicinity of Kamuela. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	1.1	1.9	.47	.37	0	0	1.2	.04	1.7	13	6.3
2	2.5	.68	5.1	.33	.13	0	0	1.2	.03	1.3	6.2	2.9
3	1.3	.44	2.8	1.6	.02	0	0	.74	.04	.71	9.8	7.6
4	.73	.27	5.5	4.3	0	0	0	.59	.10	1.8	5.5	1.6
5	.42	.16	3.6	4.3	0	0	0	.39	.25	8.9	9.7	.68
6	.31	.08	6.2	2.4	0	4.1	0	.24	.63	11	3.4	.34
7	.81	.01	4.1	18	0	1.1	.92	.96	4.8	11	1.7	.19
8	.66	.05	8.2	21	0	3.3	2.9	1.5	11	9.6	.96	.08
9	.87	.01	13	24	.77	2.6	.34	3.3	7.0	8.7	1.8	.01
10	.48	0	8.1	8.1	.11	.11	.77	12	8.7	3.9	5.9	.01
11	9.6	.70	2.7	2.2	7.6	0	.78	3.3	14	2.7	17	0
12	5.0	32	2.6	.99	2.2	0	3.6	1.8	7.5	1.1	17	.01
13	5.2	22	1.5	.53	4.1	1.9	1.5	2.7	2.4	.59	13	0
14	14	2.9	.91	.25	2.0	1.8	1.5	3.8	7.5	.37	5.3	0
15	14	2.1	.65	.09	.49	1.2	4.1	1.4	12	.23	1.9	0
16	12	1.4	.41	.01	.11	1.2	20	2.5	5.0	.31	2.3	0
17	4.3	1.2	.24	0	.01	.34	6.8	8.8	2.0	3.0	4.9	0
18	16	.83	.15	0	0	.91	9.3	7.0	1.2	1.7	4.9	0
19	21	.54	.06	0	0	10	3.4	9.5	1.1	.78	10	0
20	20	2.7	.02	0	0	1.9	8.4	9.6	1.3	.40	11	0
21	11	3.1	0	0	0	.26	12	8.5	1.7	.20	5.9	0
22	4.6	4.5	0	0	0	.01	4.6	4.4	.92	.09	11	0
23	6.0	9.6	0	0	0	0	2.0	1.7	6.9	.01	8.7	0
24	2.9	16	0	16	0	0	1.6	1.0	10	3.7	2.9	0
25	3.1	7.2	0	7.9	0	0	1.3	.76	5.4	9.2	1.1	0
26	3.2	6.8	0	12	0	.48	.88	.52	1.7	11	.55	0
27	3.5	12	0	2.6	0	.01	.90	.37	1.2	14	.36	0
28	2.8	9.5	4.1	.60	0	0	2.9	.23	1.3	3.1	.19	0
29	11	6.1	3.4	4.1	------	0	1.1	.08	.64	1.1	.09	0
30	11	3.5	3.9	2.8	------	0	.85	.08	.44	2.2	11	0
31	2.3	------	1.3	1.2	------	0	------	.09	------	4.8	13	------
TOTAL	198.38	147.47	80.44	135.77	17.91	31.22	92.44	90.25	116.79	119.19	200.05	19.72
MEAN	6.40	4.92	2.59	4.38	.64	1.01	3.08	2.91	3.89	3.84	6.45	.66
MAX	21	32	13	24	7.6	10	20	12	14	14	17	7.6
MIN	.31	0	0	0	0	0	0	.08	.03	.01	.09	0
AC-FT	393	293	160	269	36	62	183	179	232	236	397	39

CAL YR 1973 TOTAL 3,134.12 MEAN 8.59 MAX 38 MIN 0 AC-FT 6,220
WTR YR 1974 TOTAL 1,249.63 MEAN 3.42 MAX 32 MIN 0 AC-FT 2,480

HAWAII, ISLAND OF HAWAII

16725000 ALAKAHI STREAM NEAR KAMUELA

LOCATION.--Lat 20°04'27", long 155°40'25", on right bank 25 ft (8 m) upstream from Upper Hamakua ditch intake and 3.5 mi (5.6 km) north of Kamuela.

DRAINAGE AREA.--0.87 mi^2 (2.25 km^2).

PERIOD OF RECORD.--January 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,900 ft (1,189 m) from topographic map.

AVERAGE DISCHARGE.--10 years, 6.32 ft^3/s (0.179 m^3/s), 4,580 acre-ft/yr (5.65 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 356 ft^3/s (10.1 m^3/s) Mar. 19, gage height, 5.93 ft (1.807 m), from rating curve extended as explained below; minimum, 0.65 ft^3/s (0.018 m^3/s) Apr. 3.

Period of record: Maximum discharge, 1,420 ft^3/s (40.2 m^3/s) Jan. 11, 1967, gage height, 8.65 ft (2.637 m), from rating curve extended above 28 ft^3/s (0.79 m^3/s) on basis of computation of peak flow over dam; minimum, 0.03 ft^3/s (0.001 m^3/s) on several days in 1965.

REMARKS.--Records good. Parker Ranch pipeline diverts from tributary 0.4 mi (0.6 km) above station for ranch use in Kamuela area. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	1.5	3.2	1.6	3.4	.95	.84	2.3	1.2	2.6	14	5.5
2	3.1	1.3	5.1	1.4	2.2	.91	.78	2.9	1.1	2.7	7.5	4.2
3	1.9	1.1	3.6	1.5	1.7	.92	.74	2.0	1.1	1.8	9.2	6.5
4	1.3	1.1	5.9	4.1	1.4	.90	1.0	1.6	1.2	2.9	7.4	3.1
5	1.1	1.0	4.0	4.8	1.3	.90	.91	1.4	1.2	8.1	9.0	2.2
6	1.1	.95	5.2	3.1	1.2	5.9	.88	1.3	1.2	8.5	6.3	1.7
7	1.0	.96	4.0	39	1.1	4.8	3.0	1.4	2.2	8.0	5.5	1.6
8	1.0	.95	6.7	25	1.1	5.5	7.5	2.1	5.9	8.4	5.0	1.5
9	1.0	.91	14	14	2.3	7.3	3.4	6.0	5.1	6.5	5.2	1.5
10	1.0	.90	6.6	5.2	1.9	2.7	2.6	23	8.6	3.7	11	1.5
11	4.6	1.6	3.3	3.4	12	1.6	3.9	4.9	12	3.6	28	1.4
12	4.0	44	2.8	2.5	6.8	1.2	17	3.5	5.3	2.3	25	1.4
13	4.7	33	2.4	1.9	10	2.1	6.6	3.7	3.3	1.7	12	1.4
14	10	5.0	1.8	1.6	6.7	2.4	6.7	4.8	6.5	1.4	7.4	1.3
15	8.6	4.1	1.5	1.4	3.4	2.2	19	2.8	8.4	1.3	5.8	1.3
16	6.4	2.8	1.4	1.2	2.3	2.3	57	4.3	4.5	1.4	6.0	1.3
17	3.9	2.2	1.2	1.1	1.7	1.5	18	12	2.9	2.7	7.8	1.3
18	18	1.8	1.2	1.2	1.4	1.8	24	11	2.1	2.7	7.6	1.3
19	14	1.5	1.2	1.1	1.2	27	12	21	1.9	3.4	12	1.2
20	12	3.5	1.2	1.1	1.2	8.3	23	17	2.2	3.3	12	1.2
21	6.4	4.6	1.1	1.1	1.1	4.0	31	11	3.0	1.3	7.7	1.2
22	3.8	5.9	1.0	1.1	1.1	2.0	13	6.3	2.2	1.2	13	1.2
23	4.1	14	1.0	1.1	1.1	1.4	6.8	3.7	5.7	1.2	9.8	1.2
24	3.1	23	1.0	14	1.1	1.2	4.1	2.5	6.9	4.7	6.5	1.2
25	2.5	9.7	1.0	5.4	1.1	1.1	2.9	2.1	4.3	11	5.4	1.2
26	2.8	8.0	1.0	14	1.0	2.2	2.2	1.7	2.6	11	5.0	1.1
27	2.7	13	1.0	5.8	1.0	1.6	1.9	1.4	1.8	20	4.8	1.1
28	2.6	12	3.6	3.0	.95	1.2	2.9	1.3	1.6	6.5	4.7	1.1
29	11	6.8	4.5	12	------	1.0	2.2	1.2	1.4	5.2	2.7	1.2
30	4.4	4.4	4.4	14	------	.93	1.9	1.2	1.3	5.5	14	1.3
31	2.2	------	2.6	6.0	------	.89	------	1.1	------	8.2	14	------
TOTAL	149.4	211.57	98.5	193.7	72.75	98.70	277.75	162.5	108.7	152.8	291.3	54.2
MEAN	4.82	7.05	3.18	6.25	2.60	3.18	9.26	5.24	3.62	4.93	9.40	1.81
MAX	18	44	14	39	12	27	57	23	12	20	28	6.5
MIN	1.0	.90	1.0	1.1	.95	.89	.74	1.1	1.1	1.2	2.7	1.1
AC-FT	296	420	195	384	144	196	551	322	216	303	578	108

CAL YR 1973 TOTAL 2,338.63 MEAN 6.41 MAX 45 MIN .65 AC-FT 4,640
WTR YR 1974 TOTAL 1,871.87 MEAN 5.13 MAX 57 MIN .74 AC-FT 3,710

PEAK DISCHARGE (BASE, 120 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-12	0900	4.54	133	3-19	1500	5.93	356
1- 7	1430	4.54	133	4-16	0315	4.43	122

16756000 KOHAKOHAU STREAM NEAR KAMUELA

LOCATION.--Lat 20°02'38", long 155°41'10", on left bank 0.6 mi (1.0 km) upstream from Oolamakapehu Gulch and 1.7 mi (2.7 km) northwest of Kamuela.

DRAINAGE AREA.--2.51 mi^2 (6.50 km^2).

PERIOD OF RECORD.--March 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,273 ft (997.6 m) above mean sea level (by stadia survey by State Department of Land and Natural Resources). Prior to Jan. 11, 1967, at site 0.5 mi (0.8 km) upstream at different datums.

AVERAGE DISCHARGE.--18 years, 8.62 ft^3/s (0.244 m^3/s), 6,250 acre-ft/yr (7.71 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 604 ft^3/s (17.1 m^3/s) Jan. 7, gage height, 4.92 ft (1.500 m), from rating curve extended above 46 ft^3/s (1.30 m^3/s) on basis of computation of flow over dam at gage height 6.20 ft (1.890 m); no flow for many days.

Period of record: Maximum discharge, 3,880 ft^3/s (110 m^3/s) Aug. 7, 1958, gage height, 10.76 ft (3.280 m), site and datum then in use, from rating curve extended above 70 ft^3/s (1.98 m^3/s), by test of model of station site; no flow at times in 1968, 1971-74.

REMARKS.--Records good. Parker Ranch pipeline diverts above station at altitude 4,250 ft (1,295 m). Hawaii Division of Water and Land Development diverts by pipeline 0.3 mi (0.5 km) above station at altitude 3,400 ft (1,036 m) for domestic use in the Kamuela and Kawaihae areas since Aug. 20, 1973. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

CORRECTIONS.--In WRD Hawaii and other Pacific Areas, the average discharge for water year 1973 is listed in error; it should be 8.87 ft^3/s (0.251 m^3/s).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	0	2.6	0	2.5	0	0	.46	0	0	9.3	6.5
2	2.4	0	4.9	0	.97	0	0	.36	0	.46	3.1	4.7
3	.23	0	4.7	0	.62	0	0	.10	0	.16	2.3	19
4	0	0	5.7	0	.17	0	0	0	0	0	2.7	2.4
5	0	0	3.7	0	.04	0	0	0	0	1.2	3.2	.59
6	0	0	3.7	.40	0	0	0	0	0	6.6	2.1	.17
7	0	0	4.6	126	0	0	0	0	0	5.0	1.2	.14
8	0	0	2.3	63	0	0	1.8	0	0	5.6	0	.01
9	0	0	10	37	0	.94	.28	.32	0	4.4	0	0
10	0	0	11	8.2	0	0	0	31	0	2.3	0	0
11	0	0	3.0	1.2	4.5	0	0	6.6	10	.96	33	0
12	0	61	1.7	.16	6.0	0	33	2.5	5.9	.83	42	0
13	0	61	1.5	.04	4.8	0	8.7	1.1	1.5	.42	14	0
14	1.6	3.5	.88	0	8.3	0	2.6	1.1	.42	0	4.4	0
15	12	.71	.56	.52	4.0	0	16	.52	5.4	0	1.3	0
16	11	.26	.46	.01	2.9	0	111	.47	2.1	0	1.7	0
17	5.0	.04	.35	0	1.3	0	29	5.6	1.6	0	.61	0
18	13	.01	0	0	0	.08	37	12	1.3	0	5.2	0
19	20	0	0	0	0	26	12	25	.59	0	6.6	0
20	15	0	0	0	0	9.2	34	25	.68	0	12	0
21	10	0	0	0	0	1.7	46	17	.57	0	3.7	0
22	2.4	0	0	0	0	.57	24	8.2	.70	0	5.4	0
23	2.1	14	0	0	0	.08	9.2	2.1	.24	0	8.3	0
24	1.7	25	0	15	0	.01	1.5	1.4	.71	0	0	0
25	2.5	8.5	0	1.2	0	0	2.6	.91	2.1	0	.06	0
26	1.1	4.2	0	12	0	0	2.2	.24	1.0	.01	1.1	0
27	2.5	16	0	6.6	0	0	.73	.04	0	17	0	0
28	2.3	11	0	1.8	0	0	2.0	0	0	4.2	0	0
29	7.0	6.4	0	.53	------	0	1.5	0	0	3.1	0	0
30	4.4	4.0	0	14	------	0	.49	0	0	1.2	7.4	0
31	.42	------	0	7.5	------	0	------	0	------	.74	21	------
TOTAL	118.75	215.62	61.65	295.16	36.10	38.58	375.60	142.02	34.81	54.18	191.67	33.51
MEAN	3.83	7.19	1.99	9.52	1.29	1.24	12.5	4.58	1.16	1.75	6.18	1.12
MAX	20	61	11	126	8.3	26	111	31	10	17	42	19
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	236	428	122	585	72	77	745	282	69	107	380	66

CAL YR 1973 TOTAL 2,530.36 MEAN 6.93 MAX 96 MIN 0 AC-FT 5,020
WTR YR 1974 TOTAL 1,597.65 MEAN 4.38 MAX 126 MIN 0 AC-FT 3,170

PEAK DISCHARGE (BASE, 310 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-12	0915	4.55	385	4-12	1615	4.69	455
1- 7	1345	4.92	604				

16758000 WAIKOLOA STREAM AT MARINE DAM, NEAR KAMUELA

LOCATION.--Lat 20°02'48", long 155°39'58", on right bank 160 ft (49 m) upstream from Marine Dam, 0.4 mi (0.6 km) east of Puu Ohu, and 1.6 mi (2.6 km) north of Kamuela.

DRAINAGE AREA.--1.18 mi^2 (3.06 km^2).

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,460 ft (1,055 m) from topographic map.

AVERAGE DISCHARGE.--27 years, 8.68 ft^3/s (0.246 m^3/s), 6,290 acre-ft/yr (7.76 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 281 ft^3/s (7.96 m^3/s) Jan. 7, gage height, 3.67 ft (1.119 m), from rating curve extended as explained below; minimum, 1.4 ft^3/s (0.040 m^3/s) Apr. 3-6.

Period of record: Maximum discharge, 3,390 ft^3/s (96.0 m^3/s) Oct. 23, 1957, gage height, 6.99 ft (2.131 m), from rating curve extended above 120 ft^3/s (3.40 m^3/s) on basis of computations of flow over dam at gage heights 5.46 (1.664) and 5.96 ft (1.817 m); minimum, 0.59 ft^3/s (0.017 m^3/s) Oct. 3-6, 1965.

REMARKS.--Records good. Diversion above station for livestock and domestic use. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	2.5	3.7	2.4	3.7	2.1	1.5	3.0	2.5	4.5	10	6.1
2	3.2	2.3	6.7	2.3	3.1	2.0	1.5	3.0	2.5	3.8	4.2	5.9
3	2.6	2.2	5.1	2.4	2.9	2.3	1.5	2.8	2.4	3.2	4.6	9.1
4	2.3	2.1	6.2	2.8	2.7	2.2	1.6	2.6	2.4	3.7	4.4	4.0
5	2.0	2.0	4.9	4.1	2.5	2.0	1.4	2.5	2.4	5.2	4.4	3.2
6	1.9	2.0	6.7	3.0	2.5	2.8	1.5	2.4	2.4	9.1	3.4	2.9
7	1.9	1.9	5.6	68	2.4	3.4	1.7	2.5	2.7	9.7	2.9	2.7
8	1.9	1.9	4.3	27	2.4	2.9	3.2	2.4	3.2	7.4	2.5	2.6
9	1.8	1.8	13	13	2.5	4.5	2.5	3.5	3.5	6.3	2.4	2.6
10	1.7	1.8	8.5	6.9	2.4	2.4	2.0	23	6.2	4.2	4.4	2.5
11	3.2	6.1	3.6	4.0	5.9	1.9	2.6	5.6	10	3.9	26	2.4
12	4.4	76	3.2	3.3	7.6	1.8	24	4.0	5.5	3.3	31	2.3
13	4.0	39	2.9	2.9	8.7	2.6	8.8	3.6	3.8	2.9	8.0	2.2
14	7.3	6.8	2.8	2.7	8.0	2.3	5.9	3.7	5.0	2.7	3.8	2.2
15	8.3	4.9	2.6	2.6	3.9	2.5	10	3.3	7.4	2.6	3.5	2.2
16	8.9	3.6	2.4	2.5	3.2	2.8	85	3.7	6.6	2.9	3.5	2.2
17	5.7	3.1	2.3	2.4	2.8	2.1	15	8.6	4.0	3.7	5.7	2.1
18	19	2.8	2.2	2.5	2.6	5.9	19	8.5	3.5	3.3	6.3	2.3
19	19	2.6	2.2	2.5	2.5	34	13	17	3.6	2.8	8.4	2.1
20	15	3.4	2.2	2.4	2.4	8.8	24	12	4.0	2.6	14	2.0
21	8.8	3.9	2.2	2.2	2.4	3.4	35	11	3.9	2.5	5.1	2.0
22	4.3	3.5	2.2	2.2	2.3	2.5	15	8.1	3.2	2.4	9.4	2.0
23	3.5	9.7	2.0	2.3	2.2	2.2	8.1	4.4	5.9	2.4	8.6	1.9
24	3.1	17	2.0	17	2.2	2.1	5.1	3.6	4.9	2.8	4.5	2.0
25	2.9	8.9	2.0	4.6	2.2	2.0	3.8	3.3	3.9	9.0	3.4	1.9
26	2.8	4.9	1.9	4.6	2.2	2.5	3.3	3.1	3.2	9.4	3.0	1.9
27	2.7	9.8	2.0	4.3	2.2	2.1	3.2	2.9	3.0	18	2.8	1.9
28	2.6	11	3.0	3.1	2.1	1.8	4.7	2.7	2.9	4.4	2.6	1.9
29	6.0	7.2	3.0	8.4	------	1.7	3.6	2.6	2.9	3.0	2.6	1.9
30	5.0	4.2	4.6	11	------	1.6	3.1	2.6	2.8	2.9	13	2.2
31	3.0	------	3.0	7.1	------	1.6	------	2.5	------	4.7	15	------
TOTAL	163.5	248.9	119.0	226.5	92.5	114.8	310.6	164.5	120.2	149.3	223.4	83.2
MEAN	5.27	8.30	3.84	7.31	3.30	3.70	10.4	5.31	4.01	4.82	7.21	2.77
MAX	19	76	13	68	8.7	34	85	23	10	18	31	9.1
MIN	1.7	1.8	1.9	2.2	2.1	1.6	1.4	2.4	2.4	2.4	2.4	1.9
AC-FT	324	494	236	449	183	228	616	326	238	296	443	165

CAL YR 1973 TOTAL 3,304.7 MEAN 9.05 MAX 76 MIN 1.5 AC-FT 6,550
WTR YR 1974 TOTAL 2,016.4 MEAN 5.52 MAX 85 MIN 1.4 AC-FT 4,000

PEAK DISCHARGE (BASE, 180 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-12	0845	3.52	237	3-19	1600	3.46	220
1- 7	1600	3.67	281	4-16	0430	3.48	226

HAWAII, ISLAND OF HAWAII

16759000 HAUANI GULCH NEAR KAMUELA

LOCATION--Lat 20°02'28", long 155°39'05", on left bank 800 ft (244 m) downstream from small tributary and 1.8 mi (2.9 km) northeast of Kamuela.

DRAINAGE AREA.--0.47 mi^2 (1.22 km^2).

PERIOD OF RECORD.--March 1956 to current year. Prior to July 1960, published as Hauani Stream near Kamuela.

GAGE.--Water-stage recorder. Concrete control since Feb. 27, 1963. Datum of gage is 3,117.42 ft (950.190 m) above mean sea level (Hawaii County Board of Water Supply bench mark).

AVERAGE DISCHARGE.--18 years, 1.49 ft^3/s (0.0422 m^3/s), 1,080 acre-ft/yr (1.33 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 185 ft^3/s (5.24 m^3/s) Nov. 12, gage height, 3.16 ft (0.963 m), from rating curve extended above 54 ft^3/s (1.53 m^3/s); minimum, 0.03 ft^3/s (0.001 m^3/s) Mar. 12.

Period of record: Maximum discharge, 503 ft^3/s (14.2 m^3/s) Oct. 23, 1957, gage height, 4.65 ft (1.417 m), from rating curve extended above 11 ft^3/s (0.31 m^3/s) on basis of slope-conveyance study; no flow at times.

REMARKS.--Records good. Diversion above station for livestock and domestic use. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.35	.11	.33	.15	.19	.06	.06	.28	.12	.31	1.2	.63
2	.19	.10	.90	.14	.16	.06	.06	.25	.12	.22	.31	.52
3	.12	.10	.51	.19	.15	.05	.06	.25	.13	.16	.35	.76
4	.09	.09	.80	.23	.13	.06	.07	.22	.12	.24	.29	.32
5	.08	.08	.49	.40	.11	.06	.05	.22	.10	.39	.40	.22
6	.07	.07	.73	.19	.10	.07	.05	.20	.10	.83	.23	.19
7	.07	.06	.57	18	.11	.08	.07	.22	.15	1.0	.17	.17
8	.07	.06	.39	6.5	.11	.07	.19	.18	.23	.67	.13	.15
9	.08	.06	1.6	2.3	.11	.07	.13	.53	.26	.56	.11	.16
10	.06	.05	1.0	.92	.10	.06	.08	2.8	.71	.31	.49	.15
11	.25	.39	.38	.41	.72	.05	.10	.50	1.1	.30	8.4	.14
12	.25	23	.32	.28	.68	.04	4.5	.37	.40	.18	6.9	.12
13	.33	9.8	.27	.22	1.2	.09	.72	.28	.22	.12	1.1	.10
14	.76	.81	.23	.19	.67	.07	.37	.25	.64	.10	.53	.10
15	.90	.54	.22	.17	.23	.06	1.6	.28	.72	.09	.32	.09
16	.91	.33	.19	.16	.16	.07	.21	.34	.62	.23	.28	.09
17	.42	.26	.17	.14	.13	.05	1.7	1.0	.27	.32	.77	.09
18	3.7	.21	.16	.17	.12	.23	2.0	.94	.23	.15	.60	.09
19	2.3	.18	.14	.17	.11	9.5	1.9	2.7	.21	.10	1.3	.08
20	1.5	.27	.14	.13	.10	.83	4.4	1.4	.30	.09	1.8	.08
21	.80	.34	.13	.12	.10	.22	7.8	1.8	.25	.08	.54	.07
22	.36	.22	.12	.12	.09	.12	2.5	1.1	.17	.07	1.2	.07
23	.27	1.1	.11	.12	.08	.09	1.4	.50	.65	.07	.91	.06
24	.23	3.0	.10	2.3	.08	.11	.72	.32	.31	.10	.45	.07
25	.17	.86	.10	.36	.07	.09	.45	.26	.21	1.1	.30	.06
26	.14	.37	.10	.29	.08	.14	.34	.21	.15	.94	.24	.06
27	.12	1.3	.11	.20	.07	.11	.34	.18	.14	2.5	.20	.06
28	.10	1.5	.42	.16	.07	.08	.78	.16	.17	.33	.18	.05
29	.84	.75	.40	.44	------	.07	.37	.14	.13	.18	.17	.05
30	.42	.37	.69	.58	------	.06	.31	.13	.12	.18	2.6	.09
31	.16	------	.22	.38	------	.06	------	.12	------	.64	2.0	------
TOTAL	16.11	46.38	12.04	36.13	6.03	12.78	33.33	18.13	9.05	12.56	34.47	4.89
MEAN	.52	1.55	.39	1.17	.22	.41	1.11	.58	.30	.41	1.11	.16
MAX	3.7	23	1.6	18	1.2	9.5	7.8	2.8	1.1	2.5	8.4	.76
MIN	.06	.05	.10	.12	.07	.04	.05	.12	.10	.07	.11	.05
AC-FT	32	92	24	72	12	25	66	36	18	25	68	9.7

CAL YR 1973 TOTAL 498.63 MEAN 1.37 MAX 23 MIN .02 AC-FT 989
WTR YR 1974 TOTAL 241.90 MEAN .66 MAX 23 MIN .04 AC-FT 480

PEAK DISCHARGE (BASE, 78 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-12	0730	3.16	185	3-19	1530	2.98	146
1- 7	1645	2.87	124				

HAWAII, ISLAND OF HAWAII

16759200 RIGHT BRANCH WAIAHA STREAM NEAR HOLUALOA

LOCATION.--Lat 19°38'41", long 155°54'55", on right bank 1,000 ft (305 m) upstream from reservoir, 1.0 mi (1.6 km) northeast of Holualoa Makai Camp, and 2.9 mi (4.7 km) northeast of Holualoa School.

DRAINAGE AREA.--1.89 mi^2 (4.90 km^2).

PERIOD OF RECORD.--April 1960 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,280 ft (1,000 m) from topographic map.

AVERAGE DISCHARGE.--14 years, 0.364 ft^3/s (0.0103 m^3/s), 264 acre-ft/yr (326,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 70 ft^3/s (1.98 m^3/s) Apr. 12, gage height, 3.24 ft (0.988 m), from rating curve extended as explained below; no flow for many days.

Period of record: Maximum discharge, 1,630 ft^3/s (46.2 m^3/s) Oct. 3, 1968, gage height, 5.78 ft (1,762 m), from rating curve extended above 9.1 ft^3/s (0.26 m^3/s) on basis of slope-area measurements at gage heights 4.07 (1.241) and 5.78 ft (1.762 m); no flow at times each year.

REMARKS.--Records good. No diversion above station. Recording rain gage located at station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 2137: 1963-65(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0		0	.01	.03	0	0	0	1.0	.11	0	.03
2	0		.04	.01	.01	.02	0	0	.42	.12	0	2.6
3	0		.01	.01	.01	0	0	0	.12	.09	0	4.6
4	0		0	.07	.25	0	0	0	.19	.05	0	.82
5	0		0	.21	.12	0	0	0	.17	.05	0	.30
6	0		0	.06	.05	0	0	0	.17	.04	0	.19
7	0		0	1.6	.02	0	0	0	.10	.05	0	.09
8	0		0	.55	.01	0	0	0	.06	.05	.02	.08
9	0		0	.45	.01	0	0	0	.05	.05	.07	.08
10	0		0	.25	.01	0	0	0	.07	.10	.02	.05
11	0		0	.09	.01	0	.03	0	.08	.04	.01	.04
12	0		0	.04	.01	0	6.0	0	.05	.02	0	.02
13	0		0	.02	.01	.01	2.7	0	.02	.34	0	.02
14	0		0	.01	0	.01	4.4	0	.02	.09	0	.01
15	.31		0	.01	0	0	.63	0	.01	.03	0	.01
16	.33		0	.01	0	0	.30	0	2.0	.02	0	.01
17	.36		0	0	0	.08	1.4	.03	.42	.61	0	.22
18	.09		0	0	0	.09	.55	.17	.39	.11	0	.41
19	.04		0	0	0	.09	1.8	.12	.23	.05	0	.17
20	.02		0	0	0	.06	5.8	.07	.12	.03	0	.09
21	.01		0	0	0	.01	.39	.03	.09	.01	0	.05
22	.01		0	0	0	.01	.68	.21	.07	0	.06	.02
23	0		0	0	0	0	.17	.17	.04	0	.05	.01
24	0		0	0	0	0	.14	.07	.03	0	.02	.01
25	0		0	0	0	.01	.08	.09	.06	0	.02	.01
26	0		0	0	0	0	.05	.06	.05	0	.38	.01
27	0		0	0	0	0	.03	.03	.04	0	.21	.16
28	0		0	0	0	0	.02	.02	.07	0	.30	.30
29	0		.04	.01	------	0	.01	.10	.11	0	.25	.08
30	0		.36	.20	------	0	.01	.12	.12	0	.07	.05
31	0	------	.02	.09	------	0	------	.23	------	0	.05	------
TOTAL	1.17	0	.47	3.70	.55	.39	25.19	1.52	6.37	2.06	1.53	10.54
MEAN	.038	0	.015	.12	.020	.013	.84	.049	.21	.067	.049	.35
MAX	.36	0	.36	1.6	.25	.09	6.0	.23	2.0	.61	.38	4.6
MIN	0	0	0	0	0	0	0	0	.01	0	0	.01
AC-FT	2.3	0	.9	7.3	1.1	.8	50	3.0	13	4.1	3.0	21

CAL YR 1973 TOTAL 23.07 MEAN .063 MAX 13 MIN 0 AC-FT 46
WTR YR 1974 TOTAL 53.49 MEAN .15 MAX 6.0 MIN 0 AC-FT 106

PEAK DISCHARGE (BASE, 115 CFS).--No peak above base.

HAWAII, ISLAND OF HAWAII

16759800 KIILAE STREAM NEAR HONAUNAU

LOCATION.--Lat 19°24'52", long 155°50'56", on right bank 2.4 mi (3.9 km) northeast of Kealia and 3.0 mi (4.8 km) southeast of Honaunau Post Office.

DRAINAGE AREA.--0.67 mi^2 (1.74 km^2).

PERIOD OF RECORD.--April 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,898 ft (883.3 m) above mean sea level (by stadia traverse).

AVERAGE DISCHARGE.--16 years, 0.210 ft^3/s (0.0059 m^3/s), 152 acre-ft/yr (187,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 49 ft^3/s (1.39 m^3/s) May 18, gage height, 1.79 ft (0.546 m); no flow for many days.

Period of record: Maximum discharge, 104 ft^3/s (2.95 m^3/s) Jan. 13, 1959, gage height, 2.32 ft (0.707 m), from rating curve extended above 5.7 ft^3/s (0.161 m^3/s); no flow at times each year.

REMARKS.--Records good No diversion above station. Banks overflow at high stage and part of overflow is lost in lava. Recording rain gage located at station. Records of chemical analyses and periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.08	.59	0	.05	2.1	0	.02	.68	.11	0	0
2	.34	.04	1.6	.11	0	1.3	0	.89	1.5	.10	0	.14
3	.04	0	.10	.01	0	.11	0	.06	1.2	.07	.07	.23
4	0	0	.10	1.4	.18	.02	.19	.01	.34	.02	.14	.34
5	0	0	.06	.22	.18	.02	.06	.02	.19	.01	.10	.10
6	.06	0	.01	.04	.06	.02	.01	.01	.45	.91	.25	.02
7	0	0	0	.23	.04	0	0	0	.53	.31	.16	.47
8	0	0	0	.10	.04	.01	0	0	.52	.14	.07	.60
9	0	0	0	.20	1.5	.30	0	0	.50	.15	.12	.07
10	0	0	0	.03	.54	.10	0	.97	.50	.34	.06	.01
11	0	.92	0	0	.10	.01	.61	.06	.10	.07	.01	.03
12	0	2.2	0	0	.04	0	.07	.01	.03	.06	0	0
13	0	.61	0	0	.03	.10	.03	0	.04	.29	.05	0
14	0	.10	0	0	0	.07	3.0	0	.10	.07	.04	.01
15	0	.02	0	0	0	.02	.26	2.1	.05	.93	0	0
16	1.5	0	0	0	0	0	.90	.15	.24	3.5	0	0
17	.16	0	0	0	0	0	4.3	1.6	.08	.15	0	.04
18	.04	0	0	0	0	0	.16	7.0	.42	.06	0	.05
19	0	0	0	1.7	0	.45	.04	.61	.65	.26	0	.02
20	0	.90	0	.24	0	1.2	.01	.40	.26	.16	.01	.24
21	0	.03	0	.07	0	.13	.04	.77	.14	.05	.11	.02
22	0	0	0	.03	0	.02	1.6	1.3	.11	.01	.08	0
23	0	0	0	0	0	0	.48	1.6	.23	0	.02	0
24	.15	.23	0	.70	1.9	1.1	.31	.28	.55	0	0	0
25	.13	.04	0	.07	.88	.21	.06	.13	.85	0	0	0
26	0	0	0	.03	.11	.02	.03	.31	.22	0	.02	.06
27	0	0	0	.01	.04	0	.02	.13	.46	.29	.04	.37
28	0	0	0	0	.03	0	.27	.10	.79	.45	.16	2.8
29	0	0	0	2.8	------	0	.07	.48	.16	.10	.05	.19
30	.18	0	.50	.12	------	0	.01	.13	.10	.02	0	.02
31	.02	------	0	.10	------	0	------	3.4	------	0	0	------
TOTAL	3.12	5.17	2.96	8.21	5.72	7.31	12.53	22.54	11.99	8.63	1.56	5.83
MEAN	.10	.17	.096	.26	.20	.24	.42	.73	.40	.28	.050	.19
MAX	1.5	2.2	1.6	2.8	1.9	2.1	4.3	7.0	1.5	3.5	.25	2.8
MIN	0	0	0	0	0	0	0	0	.03	0	0	0
AC-FT	6.2	10	5.9	16	11	14	25	45	24	17	3.1	12

CAL YR 1973 TOTAL 31.03 MEAN .085 MAX 4.8 MIN 0 AC-FT 62
WTR YR 1974 TOTAL 95.57 MEAN .26 MAX 7.0 MIN 0 AC-FT 190

PEAK DISCHARGE (BASE, 25 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-12	1600	1.73	41	5-15	1830	1.61	28
1-29	1530	1.69	36	5-18	1630	1.79	49
2-24	1200	1.60	27	5-31	1530	1.61	28
4-14	1600	1.60	27	7-16	1630	1.62	29
4-17	1630	1.62	29				

16764000 HILEA GULCH TRIBUTARY NEAR HONUAPO

LOCATION.--Lat 19°10'27", long 155°35'58", on right bank 0.5 mi (0.8 km) upstream from mouth, 6.6 mi (10.6 km) northwest of Honuapo, and 6.7 mi (10.8 km) west of Punaluu.

DRAINAGE AREA.--9.17 mi^2 (23.75 km^2).

PERIOD OF RECORD.--February 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,940 ft (896 m) from topographic map.

AVERAGE DISCHARGE.--8 years, 7.83 ft^3/s (0.222 m^3/s), 5,670 acre-ft/yr (6.99 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,060 ft^3/s (30.0 m^3/s) Nov. 20, gage height, 6.03 ft (1.838 m), from rating curve extended above 75 ft^3/s (2.12 m^3/s); no flow for several days.

Period of record: Maximum discharge, 1,220 ft^3/s (34.6 m^3/s) Dec. 30, 1966, gage height, 6.35 ft (1.935 m), from rating curve extended 75 ft^3/s (2.12 m^3/s); no flow at times each year.

REMARKS.--Records good. No diversion above station. Recording rain gage located at station. Records of chemical analyses for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	12	359	.48	.10	.89	.09	30	8.0	24	.51	2.5
2	3.4	11	209	.27	7.4	.43	.07	30	10	8.6	.38	8.1
3	1.3	1.3	17	.98	25	43	.06	10	30	1.3	.31	2.8
4	.77	.42	8.8	1.4	6.9	14	.03	25	50	.62	.44	.71
5	.77	.29	4.0	.39	.71	19	.02	45	47	.52	20	.40
6	.33	.23	8.5	.38	35	149	.02	15	14	43	4.1	13
7	.23	.21	5.0	.13	51	18	4.5	5.0	11	36	21	2.0
8	.18	.36	.95	.07	5.2	25	25	1.0	3.7	11	9.1	.40
9	.16	.30	.77	.03	7.2	17	30	.25	1.2	.95	22	.32
10	.13	.15	.83	.02	1.5	3.6	7.3	1.6	.79	.57	3.9	44
11	1.7	.33	.56	.02	.57	.76	4.4	19	.54	.67	9.8	8.0
12	8.4	16	.52	.01	6.4	.44	.93	14	.41	.49	6.7	1.4
13	3.1	2.5	.45	0	3.6	1.5	5.6	17	.34	.38	1.2	28
14	4.5	1.7	.41	0	2.1	10	41	4.4	11	27	.70	4.7
15	2.5	1.3	.35	0	7.2	4.7	49	11	17	40	26	5.4
16	2.4	2.2	.33	0	4.2	1.6	51	37	2.8	34	5.7	2.2
17	1.3	.64	.28	0	.64	1.1	1.8	61	.81	20	26	.73
18	7.7	.30	.23	0	.23	1.1	21	38	14	8.6	15	.50
19	25	35	.19	0	.16	.36	48	28	1.4	17	17	.48
20	4.8	324	.16	0	32	.36	13	9.0	.56	8.3	14	.59
21	2.4	9.6	.16	25	10	.27	1.2	17	.49	.96	4.1	.37
22	.89	3.7	.17	1.1	2.6	.20	.68	33	7.2	1.9	1.5	.66
23	.37	1.6	.27	1.1	14	.18	3.5	7.3	7.6	33	.56	2.8
24	.65	2.1	.23	3.6	4.9	.17	2.0	20	23	6.7	.54	12
25	.96	8.1	.14	.42	.37	4.9	1.5	10	13	.94	.53	40
26	.40	5.5	.12	10	.61	5.8	1.0	15	24	17	.54	14
27	4.6	1.6	.09	.75	.84	.68	.95	5.0	24	13	1.1	2.7
28	.80	.43	5.2	.15	.71	.28	.90	4.5	7.7	7.1	1.4	.61
29	1.0	1.2	4.7	9.1	------	.20	.80	4.0	26	2.0	.33	.85
30	2.7	3.1	49	.75	------	.14	.75	3.5	34	5.5	.23	15
31	28	------	.88	.17	------	.12	------	5.0	------	1.3	34	------
TOTAL	123.44	447.16	678.29	56.32	231.14	324.78	316.10	525.55	391.54	372.40	248.67	215.22
MEAN	3.98	14.9	21.9	1.82	8.26	10.5	10.5	17.0	13.1	12.0	8.02	7.17
MAX	28	324	359	25	51	149	51	61	50	43	34	44
MIN	.13	.15	.09	0	.10	.12	.02	.25	.34	.38	.23	.32
AC-FT	245	887	1,350	112	458	644	627	1,040	777	739	493	427

CAL YR 1973 TOTAL 2,180.83 MEAN 5.97 MAX 359 MIN 0 AC-FT 4,330
WTR YR 1974 TOTAL 3,930.61 MEAN 10.8 MAX 359 MIN 0 AC-FT 7,800

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-20	0700	6.03	1,060	3-3	1630	5.26	714
12- 1	1300	5.53	822				

HAWAII, ISLAND OF HAWAII

16765000 HILEA GULCH TRIBUTARY NO. 2 NEAR HONUAPO

LOCATION.--Lat 19°10'17", long 155°36'05", on right bank 0.5 mi (0.8 km) upstream from mouth, 6.3 mi (10.1 km) northwest of Honuapo, and 6.6 mi (10.6 km) west of Punaluu.

DRAINAGE AREA.--1.86 mi^2 (4.82 km^2).

PERIOD OF RECORD.--February 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,880 ft (878 m) from topographic map.

AVERAGE DISCHARGE.--8 years, 3.02 ft^3/s (0.0855 m^3/s), 2,190 acre-ft/yr (2.70 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 473 ft^3/s (13.4 m^3/s) Nov. 20, gage height, 6.90 ft (2.103 m), from rating curve extended above 41 ft^3/s (1.16 m^3/s); no flow for many days.

Period of record: Maximum discharge, 523 ft^3/s (14.8 m^3/s) Dec. 30, 1966, gage height, 7.16 ft (2.182 m), from rating curve extended above 41 ft^3/s (1.16 m^3/s); no flow many days each year.

REMARKS.--Records good except those for period of no gage-height record, which are fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	3.0	226	0	0	0	0	13	5.0	8.0	0	.08
2	.40	2.7	138	0	.15	0	0	13	10	3.0	0	.78
3	.02	.05	2.1	0	3.1	10	0	2.4	15	.50	0	.20
4	0	0	.52	0	1.5	3.9	0	10	20	.30	0	0
5	0	0	0	0	.11	6.6	0	15	15	.10	4.9	0
6	0	0	.63	0	19	83	0	8.3	3.0	15	.38	.23
7	0	0	.11	0	29	6.1	0	1.1	2.0	10	4.7	.09
8	0	0	0	0	1.7	8.3	12	0	.50	4.0	1.2	0
9	0	0	0	0	1.8	5.2	12	0	.20	.50	6.6	0
10	0	0	0	0	.11	.22	1.2	.10	0	0	.45	22
11	0	0	0	0	0	0	1.1	5.0	0	0	5.0	1.0
12	.58	2.1	0	0	1.1	0	.06	3.0	0	0	1.1	.04
13	.10	.11	0	0	.19	0	.93	4.5	0	0	0	9.5
14	.31	.03	0	0	.13	3.4	12	.50	3.0	4.6	0	.68
15	.14	0	0	0	.58	.68	14	3.0	5.0	20	7.2	.41
16	.02	0	0	0	.68	.01	40	10	.50	11	.76	.07
17	0	0	0	0	.02	0	2.2	25	.30	5.2	11	0
18	.98	0	0	0	0	0	6.2	15	4.0	.80	2.6	0
19	6.2	13	0	0	0	0	18	10	.50	3.4	3.3	0
20	.92	205	0	0	5.1	0	13	2.5	0	1.2	2.1	0
21	.09	3.4	0	4.1	3.6	0	1.1	5.0	0	0	.39	0
22	.01	.34	0	.01	.01	0	.10	10	1.5	0	.05	0
23	0	.04	0	0	1.9	0	.40	1.0	1.5	9.2	0	0
24	0	.30	0	.15	.93	0	.04	.10	7.0	1.2	0	.62
25	0	3.8	0	0	0	0	0	0	4.0	0	0	15
26	0	2.7	0	4.9	0	.10	0	0	8.0	6.0	0	1.8
27	3.0	.19	0	.23	0	0	0	0	9.0	2.1	0	.09
28	.28	0	.36	0	0	0	0	0	1.0	.87	0	0
29	.03	0	6.2	1.4	------	0	0	0	10	.02	0	0
30	0	0	17	.05	------	0	0	0	15	.44	0	2.1
31	12	------	0	0	------	0	------	0	------	.02	9.0	------
TOTAL	27.38	236.76	390.92	10.84	70.71	127.51	134.33	157.50	141.00	107.45	60.73	54.69
MEAN	.88	7.89	12.6	.35	2.53	4.11	4.48	5.08	4.70	3.47	1.96	1.82
MAX	12	205	226	4.9	29	83	40	25	20	20	11	22
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	54	470	775	22	140	253	266	312	280	213	120	108

CAL YR 1973 TOTAL 1,010.21 MEAN 2.77 MAX 226 MIN 0 AC-FT 2,000
WTR YR 1974 TOTAL 1,519.82 MEAN 4.16 MAX 226 MIN 0 AC-FT 3,010

PEAK DISCHARGE (BASE, 310 CFS).--Nov. 20 (0830) 473 cfs (6.90 ft); Dec. 1 (1430) 454 cfs (6.80 ft).

NOTE.--No gage-height record May 10 to July 10.

16767000 NINOLE GULCH NEAR PUNALUU

LOCATION.--Lat 19°10'44", long 155°33'46", on right bank 300 ft (91 m) downstream from forest-reserve boundary, 4.6 mi (7.4 km) northwest of Punaluu, and 6.0 mi (9.6 km) north of Honuapo.

DRAINAGE AREA.--15.5 mi^2 (40.1 km^2).

PERIOD OF RECORD.--March 1966 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Altitude of gage is 2,080 ft (634 m) from topographic map.

AVERAGE DISCHARGE.--8 years, 3.77 ft^3/s (0.107 m^3/s), 2,730 acre-ft/yr (3.37 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,860 ft^3/s (52.7 m^3/s) Dec. 1, gage height, 6.24 ft (1.902 m), from rating curve extended above 30 ft^3/s (0.85 m^3/s); no flow for many days.

Period of record: Maximum discharge, 2,430 ft^3/s (68.8 m^3/s) Apr. 11, 1970, gage height, 6.62 ft (2.018 m), from rating curve extended above 30 ft^3/s (0.85 m^3/s); no flow for many days each year.

REMARKS.--Records good except those above 60 ft^3/s (1.70 m^3/s), which are fair. No diversion above station. Periodic determinations of water temperatures for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.42	.26	376	.01	0	0	0	7.8	.42	1.3	0	.18
2	.04	.04	173	0	.35	0	0	12	2.4	.29	0	.07
3	0	0	.26	.01	7.4	27	0	.31	17	0	0	.06
4	0	0	0	.01	.51	.40	0	10	19	0	0	0
5	0	0	0	0	0	.02	0	20	20	0	2.0	0
6	0	0	.03	0	24	63	0	2.6	.62	19	.13	0
7	0	0	.01	0	27	.73	0	.19	0	12	4.2	0
8	0	0	0	0	.15	4.3	.11	.01	0	1.4	.62	0
9	0	0	0	0	0	1.3	.69	0	0	0	.87	0
10	0	0	0	0	0	0	.02	0	0	0	.12	6.3
11	0	0	0	0	0	0	.01	2.7	0	0	0	.16
12	.32	0	0	0	0	0	.30	6.5	0	0	0	0
13	0	0	0	0	0	0	.12	3.9	0	0	0	6.4
14	0	0	0	0	0	.35	9.4	.11	0	26	0	.29
15	0	0	0	0	0	.70	7.1	.01	.01	17	11	0
16	.11	0	0	0	0	.78	3.3	21	.01	33	.56	0
17	0	0	0	0	0	.06	.25	36	0	1.6	18	0
18	.01	0	0	0	0	.01	4.3	8.2	.56	.42	2.3	0
19	7.8	0	0	0	0	0	9.6	15	.04	4.0	.80	0
20	.08	0	0	0	22	.01	8.4	.11	0	1.6	.55	0
21	0	.01	0	41	1.7	0	.06	2.7	0	0	0	0
22	0	0	0	.15	0	0	0	11	0	0	0	0
23	0	0	0	0	0	0	1.8	.67	0	14	0	0
24	0	0	0	.01	0	0	.04	5.0	2.3	.84	0	0
25	0	.11	0	0	0	.20	.12	.70	.20	0	0	6.1
26	0	0	0	0	0	.32	.02	2.6	5.2	1.3	0	.46
27	0	0	0	0	0	0	0	.05	10	.92	0	0
28	0	0	.09	0	0	0	0	0	1.4	.46	0	0
29	0	0	7.9	.42	------	0	0	0	8.5	0	0	0
30	0	0	26	.03	------	0	0	0	9.6	0	0	.01
31	5.4	------	5.0	0	------	0	------	.01	------	0	27	------
TOTAL	14.18	.42	588.29	41.64	83.11	99.18	45.64	169.17	97.26	135.13	68.15	20.03
MEAN	.46	.014	19.0	1.34	2.97	3.20	1.52	5.46	3.24	4.36	2.20	.67
MAX	7.8	.26	376	41	27	63	9.6	36	20	33	27	6.4
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	28	.8	1,170	83	165	197	91	336	193	268	135	40

CAL YR 1973 TOTAL 930.09 MEAN 2.55 MAX 376 MIN 0 AC-FT 1,840
WTR YR 1974 TOTAL 1,362.20 MEAN 3.73 MAX 376 MIN 0 AC-FT 2,700

PEAK DISCHARGE (BASE, 1,000 CFS).--Dec. 1 (1530) 1,860 cfs (6.24 ft).

HAWAII, ISLAND OF HAWAII

16770500 PAAUAU GULCH AT PAHALA

LOCATION.--Lat 19°12'39", long 155°28'48", on right bank 100 ft (30 m) downstream from bridge on Wood Valley Road and 0.7 mi (1.1 km) north of Pahala.

DRAINAGE AREA.--1.74 mi² (4.51 km²).

PERIOD OF RECORD.--May 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 972 ft (296.3 m) above mean sea level (by stadia survey).

AVERAGE DISCHARGE.--12 years, 0.571 ft³/s (0.0162 m³/s), 414 acre-ft/yr (510,000 m³/yr).

EXTREMES.--Current year: Maximum discharge, 1,030 ft³/s (29.2 m³/s) Dec. 1, gage height, 4.72 ft (1.439 m); no flow most of time.

Period of record: Maximum discharge, 3,600 ft³/s (102 m³/s) Jan. 5, 1969, gage height, 5.90 ft (1.798 m), from rating curve extended above 360 ft³/s (10.2 m³/s) on basis of slope-area measurement at gage height 4.40 ft (1.341 m); no flow most of time.

REMARKS.--Records good. No diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	174	.05	0						0	0
2		0	41	0	0						0	.10
3		0	0	0	1.9						0	0
4		0	0	0	.15						0	0
5		0	0	0	0						0	0
6		0	0	0	0						0	0
7		0	0	0	0						0	0
8		0	0	0	0						0	0
9		0	0	0	0						0	0
10		0	0	0	0						0	0
11		0	0	0	0						0	0
12		0	0	0	0						0	0
13		0	0	.52	0						0	0
14		0	0	.99	0						0	0
15		0	0	0	0						0	0
16		0	0	0	0						0	0
17		0	0	0	0						0	0
18		0	0	0	0						0	0
19		0	0	0	0						0	0
20		51	0	0	0						0	0
21		1.3	0	.01	0						0	0
22		0	0	0	0						0	0
23		0	0	.01	0						0	0
24		0	0	0	0						.17	0
25		0	0	0	0						0	0
26		0	0	0	0						0	0
27		.84	0	0	0						0	.32
28		.09	0	0	0						0	.41
29		.04	0	0	------						0	0
30		.02	2.3	0	------						0	------
31		------	.04	0	------		------		------			
TOTAL	0	53.29	217.34	1.58	2.05	0	0	0	0	0	.17	.83
MEAN	0	1.78	7.01	.051	.073	0	0	0	0	0	.006	.028
MAX	0	51	174	.99	1.9	0	0	0	0	0	.17	.41
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	106	431	3.1	4.1	0	0	0	0	0	.3	1.6

CAL YR 1973 TOTAL 302.47 MEAN .83 MAX 174 MIN 0 AC-FT 600
WTR YR 1974 TOTAL 275.26 MEAN .75 MAX 174 MIN 0 AC-FT 546

PEAK DISCHARGE (BASE, 180 CFS).--Nov. 20 (0400) 191 cfs (3.68 ft); Dec. 1 (1300) 1,030 cfs (4.72 ft).

MARIANA ISLANDS, ISLAND OF SAIPAN

16800000 DENNI SPRING

LOCATION.--Lat 15°11'57" N., long 145°46'05" E., 2.8 mi (4.5 km) southeast of Tanapag, 3.1 mi (5.0 km) east of Garapan, and 5.6 mi (9.0 km) northeast of Chalan Kanoa.

PERIOD OF RECORD.--August 1952 to June 1954 (published as Donni Spring near Garapan), March 1968, January 1969 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 261 ft (79.6 m) from U.S. Navy.

AVERAGE DISCHARGE.--6 years (1952-53, 1969-74), 0.517 ft^3/s (0.0146 m^3/s), 375 acre-ft/yr (462,000 m^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 2.7 ft^3/s (0.076 m^3/s) Aug. 11-16, 1972; minimum daily, 0.02 ft^3/s (0.001 m^3/s) Sept. 16, 17, 1969.

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	.40	.22	.21	.17	.17	.17	.29	.26	.20	.49	1.5
2	.26	.47	.22	.19	.17	.17	.17	.24	.26	.22	.45	1.5
3	.24	.47	.21	.19	.17	.17	.20	.21	.25	.24	.45	1.5
4	.24	.43	.21	.17	.17	.17	.20	.18	.24	.51	.45	1.6
5	.24	.40	.21	.17	.17	.17	.20	.77	.23	.90	.45	1.5
6	.24	.37	.21	.17	.17	.17	.19	1.0	.23	.96	.41	1.5
7	.24	.37	.21	.19	.17	.17	.18	.92	.23	1.1	.37	1.5
8	.22	.34	.21	.21	.17	.17	.17	.82	.23	1.1	.41	1.4
9	.22	.34	.21	.21	.17	.17	.18	.73	.23	1.1	.53	1.4
10	.22	.34	.19	.23	.17	.17	.18	.70	.23	1.0	.53	1.3
11	.20	.31	.19	.21	.17	.14	.17	.60	.23	.93	.53	1.2
12	.20	.31	.19	.21	.20	.14	.16	.58	.23	.83	.53	1.1
13	.20	.31	.19	.21	.20	.14	.16	.47	.22	.78	.65	1.1
14	.20	.28	.19	.21	.20	.14	.16	.32	.22	.77	.90	1.0
15	.20	.28	.19	.21	.20	.14	.15	.60	.22	.77	1.3	.96
16	.20	.28	.19	.21	.20	.14	.15	.44	.21	.77	1.4	.90
17	.37	.28	.19	.21	.20	.14	.17	.35	.21	.73	1.5	.90
18	.55	.28	.19	.21	.20	.14	.18	.33	.21	.69	1.5	.90
19	.51	.28	.19	.21	.20	.14	.17	.33	.20	.69	1.4	.85
20	.43	.26	.19	.21	.20	.14	.17	.36	.20	.65	1.4	1.1
21	.40	.26	.21	.21	.17	.12	.17	.33	.20	.61	1.3	1.5
22	.37	.26	.23	.23	.17	.12	.17	.32	.20	.61	1.1	1.5
23	.34	.26	.23	.23	.17	.12	.17	.31	.20	.61	1.0	1.4
24	.31	.24	.21	.23	.17	.12	.17	.30	.20	.57	.90	1.3
25	.28	.24	.21	.21	.17	.12	.16	.29	.23	.57	.85	1.3
26	.28	.24	.21	.21	.17	.12	.15	.29	.23	.53	.85	1.3
27	.28	.24	.21	.19	.17	.12	.14	.29	.20	.53	1.1	1.3
28	.28	.24	.21	.19	.17	.12	.14	.28	.19	.49	1.4	1.2
29	.31	.24	.21	.19	------	.12	.23	.28	.19	.49	1.6	1.4
30	.31	.24	.21	.19	------	.12	.34	.27	.20	.49	1.6	1.4
31	.31	------	.21	.17	------	.12	------	.27	------	.49	1.6	------
TOTAL	8.91	9.26	6.35	6.29	5.03	4.42	5.32	13.47	6.58	20.93	28.95	38.31
MEAN	.29	.31	.20	.20	.18	.14	.18	.43	.22	.68	.93	1.28
MAX	.55	.47	.23	.23	.20	.17	.34	1.0	.26	1.1	1.6	1.6
MIN	.20	.24	.19	.17	.17	.12	.14	.18	.19	.20	.37	.85
AC-FT	18	18	13	12	10	8.8	11	27	13	42	57	76

CAL YR 1973 TOTAL 62.45 MEAN .17 MAX .55 MIN .06 AC-FT 124
WTR YR 1974 TOTAL 153.82 MEAN .42 MAX 1.6 MIN .12 AC-FT 305

16801000 SOUTH FORK TALOFOFO STREAM

LOCATION.--Lat 15°12'58" N., long 145°46'31" E., on left bank 0.3 mi (0.5 km) upstream from confluence with Middle and North Forks, 1.4 mi (2.3 km) south of Ogso Dogas, and 2.2 mi (3.5 km) southeast of Tanapag.

DRAINAGE AREA.--0.69 mi^2 (1.79 km^2). Area at site used prior to Mar. 31, 1971, 0.73 mi^2 (1.89 km^2).

PERIOD OF RECORD.--October 1968 to current year. Low-flow records not equivalent prior to Mar. 31, 1971, due to undetermined amount of underflow between sites.

GAGE.--Water-stage recorder. Concrete control since Mar. 31, 1971. Altitude of gage is 30 ft (9 m) from topographic map. Prior to Mar. 31, 1971, at site 0.2 mi (0.3 km) downstream at different datum.

EXTREMES.--Current year: Maximum discharge, 378 ft^3/s (10.7 m^3/s) May 4, gage height, 4.17 ft (1.271 m), from rating curve extended above 59 ft^3/s (1.67 m^3/s); minimum, 0.01 ft^3/s (<0.001 m^3/s) for several days in March.

Period of record: Maximum discharge, 1,230 ft^3/s (34.8 m^3/s) Nov. 19, 1968, gage height, 7.18 ft (2.188 m), site and datum then in use, from rating curve extended above 1.2 ft^3/s (0.034 m^3/s) on basis of estimate of discharge from high-water marks; maximum gage height, 8.14 ft (2.481 m) Nov. 2, 1968, site and datum then in use, from floodmark (backwater from vegetation); no flow at times prior to Mar. 31, 1971, at site then in use.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	2.9	.15	.07	.08	.02	.11	.72	.34	.28	.28	1.6
2	.31	1.5	.12	.07	.07	.01	.11	.68	.23	1.5	.28	5.0
3	.28	1.0	.11	.08	.07	.01	.09	3.7	.21	18	.25	3.3
4	.25	.76	.09	.08	.06	.01	.08	26	.21	2.6	.23	1.8
5	.28	.68	.08	.09	.06	.02	.07	1.7	.25	1.2	.31	1.4
6	.28	.56	.08	.08	.06	.02	.07	1.0	.28	4.9	.23	1.2
7	.28	.52	.09	.76	.07	.03	.08	.72	.25	2.2	.21	1.2
8	.25	.48	.17	.44	.13	.02	.09	.56	.19	2.1	3.1	1.1
9	.19	.40	.13	.28	.08	.01	.11	.44	.19	.87	.60	1.0
10	.28	.37	.15	.19	.09	.02	.09	.40	.17	.72	.48	.94
11	.37	.34	.13	.19	.21	.01	.09	.37	.17	.72	.60	1.5
12	.23	.34	.19	.15	.11	.01	.11	.34	.17	.60	2.9	.87
13	.23	.48	.11	.13	.08	.01	.08	.31	.23	.52	6.0	.76
14	.21	.40	.09	.21	.07	.06	.07	.28	.19	2.5	8.7	.72
15	.31	.37	.08	.15	.07	.11	.07	.25	.15	1.2	10	.68
16	.28	.31	.08	.13	.06	.11	.07	.23	.17	.76	4.0	.64
17	9.3	.28	.07	.12	.09	.21	.06	.23	.13	.64	3.0	.76
18	1.1	.25	.06	.12	.08	.11	.06	.21	.13	.60	2.0	.64
19	.72	.23	.06	.12	.07	.28	.07	.21	.17	.52	1.5	2.6
20	.56	.28	.06	.12	.07	.13	.06	.19	.13	.48	1.3	12
21	.48	.25	.07	.11	.07	.11	.05	.19	.13	.44	1.2	2.8
22	.40	.21	.07	.11	.11	.11	.05	.21	.13	1.6	1.2	1.5
23	.37	.23	.07	.11	.06	.12	.05	.31	.13	1.2	1.2	1.2
24	.34	.23	.06	.09	.06	.11	.02	.21	.12	.64	1.0	1.1
25	.34	.21	.08	.09	.05	.08	.02	.21	.11	.52	1.1	1.0
26	.52	.19	.09	.09	.03	.07	.02	.21	.11	.48	4.1	1.5
27	1.6	.23	.13	.08	.02	.07	.02	.19	.17	.40	5.1	.94
28	.64	.19	.11	.08	.02	.26	.10	.17	.28	.37	12	1.4
29	.52	.19	.09	.07	------	.17	4.4	.17	1.2	.37	4.3	.94
30	.48	.17	.07	.07	------	.13	.64	.15	.40	.31	2.6	.80
31	2.7	------	.08	.07	------	.13	------	.19	------	.28	2.1	------
TOTAL	24.41	14.55	3.02	4.55	2.10	2.57	7.01	40.75	6.74	49.52	81.87	52.89
MEAN	.79	.49	.097	.15	.075	.083	.23	1.31	.22	1.60	2.64	1.76
MAX	9.3	2.9	.19	.76	.21	.28	4.4	26	1.2	18	12	12
MIN	.19	.17	.06	.07	.02	.01	.02	.15	.11	.28	.21	.64
AC-FT	48	29	6.0	9.0	4.2	5.1	14	81	13	98	162	105

CAL YR 1973 TOTAL 91.44 MEAN .25 MAX 9.3 MIN .01 AC-FT 181
WTR YR 1974 TOTAL 289.98 MEAN .79 MAX 26 MIN .01 AC-FT 575

PEAK DISCHARGE (BASE, 400 CFS).--No peak above base.

MARIANA ISLANDS, ISLAND OF SAIPAN

16801500 MIDDLE FORK TALOFOFO STREAM

LOCATION.--Lat 15°13'05" N., long 145°46'36" E., on left bank 700 ft (213 m) upstream from confluence with South and North Forks, 2.2 mi (3.5 km) southeast of Tanapag, and 3.7 mi (6.0 km) east of Garapan.

DRAINAGE AREA.--0.35 mi^2 (0.91 km^2).

PERIOD OF RECORD.--March 1968 to current year.

GAGE.--Water-stage recorder. Concrete control since Feb. 28, 1971. Altitude of gage is 25 ft (7.6 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 0.608 ft^3/s (0.0172 m^3/s), 440 acre-ft/yr (543,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 86 ft^3/s (2.44 m^3/s) May 4, gage height, 3.29 ft (1.003 m), from rating curve extended above 15 ft^3/s (0.42 m^3/s); minimum, 0.07 ft^3/s (0.002 m^3/s) Apr. 25.

Period of record: Maximum discharge, 526 ft^3/s (14.9 m^3/s) Nov. 19, 1968, gage height, 5.22 ft (1.591 m), from rating curve extended above 5.1 ft^3/s (0.14 m^3/s); minimum, 0.07 ft^3/s (0.002 m^3/s) July 5, 6, 1973, Apr. 25, 1974.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	.56	.20	.29	.16	.12	.14	.20	.29	.18	.20	.52
2	.24	.38	.18	.24	.14	.17	.12	.20	.22	.60	.20	.56
3	.22	.29	.16	.22	.14	.14	.10	.38	.22	3.9	.20	1.5
4	.22	.26	.18	.16	.14	.16	.10	5.4	.24	.85	.22	.60
5	.22	.24	.18	.14	.16	.16	.12	.38	.20	.41	.22	.56
6	.22	.22	.16	.16	.20	.14	.10	.26	.20	1.0	.20	.48
7	.24	.22	.17	.56	.22	.14	.14	.22	.22	.60	.20	.48
8	.22	.20	.22	.26	.22	.12	.15	.18	.20	.38	.68	.48
9	.24	.22	.18	.22	.18	.12	.20	.16	.20	.29	.32	.44
10	.29	.20	.16	.22	.29	.11	.24	.18	.22	.29	.24	.41
11	.24	.20	.18	.22	.32	.12	.22	.20	.20	.29	.33	.56
12	.20	.20	.22	.16	.16	.10	.18	.20	.18	.26	.65	.48
13	.20	.24	.18	.16	.16	.10	.20	.20	.22	.22	1.4	.41
14	.20	.24	.18	.19	.16	.16	.18	.20	.18	.70	1.6	.38
15	.22	.24	.18	.14	.16	.24	.18	.20	.18	.35	1.8	.38
16	.24	.22	.16	.14	.18	.22	.18	.26	.18	.26	1.0	.38
17	1.7	.22	.16	.14	.24	.22	.20	.20	.18	.22	.65	.44
18	.29	.22	.16	.16	.18	.18	.20	.20	.20	.22	.52	.44
19	.22	.20	.14	.16	.16	.22	.18	.18	.20	.20	.44	.99
20	.20	.20	.14	.16	.16	.14	.20	.18	.20	.20	.41	1.9
21	.20	.20	.16	.26	.20	.12	.18	.18	.18	.20	.41	.80
22	.18	.18	.16	.24	.20	.14	.18	.18	.18	.73	.41	.48
23	.18	.22	.22	.22	.14	.14	.16	.24	.20	.35	.41	.44
24	.18	.20	.24	.20	.14	.16	.12	.18	.16	.24	.35	.41
25	.22	.20	.29	.18	.12	.10	.08	.18	.20	.22	.44	.41
26	.26	.20	.32	.18	.12	.10	.10	.18	.26	.20	.95	.44
27	.48	.22	.32	.16	.12	.10	.22	.20	.32	.20	1.1	.35
28	.29	.20	.32	.16	.10	.14	.32	.18	.35	.20	1.9	.48
29	.26	.20	.32	.16	------	.16	.70	.20	.44	.20	1.0	.35
30	.24	.20	.29	.16	------	.16	.18	.16	.24	.20	.70	.35
31	.80	------	.38	.14	------	.16	------	.22	------	.20	.56	------
TOTAL	9.35	6.99	6.51	6.16	4.87	4.51	5.57	11.68	6.66	14.36	19.71	16.90
MEAN	.30	.23	.21	.20	.17	.15	.19	.38	.22	.46	.64	.56
MAX	1.7	.56	.38	.56	.32	.24	.70	5.4	.44	3.9	1.9	1.9
MIN	.18	.18	.14	.14	.10	.10	.08	.16	.16	.18	.20	.35
AC-FT	19	14	13	12	9.7	8.9	11	23	13	28	39	34

CAL YR 1973 TOTAL 84.16 MEAN .23 MAX 1.7 MIN .10 AC-FT 167
WTR YR 1974 TOTAL 113.27 MEAN .31 MAX 5.4 MIN .08 AC-FT 225

PEAK DISCHARGE (BASE, 150 CFS).--No peak above base.

16806000 LUPUG SPRING

LOCATION.--Lat 14°07'22" N., long 145°11'13" E., on right bank 20 ft (6 m) downstream from mouth of large cave where spring originates, 2.8 mi (4.5 km) east of Rota School, and 3.1 mi (5.0 km) west of Haaniya Cape.

PERIOD OF RECORD.--April 1971 to April 1972. October 1972 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 1,120 ft (341.4 m) from vertical-angle survey.

EXTREMES.--Period of record: Maximum daily discharge, 7.6 ft^3/s (0.22 m^3/s) Aug. 6, 1972; no flow for many days in 1973-74.

REMARKS.--Records fair. About 0.75 ft^3/s (0.021 m^3/s) is diverted from the cave above station for domestic use in the village of Songsong.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.14	.07	0		0	.09	.59	.42	.14	.42	1.3
2	0	.25	.06	0		0	.09	.50	.40	.15	.42	1.2
3	0	.25	.06	0		0	.08	.55	.40	.15	.42	1.1
4	0	.22	.09	0		0	.06	2.3	.36	.17	.42	1.1
5	0	.18	.09	0		0	.07	3.3	.34	.24	.42	.99
6	0	.15	.08	0		0	.06	2.4	.32	.28	.42	.93
7	0	.12	.08	0		0	.05	2.0	.30	.28	.42	.93
8	0	.11	.07	0		0	.05	1.8	.29	.34	.42	.87
9	0	.10	.07	.01		.02	.05	1.6	.29	.52	.42	.81
10	0	.10	.06	.03		.02	.05	1.5	.28	.55	.40	.87
11	0	.10	.06	.08		.01	.04	1.3	.26	.52	.40	.93
12	0	.09	.05	.09		.01	.05	1.1	.25	.46	.50	.87
13	0	.09	.05	.08		.01	.05	1.1	.25	.40	1.4	.87
14	0	.09	.04	.07		.01	.05	.93	.24	.40	3.3	.87
15	0	.09	.04	.07		.01	.05	.87	.24	.48	3.1	.81
16	0	.10	.03	.06		.02	.05	.76	.24	.55	2.7	.76
17	.02	.10	.03	.06		.16	.05	.67	.24	.55	3.0	.71
18	.05	.10	.02	.06		.50	.05	.67	.22	.55	2.7	.67
19	.07	.10	.02	.05		.34	.05	.59	.22	.52	2.7	.59
20	.07	.09	.02	.05		.24	.05	.59	.21	.50	2.5	.55
21	.06	.09	.01	.06		.16	.05	.55	.21	.48	2.4	.55
22	.07	.09	.01	.08		.09	.05	.55	.20	.48	2.1	.55
23	.08	.09	.01	.09		.08	.04	.52	.20	.48	2.0	.55
24	.07	.09	0	.06		.08	.04	.52	.19	.48	1.8	.55
25	.09	.09	0	.05		.24	.05	.50	.19	.48	1.7	.55
26	.11	.08	0	.05		.24	.04	.50	.18	.48	1.7	.55
27	.12	.08	0	.04		.21	.03	.50	.17	.48	1.6	.52
28	.12	.07	0	.03		.18	.12	.46	.17	.44	1.5	.52
29	.07	.07	0	.02	------	.14	.87	.44	.16	.44	1.6	.50
30	.09	.07	0	.01	------	.12	1.3	.44	.15	.44	1.5	.50
31	.10	------	0	.01	------	.11	------	.42	------	.42	1.4	------
TOTAL	1.19	3.39	1.12	1.21	0	3.00	3.73	30.52	7.59	12.85	45.78	23.07
MEAN	.038	.11	.036	.039	0	.097	.12	.98	.25	.41	1.48	.77
MAX	.12	.25	.09	.09	0	.50	1.3	3.3	.42	.55	3.3	1.3
MIN	0	.07	0	0	0	0	.03	.42	.15	.14	.40	.50
AC-FT	2.4	6.7	2.2	2.4	0	6.0	7.4	61	15	25	91	46

CAL YR 1973 TOTAL 37.51 MEAN .10 MAX .52 MIN 0 AC-FT 74
WTR YR 1974 TOTAL 133.45 MEAN .37 MAX 3.3 MIN 0 AC-FT 265

16808300 FINILE CREEK AT AGAT

LOCATION.--Lat 13°22'39" N., long 144°39'26" E., on right bank 0.4 mi (0.6 km) upstream from estuary and 0.4 mi (0.6 km) south of Agat School.

DRAINAGE AREA.--0.28 mi^2 (0.73 km^2).

PERIOD OF RECORD.--April 1960 to current year. Prior to October 1969, published as Finile River at Agat.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 20 ft (6.1 m) from topographic map.

AVERAGE DISCHARGE.--14 years, 1.45 ft^3/s (0.0411 m^3/s), 1,050 acre-ft/yr (1.29 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 211 ft^3/s (5.98 m^3/s) May 17, gage height, 2.87 ft (0.875 m), from rating curve extended above 50 ft^3/s (1.42 m^3/s) on basis of slope-area measurement at gage height 3.66 ft (1.116 m); minimum, 0.29 ft^3/s (0.008 m^3/s) many days in March and April.

Period of record: Maximum discharge, 319 ft^3/s (9.03 m^3/s) Oct. 17, 1969, gage height, 3.81 ft (1.161 m), from floodmark in well, from rating curve extended above 30 ft^3/s (0.85 m^3/s) on basis of slope-area measurement at gage height 3.66 ft (1.116 m); minimum, 0.04 ft^3/s (0.001 m^3/s) July 2-4, 6, 8, 9, 1973.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	1.2	.63	1.2	.47	.37	.47	.78	1.3	1.5	1.5	2.2
2	.70	1.1	.57	.57	.47	.37	.47	.70	1.2	3.1	1.5	2.2
3	1.0	.97	.57	.57	.47	.42	.47	11	1.2	4.0	1.6	2.0
4	1.5	.97	2.0	.57	.47	.33	.42	2.4	1.1	7.0	1.5	2.0
5	15	.97	.63	.52	.42	.33	.42	1.6	1.1	4.2	1.3	1.9
6	7.0	.87	.57	.52	.47	.37	.42	1.2	1.1	8.0	2.2	1.9
7	5.0	.78	.57	.52	.42	.37	.42	1.1	3.3	5.0	2.6	2.2
8	2.5	.78	.63	.63	.47	.37	.42	.97	1.8	2.4	1.6	1.7
9	1.5	.70	.97	.52	.47	.37	.42	.97	1.2	2.0	1.6	1.7
10	3.5	.70	.57	.87	.42	.33	.47	.87	1.1	1.9	1.6	1.7
11	3.0	.70	.70	.57	.42	.42	.42	.87	1.1	1.7	4.7	1.7
12	2.5	.70	.57	.63	.42	.37	.42	.78	2.2	1.6	12	1.6
13	2.0	.70	.57	.57	.70	2.0	.42	.78	2.0	1.7	6.0	1.6
14	1.8	.63	.57	.57	.42	1.1	.37	.70	1.2	12	5.0	1.9
15	1.3	.70	.52	.52	.42	5.0	.33	.63	1.5	2.9	4.7	1.6
16	3.0	1.6	.52	.52	.42	1.5	.33	.87	1.2	2.2	6.6	1.5
17	3.7	.87	.52	.47	.47	.87	.33	9.7	1.2	3.3	3.3	1.5
18	1.6	.70	.52	.52	.47	.78	.33	2.0	1.4	2.0	2.6	1.5
19	1.4	.63	.70	.52	.42	1.2	.33	1.6	1.2	2.0	2.4	1.3
20	1.2	.63	.52	.47	.42	.87	.33	1.3	1.1	2.0	2.2	4.0
21	1.1	.63	.52	.47	.42	.70	.33	9.3	1.1	3.5	2.0	4.2
22	1.1	.97	1.1	.47	.37	.63	.37	3.3	.97	2.0	2.0	2.6
23	1.2	.63	.57	.47	.37	.63	.33	4.7	1.1	2.0	1.9	1.6
24	.97	.63	1.3	.47	.37	.57	.37	2.4	.97	1.7	1.9	1.5
25	.97	2.4	1.1	.47	.37	.57	.37	1.9	.97	1.7	1.7	1.5
26	4.2	.70	.70	.52	.37	.52	.97	1.6	.87	1.6	5.0	1.3
27	4.6	.63	.63	.52	.37	.52	1.9	1.6	.87	1.7	14	1.3
28	2.2	.63	.63	.47	.37	.47	9.0	1.5	3.5	1.6	3.3	2.9
29	1.6	.57	.57	.47	------	.47	1.3	1.3	2.4	1.6	3.1	1.5
30	1.4	.57	.57	.47	------	.47	.87	1.3	4.2	1.5	2.6	1.3
31	1.3	------	.78	.47	------	.47	------	1.2	------	1.5	2.4	------
TOTAL	80.34	25.26	21.89	17.12	12.14	23.76	23.82	70.92	45.45	90.9	106.4	57.4
MEAN	2.59	.84	.71	.55	.43	.77	.79	2.29	1.52	2.93	3.43	1.91
MAX	15	2.4	2.0	1.2	.70	5.0	9.0	11	4.2	12	14	4.2
MIN	.50	.57	.52	.47	.37	.33	.33	.63	.87	1.5	1.3	1.3
AC-FT	159	50	43	34	24	47	47	141	90	180	211	114

CAL YR 1973 TOTAL 253.84 MEAN .70 MAX 15 MIN .06 AC-FT 503
WTR YR 1974 TOTAL 575.40 MEAN 1.58 MAX 15 MIN .33 AC-FT 1,140

PEAK DISCHARGE (BASE, 170 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
5-17	1245	2.87	211	8-27	1045	2.78	208
5-21	1515	2.52	172				

16816000 UMATAC RIVER AT UMATAC

LOCATION.--Lat 13°17'48" N., long 144°39'46" E., on left bank 0.2 mi (0.3 km) upstream from mouth, 0.3 mi (0.5 km) southeast of Umatac, and 5.8 mi (9.3 km) northwest of Inarajan.

DRAINAGE AREA.--2.11 mi^2 (5.46 km^2).

PERIOD OF RECORD.--September 1952 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 8 ft (2.4 m) from topographic map. Prior to Oct. 16, 1953, at datum 0.62 ft (0.189 m) higher.

AVERAGE DISCHARGE.--22 years, 8.56 ft^3/s (0.242 m^3/s), 6,200 acre-ft/yr (7.64 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,670 ft^3/s (47.3 m^3/s) Sept. 11, gage height, 3.69 ft (1.125 m), from rating curve extended as explained below; minimum, 0.70 ft^3/s (0.020 m^3/s) Mar. 1, 2, 4, 6.

Period of record: Maximum discharge, 7,460 ft^3/s (211 m^3/s) Oct. 19, 1960, gage height, 7.04 ft (2.146 m), from rating curve extended above 320 ft^3/s (9.06 m^3/s) on basis of slope-area measurements at gage heights 3.51 ft (1.070 m) and 7.04 ft (2.146 m); minimum, 0.20 ft^3/s (0.006 m^3/s) June 23, 1960, May 21-25, May 29 to June 2, 1973.

REMARKS.--Records good. Upstream diversion at Piga Spring for domestic use at Umatac. Recording rain gage located at station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	7.3	2.9	4.2	1.3	.70	2.1	9.7	17	18	4.2	8.7
2	4.4	5.9	4.7	3.1	1.3	.80	2.3	7.6	6.6	9.7	3.9	8.0
3	7.4	5.2	3.1	3.1	1.3	1.3	2.1	61	7.3	9.2	4.2	7.0
4	11	4.9	15	2.9	1.2	.80	2.0	24	5.9	38	7.0	6.6
5	157	4.7	4.9	2.9	1.0	.90	1.8	12	5.6	12	3.9	6.6
6	69	4.4	4.4	3.9	1.5	.80	1.8	9.7	5.9	43	13	5.9
7	36	3.9	4.2	2.9	1.3	1.6	1.6	8.0	43	14	4.9	16
8	17	3.6	3.9	3.6	1.5	2.3	1.5	6.6	19	10	3.9	5.6
9	11	3.4	4.9	2.9	1.3	2.3	1.8	5.9	9.7	8.0	4.2	7.6
10	33	3.4	3.6	8.4	1.3	1.3	1.6	5.2	9.2	7.6	3.4	4.9
11	28	3.6	7.0	3.6	1.5	1.6	1.6	4.7	7.3	6.2	19	63
12	21	4.7	4.4	4.2	1.2	1.5	1.6	4.4	25	13	70	6.6
13	12	3.6	4.2	3.4	3.1	10	1.6	5.6	23	5.9	36	5.2
14	10	2.9	3.6	3.1	1.5	16	1.3	4.4	9.7	66	36	4.7
15	7.6	6.3	3.6	2.6	1.3	32	1.3	3.9	7.3	13	45	4.4
16	12	5.9	3.4	2.4	1.5	12	1.2	4.4	6.6	9.7	52	3.9
17	8.0	4.2	3.1	2.3	1.8	10	1.3	27	5.9	13	22	3.4
18	6.6	3.4	2.9	2.1	1.6	7.3	1.2	10	25	8.7	14	3.1
19	5.6	3.1	5.2	2.0	1.5	5.6	1.2	8.0	7.6	24	20	3.4
20	4.7	2.9	3.4	1.8	1.5	4.7	1.2	11	6.2	12	22	4.2
21	4.4	3.1	3.1	1.6	1.3	4.2	1.3	62	5.6	8.4	15	23
22	4.4	11	5.9	1.5	1.3	3.4	1.8	21	4.9	7.0	10	4.9
23	7.0	4.2	3.9	1.5	1.2	8.3	1.3	58	4.7	19	8.7	4.2
24	4.7	3.6	7.6	1.5	1.2	8.4	1.3	20	4.4	18	7.3	3.6
25	8.5	13	9.2	1.5	1.3	5.2	11	12	4.2	8.4	7.3	3.9
26	48	4.4	4.9	1.5	1.2	3.9	23	13	3.9	6.2	52	3.1
27	33	3.9	4.2	1.5	.90	3.4	41	9.2	4.7	5.6	34	2.9
28	14	3.4	3.6	1.5	.80	2.9	148	7.6	14	4.9	18	5.2
29	9.2	3.1	3.1	1.5	------	2.6	26	6.6	13	4.9	17	5.9
30	9.2	3.1	2.9	1.5	------	2.4	14	6.2	10	4.4	11	3.6
31	8.0	------	2.6	1.3	------	2.3	------	5.6	------	4.4	10	------
TOTAL	614.8	140.1	143.4	81.8	38.70	160.50	300.8	454.3	322.2	432.2	578.9	239.1
MEAN	19.8	4.67	4.63	2.64	1.38	5.18	10.0	14.7	10.7	13.9	18.7	7.97
MAX	157	13	15	8.4	3.1	32	148	62	43	66	70	63
MIN	3.1	2.9	2.6	1.3	.80	.70	1.2	3.9	3.9	4.4	3.4	2.9
AC-FT	1,220	278	284	162	77	318	597	901	639	857	1,150	474

CAL YR 1973 TOTAL 1,435.60 MEAN 3.93 MAX 157 MIN .20 AC-FT 2,850
WTR YR 1974 TOTAL 3,506.80 MEAN 9.61 MAX 157 MIN .70 AC-FT 6,960

PEAK DISCHARGE (BASE, 1,400 CFS).--Sept. 11 (1300) 1,670 cfs (3.69 ft).

16821000 GEUS RIVER NEAR MERIZO

LOCATION.--Lat 13°16'13" N., long 144°40'38" E., on left bank 0.7 mi (1.1 km) northeast of Merizo, 2.2 mi (3.5 km) southeast of Umatac, and 4.7 mi (7.6 km) west of Inarajan.

DRAINAGE AREA.--0.93 mi^2 (2.41 km^2).

PERIOD OF RECORD.--April 1953 to current year.

GAGE.--Water-stage recorder and broad-crested weir. Altitude of gage is 60 ft (18 m) from topographic map.

AVERAGE DISCHARGE.--21 years, 3.07 ft^3/s (0.0869 m^3/s) 2,220 acre-ft/yr (2.74 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 720 ft^3/s (20.4 m^3/s) Apr. 28, gage height, 2.80 ft (0.853 m), from rating curve extended above 58 ft^3/s (1.64 m^3/s) on basis of slope-area measurements at gage heights 4.00 (1.219) and 4.16 ft (1.268 m); no flow Feb. 14.

Period of record: Maximum discharge, 2,940 ft^3/s (83.3 m^3/s) Oct. 19, 1960, gage height, 4.16 ft (1.268 m), from rating curve extended above 66 ft^3/s (1.87 m^3/s) on basis of slope-area measurements at gage heights 4.00 (1.219) and 4.16 ft (1.268 m); no flow at times in 1966, 1969-70, 1972-74.

REMARKS.--Records fair. Water is diverted 0.5 mi (0.8 km) upstream for domestic use and at station for irrigation. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1937: 1954(P), 1959(P). WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	2.7	.33	.42	.09	.01	.20	2.2	4.0	4.9	1.0	1.9
2	.24	1.6	.42	.33	.06	.02	.25	1.4	2.2	4.3	.91	1.9
3	.27	1.2	.36	.36	.04	.21	.12	44	2.0	3.3	1.0	1.6
4	1.4	1.0	5.1	.33	.04	.05	.12	10	1.7	5.6	2.0	1.4
5	75	.91	1.1	.27	.03	.04	.11	3.5	1.3	4.0	1.1	1.4
6	30	1.0	.80	.59	.09	.03	.10	2.4	1.1	30	.91	1.4
7	15	.59	.59	.42	.05	.21	.09	1.7	45	5.9	.77	9.8
8	8.0	.65	.49	.39	.12	.36	.08	1.6	17	3.3	.71	2.7
9	3.0	.59	1.0	.33	.04	.24	.15	1.1	3.1	2.4	.71	3.7
10	14	.59	.42	.77	.06	.09	.12	.91	2.2	1.9	.65	1.7
11	16	.77	2.0	.77	.12	.21	.12	.77	1.7	1.6	6.8	9.0
12	12	2.2	1.3	.49	.05	.18	.12	.71	7.3	1.7	57	2.9
13	3.7	1.1	1.0	.54	.49	7.2	.12	1.1	16	1.4	18	1.6
14	2.9	.71	.83	.42	0	12	.06	.77	3.3	52	21	1.3
15	1.9	1.0	.60	.42	.09	27	.05	.49	2.2	5.6	25	1.2
16	1.4	1.6	.50	.39	.15	4.0	.05	.59	1.7	3.1	23	1.1
17	1.1	1.6	.42	.36	.24	2.4	.05	22	1.6	4.9	8.9	1.1
18	1.0	.83	.39	.30	.12	1.2	.04	5.6	24	2.9	4.0	1.0
19	.91	.65	.45	.27	.09	1.6	.04	2.9	3.3	11	5.8	.83
20	.77	.59	.42	.27	.15	1.4	.04	7.3	2.2	5.2	17	.71
21	.59	.49	.39	.24	.03	.71	.05	50	1.6	2.7	11	14
22	.65	2.4	1.1	.24	.02	.54	.15	12	1.4	2.2	3.3	1.4
23	1.4	.83	.91	.21	.03	6.1	.04	20	1.1	2.8	2.4	.83
24	1.1	.54	2.4	.12	.03	4.3	.09	9.9	1.0	1.9	1.9	.65
25	2.7	3.3	3.7	.12	.12	1.4	2.6	4.3	1.0	1.7	1.7	2.0
26	48	1.0	1.2	.09	.05	.71	14	2.9	.83	1.6	18	.71
27	31	.65	.65	.07	.03	.49	37	2.4	.91	1.3	14	.54
28	6.2	.45	.54	.06	.01	.45	138	1.7	6.3	1.2	6.5	1.8
29	2.9	.54	.36	.07	------	.42	8.4	1.6	5.9	1.1	5.9	1.0
30	2.2	.42	.39	.09	------	.35	3.3	1.3	3.5	1.1	3.3	.71
31	2.0	------	.30	.09	------	.25	------	1.2	------	1.1	2.2	------
TOTAL	287.42	32.50	30.46	9.84	2.44	74.17	205.66	218.34	166.44	173.7	266.46	71.88
MEAN	9.27	1.08	.98	.32	.087	2.39	6.86	7.04	5.55	5.60	8.60	2.40
MAX	75	3.3	5.1	.77	.49	27	138	50	45	52	57	14
MIN	.09	.42	.30	.06	0	.01	.04	.49	.83	1.1	.65	.54
AC-FT	570	64	60	20	4.8	147	408	433	330	345	529	143

CAL YR 1973 TOTAL 506.42 MEAN 1.39 MAX 75 MIN 0 AC-FT 1,000
WTR YR 1974 TOTAL 1,539.31 MEAN 4.22 MAX 138 MIN 0 AC-FT 3,050

PEAK DISCHARGE (BASE, 350 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-28	1000	2.80	720	6- 7	2200	2.47	456
5-21	1530	2.43	428	7-14	1300	2.52	491

16835000 INARAJAN RIVER NEAR INARAJAN

LOCATION.--Lat 13°16'41" N., long 144°44'15" E., on right bank 0.6 mi (1.0 km) northwest of Inarajan and 4.9 mi (7.9 km) east of Merizo.

DRAINAGE AREA.--4.42 mi^2 (11.45 km^2).

PERIOD OF RECORD.--September 1952 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m) from topographic map.

AVERAGE DISCHARGE.--22 years, 17.5 ft^3/s (0.496 m^3/s), 12,680 acre-ft/yr (15.6 hm^3/yr).

EXTREMES.--Current year: Maximum gage height, 12.23 ft (3.728 m) Apr. 28 (discharge not determined); minimum discharge, 2.9 ft^3/s (0.082 m^3/s) Mar. 10, Apr. 23, 24.

Period of record: Maximum gage height, 12.90 ft (3.932 m) Oct. 11, 1963 (discharge not determined); minimum discharge, 0.60 ft^3/s (0.017 m^3/s) Apr. 19-23, May 8, June 13, 14, 1973.

REMARKS.--Records fair. Stage-discharge relation not determined above gage height 11.0 ft (3.35 m) owing to ungaged overbank flow. Village of Inarajan diverted about 40,000 gallons (151 m^3) a day above station for domestic use until October 1973 and during dry periods about 250,000 gallons (946 m^3) a day for irrigation. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	17	7.4	7.0	4.8	3.3	5.6	38	18	24	9.5	29
2	8.2	15	7.2	5.6	4.8	3.2	5.6	29	12	19	9.6	31
3	6.7	13	6.7	5.6	4.6	3.5	5.2	175	20	17	9.2	24
4	13	13	18	5.4	4.4	3.3	4.8	70	14	32	14	25
5	359	13	9.1	5.2	4.2	3.1	4.8	39	12	20	9.6	24
6	140	12	7.7	37	4.6	3.0	4.6	26	16	155	9.0	25
7	86	11	7.2	7.9	4.4	3.5	4.6	23	130	28	8.8	62
8	32	10	7.0	38	5.0	5.0	4.4	16	85	18	8.6	47
9	22	9.7	8.6	8.2	4.4	4.0	5.4	14	48	15	8.3	61
10	37	10	6.7	23	4.4	3.5	4.6	13	32	14	8.3	37
11	41	12	16	10	4.0	4.4	4.6	12	23	13	120	26
12	34	17	9.1	17	4.0	4.4	4.8	11	49	12	344	22
13	21	10	9.1	12	6.0	24	4.4	14	41	11	125	20
14	20	9.4	7.7	9.4	5.0	30	4.2	11	18	105	141	19
15	15	14	7.2	7.7	4.5	93	4.0	9.8	15	27	188	18
16	15	12	7.0	7.0	4.0	21	4.0	10	13	18	155	18
17	17	10	6.5	6.7	4.0	15	3.8	62	15	27	79	15
18	14	9.1	6.3	6.5	4.0	9.1	3.6	43	43	19	56	13
19	12	8.4	11	6.3	3.8	13	3.6	26	21	38	88	12
20	11	8.2	7.0	6.3	3.7	9.7	3.6	24	14	20	111	23
21	10	8.2	6.3	6.5	3.7	7.7	3.7	130	12	15	67	83
22	11	18	8.8	6.1	3.6	6.7	3.8	59	11	15	73	14
23	13	9.4	7.2	5.8	3.5	25	3.4	27	10	15	54	11
24	11	8.4	11	5.6	3.4	13	3.4	28	9.9	13	34	11
25	19	17	13	5.6	3.3	8.8	18	20	9.6	12	27	20
26	150	8.7	8.3	5.4	3.2	7.2	38	19	9.3	11	224	28
27	89	7.9	7.2	5.2	3.1	6.5	81	16	9.3	11	117	12
28	32	7.4	6.7	5.2	3.0	6.1	478	14	34	10	73	15
29	23	7.4	6.5	5.0	------	5.6	78	13	39	10	58	13
30	19	7.2	6.5	5.0	------	5.8	53	12	20	11	42	11
31	19	------	6.1	4.8	------	5.8	------	12	------	9.7	34	------
TOTAL	1,305.7	333.4	260.1	292.0	115.4	357.2	850.5	1,015.8	803.1	764.7	2,304.9	769
MEAN	42.1	11.1	8.39	9.42	4.12	11.5	28.4	32.8	26.8	24.7	74.4	25.6
MAX	359	18	18	38	6.0	93	478	175	130	155	344	83
MIN	5.8	7.2	6.1	4.8	3.0	3.0	3.4	9.8	9.3	9.7	8.3	11
AC-FT	2,590	661	516	579	229	709	1,690	2,010	1,590	1,520	4,570	1,530

CAL YR 1973 TOTAL 3,077.42 MEAN 8.43 MAX 359 MIN .92 AC-FT 6,100
WTR YR 1974 TOTAL 9,171.80 MEAN 25.1 MAX 478 MIN 3.0 AC-FT 18,190

PEAK DISCHARGE (BASE, 1,700 CFS).--Apr. 28 (0945) discharge not determined (12.23 ft); Aug. 12 (0015) discharge not determined (11.44 ft).

16840000 TINAGA RIVER NEAR INARAJAN

LOCATION.--Lat 13°17'10" N., long 144°45'04" E., on right bank 0.3 mi (0.5 km) upstream from mouth, 0.9 mi (1.4 km) northeast of Inarajan, and 4.5 mi (7.2 km) south of Talofofo.

DRAINAGE AREA.--1.89 mi^2 (4.90 km^2).

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1969, published as Pauliluc River near Inarajan.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m) from topographic map.

AVERAGE DISCHARGE.--22 years, 5.67 ft^3/s (0.161 m^3/s), 4,110 acre-ft/yr (5.07 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 412 ft^3/s (11.7 m^3/s) Apr. 28, gage height, 4.34 ft (1.323 m), from rating curve extended above 210 ft^3/s (5.95 m^3/s); minimum, 0.82 ft^3/s (0.023 m^3/s) Apr. 23, 24.

Period of record: Maximum discharge, 2,980 ft^3/s (84.4 m^3/s) Oct. 15, 1953, gage height, 13.11 ft (3.996 m), from rating curve extended above 210 ft^3/s (5.95 m^3/s); minimum, 0.15 ft^3/s (0.004 m^3/s) May 16, 21-23, 29, 1966, June 13, 29, 30, 1973.

REMARKS.--Records good except those above 20 ft^3/s (0.57 m^3/s), which are fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	4.7	2.3	2.8	1.5	1.0	1.9	5.5	5.2	11	3.4	8.8
2	2.1	4.0	2.4	2.3	1.5	1.0	1.8	4.9	3.9	11	3.5	11
3	2.6	3.3	2.5	2.2	1.5	1.2	1.7	68	12	6.3	3.7	8.0
4	3.6	3.1	5.0	2.0	1.4	.96	1.6	20	5.5	10	4.9	9.7
5	120	3.1	3.8	1.9	1.4	.96	1.5	8.8	4.9	6.6	3.9	7.2
6	38	3.2	2.9	16	1.4	.96	1.4	6.6	6.3	48	3.7	6.9
7	25	3.0	2.8	4.8	1.4	1.1	1.3	7.2	19	9.3	3.5	12
8	9.1	2.7	2.5	24	1.5	1.5	1.2	5.2	23	6.0	3.4	8.4
9	7.0	2.4	2.9	3.8	1.7	1.5	1.4	4.6	5.8	5.2	3.2	6.6
10	15	2.4	2.7	19	1.7	1.2	1.3	4.1	6.0	4.6	3.0	5.8
11	15	2.6	4.3	6.4	1.7	1.3	1.3	3.7	5.2	4.1	31	5.5
12	8.4	3.2	3.1	5.3	1.7	1.4	.91	3.5	13	3.9	118	5.2
13	5.8	3.0	2.9	7.2	2.7	6.1	1.2	4.3	9.7	3.9	41	4.6
14	5.8	2.7	2.5	4.3	1.9	7.5	1.2	3.9	5.8	47	44	4.3
15	4.5	2.8	2.2	3.3	1.7	25	1.2	3.4	4.9	11	67	4.3
16	4.0	3.0	2.1	3.1	1.7	7.5	1.2	3.4	4.3	7.2	61	4.1
17	6.1	3.0	2.0	3.0	1.8	7.2	1.2	18	5.2	18	21	3.7
18	4.7	2.7	1.9	2.7	1.7	3.0	1.1	8.8	5.2	9.3	13	4.1
19	3.6	2.3	2.7	2.4	1.6	4.0	1.0	6.6	4.6	7.6	11	3.9
20	3.1	2.2	2.6	2.3	1.4	4.2	.96	7.2	3.9	7.6	9.7	8.4
21	2.9	2.2	2.2	2.2	1.3	2.9	.96	30	3.7	6.3	14	49
22	2.7	6.1	2.5	2.1	1.1	2.4	.91	16	3.7	6.0	15	11
23	2.6	3.3	2.4	2.0	1.0	13	.85	9.2	3.5	5.5	10	7.6
24	2.6	3.0	2.5	1.9	.96	6.4	.91	7.6	3.4	4.9	8.0	4.6
25	3.2	3.5	3.3	1.8	.96	3.1	1.8	6.3	3.4	4.6	16	5.5
26	19	2.9	2.7	1.7	.96	2.6	12	5.5	3.2	4.1	66	12
27	28	2.6	2.5	1.7	.96	2.2	21	4.9	2.8	3.9	68	6.9
28	10	2.4	2.2	1.5	.96	2.1	134	4.3	5.2	3.7	23	4.6
29	7.2	2.3	2.1	1.6	------	2.0	14	3.9	7.2	3.7	18	4.6
30	5.0	2.2	2.0	1.6	------	2.0	6.9	3.7	6.0	3.7	13	4.3
31	6.1	------	1.9	1.6	------	2.0	------	3.5	------	3.5	11	------
TOTAL	374.4	89.9	82.4	138.5	41.10	119.28	219.70	292.6	195.5	287.5	714.9	242.6
MEAN	12.1	3.00	2.66	4.47	1.47	3.85	7.32	9.44	6.52	9.27	23.1	8.09
MAX	120	6.1	5.0	24	2.7	25	134	68	23	48	118	49
MIN	1.7	2.2	1.9	1.5	.96	.96	.85	3.4	2.8	3.5	3.0	3.7
AC-FT	743	178	163	275	82	237	436	580	388	570	1,420	481

CAL YR 1973 TOTAL 836.10 MEAN 2.29 MAX 120 MIN .16 AC-FT 1,660
WTR YR 1974 TOTAL 2,798.38 MEAN 7.67 MAX 134 MIN .85 AC-FT 5,550

PEAK DISCHARGE (BASE, 400 CFS).--Apr. 28 (1115) 412 cfs (4.34 ft).

16847000 IMONG RIVER NEAR AGAT

LOCATION.--Lat 13°20'17" N., long 144°41'55" E., on left bank 500 ft (152 m) upstream from Fena Valley Reservoir, 1.4 mi (2.3 km) south of Fena Dam spillway, and 4.1 mi (6.6 km) southeast of Agat School.

DRAINAGE AREA.--1.95 mi^2 (5.05 km^2).

PERIOD OF RECORD.--March 1960 to March 1971. October 1971 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 120 ft (37 m) from topographic map.

AVERAGE DISCHARGE.--13 years, 10.3 ft^3/s (0.292 m^3/s), 7,460 acre-ft/yr (9.20 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,620 ft^3/s (45.9 m^3/s) Aug. 26, gage height, 6.45 ft (1.966 m), from rating curve extended as explained below; minimum, 1.8 ft^3/s (0.051 m^3/s) Feb. 28, Mar. 1, 2, 4.

Period of record: Maximum discharge, 3,370 ft^3/s (95.4 m^3/s) Oct. 19, 1960, gage height, 10.06 ft (3.066 m), from rating curve extended above 110 ft^3/s (3.12 m^3/s) on basis of slope-area measurements at gage heights 7.46 ft (2.274 m) and 10.06 ft (3.066 m); minimum, 0.37 ft^3/s (0.010 m^3/s) May 21, 22, 26, 1966.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	8.0	5.3	11	2.9	2.0	3.1	7.1	12	16	5.6	8.5
2	6.7	7.1	8.4	4.7	2.9	2.0	3.0	6.0	6.7	10	5.7	8.0
3	5.0	6.3	5.0	4.3	2.9	3.0	3.0	76	14	9.2	8.3	7.5
4	35	5.9	12	3.9	2.7	2.0	2.9	24	8.0	87	10	7.3
5	151	7.1	6.2	3.8	2.7	2.3	2.8	11	6.9	13	5.8	7.0
6	58	7.1	5.0	4.4	3.4	2.0	2.8	8.0	8.3	46	5.5	6.6
7	33	5.6	4.6	3.8	2.9	4.9	2.8	6.7	42	34	5.5	7.4
8	15	5.3	4.7	12	3.3	3.0	2.7	5.9	20	13	5.1	6.5
9	10	5.6	11	4.2	2.8	3.3	2.8	5.6	9.9	9.1	5.1	6.2
10	15	4.9	5.1	18	2.8	2.6	2.8	5.3	8.1	7.7	5.0	6.1
11	29	4.9	8.4	5.7	2.8	4.9	2.8	4.9	7.1	7.1	69	24
12	15	8.5	5.4	7.5	2.7	3.3	2.8	4.9	29	6.8	117	8.5
13	11	7.1	5.1	5.0	5.7	18	2.8	5.6	14	6.6	35	6.5
14	9.2	5.3	6.4	4.6	2.8	16	2.6	4.9	8.9	49	31	60
15	7.9	6.3	4.8	4.1	2.6	48	2.5	4.6	7.3	14	50	8.0
16	22	6.3	4.5	3.8	2.6	18	2.5	5.3	6.7	9.4	61	7.0
17	11	5.6	4.4	3.7	3.3	13	2.6	37	6.3	50	19	6.0
18	8.4	4.9	4.2	3.6	2.8	6.9	2.5	14	20	12	13	13
19	7.1	4.6	6.8	3.5	2.6	5.9	2.5	16	7.8	14	11	5.0
20	6.5	4.6	4.4	3.4	2.6	5.3	2.5	12	6.5	10	13	15
21	6.1	4.9	4.1	3.4	2.3	4.6	2.5	82	6.1	8.3	9.8	40
22	9.4	9.0	6.7	3.2	2.3	4.2	2.6	21	5.8	7.4	10	8.0
23	11	4.9	4.7	3.2	2.3	4.3	2.4	24	5.5	8.5	8.3	6.0
24	6.7	4.6	7.9	3.1	2.3	4.0	2.7	15	5.4	12	7.8	5.0
25	6.4	14	8.8	3.1	2.6	3.7	5.2	10	5.3	7.5	8.5	4.5
26	44	5.7	5.6	3.0	2.3	3.4	23	8.7	5.1	6.7	67	5.0
27	32	6.3	4.8	3.0	2.1	3.4	38	7.8	5.1	6.5	87	4.5
28	15	4.9	5.2	2.9	2.0	3.2	148	7.5	20	6.3	19	20
29	10	4.7	4.5	2.9	------	3.2	19	6.9	16	7.7	21	6.0
30	12	8.2	4.3	2.9	------	3.6	9.5	6.3	9.4	5.8	11	4.3
31	10	------	4.3	3.2	------	3.2	------	6.1	------	5.8	9.6	------
TOTAL	621.7	188.2	182.6	148.9	78.0	207.2	307.7	460.3	333.2	506.4	739.6	327.6
MEAN	20.1	6.27	5.89	4.80	2.79	6.68	10.3	14.8	11.1	16.3	23.9	10.9
MAX	151	14	12	18	5.7	48	148	82	42	87	117	60
MIN	3.3	4.6	4.1	2.9	2.0	2.0	2.4	4.6	5.1	5.8	5.0	4.5
AC-FT	1,230	373	362	295	155	411	610	913	661	1,000	1,470	650

CAL YR 1973 TOTAL 1,775.00 MEAN 4.86 MAX 151 MIN .95 AC-FT 3,520
WTR YR 1974 TOTAL 4,101.40 MEAN 11.2 MAX 151 MIN 2.0 AC-FT 8,140

PEAK DISCHARGE (BASE, 1,400 CFS).--Apr. 28 (0915) 1,500 cfs (6.14 ft); Aug. 26 (1745) 1,620 cfs (6.45 ft).

16848000 ALMAGOSA SPRINGS NEAR AGAT

LOCATION.--Lat 13°20'43" N., long 144°40'45" E., on left bank 2.9 mi (4.7 km) southeast of Agat and 3.5 mi (5.6 km) northeast of Umatac.

DRAINAGE AREA.--0.70 mi^2 (1.81 km^2).

PERIOD OF RECORD.--September 1951 to December 1967, December 1971 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 620 ft (189 m) from topographic map.

AVERAGE DISCHARGE.--18 years (1951-67, 1972-74), 3.67 ft^3/s (0.104 m^3/s), 2,660 acre-ft/yr (3.28 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 286 ft^3/s (8.10 m^3/s) Oct. 5, gage height, 3.33 ft (1.015 m); minimum, 0.38 ft^3/s (0.011 m^3/s) Mar. 2.

Period of record: Maximum discharge, 770 ft^3/s (21.8 m^3/s) Oct. 15, 1953, gage height, 5.02 ft (1.530 m), from rating curve extended above 53 ft^3/s (1.50 m^3/s); no flow at times.

REMARKS.--Records fair. Up to 3.9 ft^3/s (0.11 m^3/s) diverted above station for municipal use. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	5.3	1.6	3.0	.70	.41	.51	5.6	3.9	5.8	1.7	6.7
2	1.7	4.1	1.7	1.5	.65	.41	.44	3.2	2.4	6.7	1.8	5.0
3	1.5	3.0	1.5	1.3	.60	.47	.44	37	3.4	5.6	1.8	4.3
4	12	2.4	2.6	1.2	.60	.41	.41	24	2.6	26	2.4	3.6
5	88	2.4	1.5	1.0	.55	.44	.41	13	2.2	13	1.6	3.0
6	64	1.9	1.5	1.0	.55	.44	.44	8.4	2.6	18	1.6	2.5
7	33	1.6	1.5	.97	.55	.44	.41	5.3	7.1	25	1.6	2.6
8	16	1.6	1.6	2.0	.55	.44	.41	3.7	16	18	1.6	2.1
9	11	1.7	2.2	1.0	.55	.47	.41	2.6	8.1	11	1.6	1.8
10	10	1.7	1.6	4.6	.51	.44	.44	1.9	5.3	7.5	1.6	1.7
11	15	1.8	1.9	1.9	.47	.60	.44	1.6	3.7	5.3	9.6	8.4
12	13	2.1	1.8	1.8	.47	.47	.44	1.3	9.7	3.9	55	5.6
13	9.4	1.7	1.8	1.7	.75	8.1	.44	1.2	8.4	3.0	22	3.4
14	6.1	1.8	1.8	1.6	.51	6.7	.44	1.1	6.7	18	21	34
15	4.1	1.8	1.8	1.5	.47	22	.44	1.0	4.6	13	22	15
16	9.4	1.7	1.8	1.4	.47	14	.41	1.1	3.6	8.4	33	8.1
17	11	1.7	1.7	1.2	.47	13	.41	15	2.8	16	20	5.3
18	7.5	1.7	1.6	1.1	.47	6.7	.41	13	5.8	12	14	4.1
19	4.6	1.6	1.7	1.1	.47	3.9	.41	11	4.3	8.8	10	3.1
20	3.2	1.6	1.6	1.1	.47	2.8	.41	9.7	3.2	7.5	8.1	2.9
21	2.6	1.6	1.5	1.0	.47	1.9	.41	47	2.7	5.6	6.4	12
22	2.4	1.7	1.8	1.0	.44	1.3	.41	24	2.1	4.6	4.8	6.1
23	2.8	1.6	1.6	.97	.44	.91	.41	28	1.8	4.1	4.1	4.5
24	2.1	1.6	1.8	.97	.44	.85	.41	20	1.6	3.7	3.2	3.6
25	1.8	3.4	2.1	.97	.44	.75	.41	13	1.6	3.1	2.8	2.7
26	8.8	1.6	1.8	.97	.44	.75	5.7	9.1	1.6	2.7	14	2.2
27	24	1.6	1.7	.85	.44	.85	13	7.0	1.7	2.6	46	1.9
28	13	1.6	1.7	.85	.44	.75	93	5.0	3.9	2.2	18	3.0
29	9.4	1.6	1.6	.85	------	.65	21	3.7	5.8	2.4	14	1.9
30	8.4	1.5	1.6	1.7	------	.65	9.7	3.0	4.1	2.0	10	1.7
31	7.0	------	1.5	1.3	------	.60	------	2.4	------	1.9	8.4	------
TOTAL	404.0	61.0	53.5	43.40	14.38	92.60	153.02	322.9	133.3	267.4	363.7	162.8
MEAN	13.0	2.03	1.73	1.40	.51	2.99	5.10	10.4	4.44	8.63	11.7	5.43
MAX	88	5.3	2.6	4.6	.75	22	93	47	16	26	55	34
MIN	1.2	1.5	1.5	.85	.44	.41	.41	1.0	1.6	1.9	1.6	1.7
AC-FT	801	121	106	86	29	184	304	640	264	530	721	323

CAL YR 1973 TOTAL 862.38 MEAN 2.36 MAX 88 MIN .25 AC-FT 1,710
WTR YR 1974 TOTAL 2,072.00 MEAN 5.68 MAX 93 MIN .41 AC-FT 4,110

PEAK DISCHARGE (BASE, 90 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10- 5	1800	3.33	286	7- 7	1800	2.36	121
4-28	1000	3.27	274	8-12	0330	2.95	210
5- 3	1400	2.58	152	8-27	1030	2.92	204
5-21	1530	2.83	190	9-14	1630	3.31	282
7- 4	0800	2.54	146				

16848100 ALMAGOSA RIVER NEAR AGAT

LOCATION.--Lat 13°20'43" N., long 144°41'36" E., on right bank 400 ft (122 m) upstream from Fena Valley Reservoir and 3.5 mi (5.6 km) southeast of Agat.

DRAINAGE AREA.--1.31 mi^2 (3.39 km^2).

PERIOD OF RECORD.--April 1972 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 155 ft (47 m) from topographic map.

EXTREMES.--Current year: Maximum discharge, 1,170 ft^3/s (33.1 m^3/s) Aug. 27, gage height, 5.68 ft (1.731 m), from rating curve extended above 81 ft^3/s (2.29 m^3/s); minimum, 0.91 ft^3/s (0.026 m^3/s) Mar. 1, 2.

Period of record: Maximum discharge, 1,700 ft^3/s (48.1 m^3/s) Aug. 2, 1972, gage height, 6.64 ft (2.024 m), from rating curve extended above 81 ft^3/s (2.29 m^3/s); minimum, 0.19 ft^3/s (0.005 m^3/s) June 4, 5, 1972.

REMARKS.--Records good. Up to 3.9 ft^3/s (0.11 m^3/s) diverted above upstream station (see sta 16848000) for domestic use. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	7.0	2.7	6.9	1.5	.98	1.4	5.7	5.7	9.4	2.7	7.0
2	4.3	5.3	3.0	2.5	1.4	.98	1.3	3.9	3.1	7.2	2.8	5.9
3	3.0	4.3	2.3	2.2	1.4	1.6	1.3	98	7.7	6.5	5.6	4.9
4	29	3.8	7.8	2.1	1.3	1.0	1.3	39	3.8	68	4.8	4.3
5	158	3.9	2.8	1.9	1.3	1.3	1.2	13	3.3	16	3.0	4.0
6	109	3.3	2.5	2.0	1.5	1.1	1.3	8.1	4.6	45	2.8	3.7
7	61	2.9	2.5	2.0	1.4	1.5	1.2	6.5	32	60	2.9	4.0
8	22	2.7	2.6	7.4	1.6	1.3	1.1	4.8	31	25	2.7	3.4
9	13	2.7	6.7	2.0	1.4	1.6	1.2	3.9	12	11	2.7	3.0
10	14	2.7	2.7	15	1.3	1.2	1.3	3.3	5.7	7.8	2.7	2.9
11	26	2.6	4.8	3.1	1.3	1.9	1.3	2.8	4.5	6.3	37	11
12	16	4.6	2.8	3.9	1.3	1.5	1.2	2.5	24	5.1	132	6.3
13	11	2.9	2.7	2.8	2.2	15	1.3	2.6	8.6	4.3	49	4.5
14	7.7	2.6	3.3	2.6	1.3	11	1.2	2.3	6.1	61	45	102
15	5.7	2.8	2.7	2.5	1.2	53	1.1	2.2	4.6	17	61	18
16	22	2.7	2.7	2.3	1.2	20	1.0	2.7	3.9	9.2	81	7.6
17	13	2.7	2.5	2.1	1.4	15	1.1	41	3.1	35	34	5.7
18	8.7	2.6	2.5	2.1	1.3	7.2	1.1	13	10	14	18	6.1
19	6.0	2.3	3.0	2.1	1.2	5.1	1.0	13	4.2	15	11	4.0
20	4.8	2.3	2.3	2.1	1.1	4.0	1.0	9.4	3.4	8.6	9.2	7.8
21	4.0	2.7	2.3	2.0	1.1	3.1	1.2	101	2.9	6.5	7.0	28
22	3.9	3.1	3.5	2.0	1.1	2.5	1.2	44	2.6	5.6	7.2	6.5
23	4.3	2.5	2.8	2.0	1.0	2.1	1.0	43	2.2	5.1	5.1	5.1
24	3.4	2.3	4.0	1.9	1.0	1.9	1.2	28	1.9	5.1	4.3	4.3
25	3.1	8.9	3.9	1.9	1.1	1.8	1.6	12	1.9	4.2	4.0	3.8
26	40	2.7	2.8	1.9	1.1	1.8	9.7	7.8	1.9	3.8	48	3.4
27	47	2.7	2.7	1.7	1.0	1.9	23	6.3	2.2	3.5	113	3.1
28	17	2.5	2.9	1.7	.98	1.7	165	5.3	14	3.1	28	11
29	10	2.5	2.8	1.7	------	1.7	33	4.2	9.4	4.8	22	3.1
30	13	2.8	2.7	1.6	------	1.7	9.4	3.4	4.9	2.9	11	2.8
31	9.1	------	2.8	1.5	------	1.5	------	2.9	------	2.7	8.6	------
TOTAL	690.9	99.4	98.1	89.5	35.98	167.96	270.2	535.6	225.2	478.7	768.1	287.2
MEAN	22.3	3.31	3.16	2.89	1.29	5.42	9.01	17.3	7.51	15.4	24.8	9.57
MAX	158	8.9	7.8	15	2.2	53	165	101	32	68	132	102
MIN	1.9	2.3	2.3	1.5	.98	.98	1.0	2.2	1.9	2.7	2.7	2.8
AC-FT	1,370	197	195	178	71	333	536	1,060	447	950	1,520	570

CAL YR 1973 TOTAL 1,461.75 MEAN 4.00 MAX 158 MIN .32 AC-FT 2,900
WTR YR 1974 TOTAL 3,746.84 MEAN 10.3 MAX 165 MIN .98 AC-FT 7,430

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-28	0915	4.99	836	8-12	0430	4.92	808
5-17	1245	5.00	840	8-27	1115	5.68	1,170
7- 7	1700	4.97	828	9-14	1300	5.43	1,040

MARIANA ISLANDS, ISLAND OF GUAM

16848500 MAULAP RIVER NEAR AGAT

LOCATION.--Lat 13°21'14" N., long 144°41'44" E., on right bank 600 ft (183 m) upstream from Fena Valley Reservoir and 3.2 mi (5.1 km) southeast of Agat.

DRAINAGE AREA.--1.14 mi^2 (2.95 km^2).

PERIOD OF RECORD.--January 1972 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 130 ft (40 m), from topographic map.

EXTREMES.--Current year: Maximum discharge, 1,220 ft^3/s (34.6 m^3/s) Aug. 27, gage height, 7.10 ft (2.164 m), from rating curve extended above 38 ft^3/s (1.08 m^3/s); minimum, 0.88 ft^3/s (0.025 m^3/s) Mar. 4, 5.

Period of record: Maximum discharge, 1,220 ft^3/s (34.6 m^3/s) Aug. 27, 1974, gage height, 7.10 ft (2.164 m), from rating curve extended above 38 ft^3/s (1.08 m^3/s); minimum, 0.35 ft^3/s (0.010 m^3/s) July 2, 3, 1973.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (WATER YEAR).--WRD Hawaii 1973: 1972.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	4.7	3.0	6.7	1.3	1.2	1.6	3.9	8.8	4.9	2.7	4.4
2	3.4	4.2	2.9	2.3	1.3	1.2	1.5	3.0	3.4	3.7	2.9	4.1
3	3.4	3.9	2.3	2.3	1.3	1.9	1.5	73	18	3.9	4.9	3.7
4	15	3.6	8.8	2.3	1.3	.97	1.4	16	4.1	37	4.4	3.5
5	80	3.7	2.7	2.0	1.2	1.2	1.4	7.3	3.4	4.9	3.9	3.5
6	29	3.0	2.4	2.9	1.4	1.2	1.4	5.5	4.4	43	2.7	3.5
7	15	2.3	2.3	2.4	1.4	1.4	1.3	5.0	48	18	2.9	4.8
8	7.9	2.2	2.9	10	1.7	1.2	1.3	4.5	8.8	5.5	2.4	3.2
9	6.2	2.2	8.0	2.2	1.3	1.6	1.4	4.0	5.2	4.1	2.4	2.9
10	9.9	2.0	2.7	27	1.3	1.2	1.9	3.5	4.1	3.4	2.3	2.9
11	15	1.9	6.0	3.0	1.3	2.0	1.6	3.2	3.7	3.0	36	14
12	7.2	4.1	2.9	4.4	1.3	1.5	1.7	2.7	24	2.7	85	3.4
13	5.6	2.4	2.6	2.9	2.4	15	1.7	3.2	8.4	2.7	30	2.9
14	5.1	2.0	3.4	2.6	1.3	12	1.4	2.7	4.1	63	25	50
15	4.4	3.2	2.6	2.3	1.2	40	1.3	2.4	3.7	7.0	35	4.4
16	14	3.4	2.7	2.2	1.3	15	1.3	4.4	3.4	5.5	45	3.4
17	5.4	3.7	2.2	1.9	1.6	10	1.4	54	3.0	13	15	3.1
18	4.6	2.6	2.2	1.9	1.5	6.0	1.3	8.4	18	5.2	10	7.3
19	4.2	2.4	3.4	1.7	1.3	4.0	1.3	10	3.7	8.8	6.0	2.9
20	3.8	2.4	2.2	1.7	1.3	3.5	1.4	5.5	3.0	4.9	5.0	10
21	3.6	2.7	2.2	1.6	1.3	3.0	1.6	65	2.9	4.9	27	28
22	3.4	4.4	3.4	1.6	1.3	2.5	1.9	17	2.6	3.7	3.2	3.5
23	4.5	2.4	2.9	1.6	1.2	2.5	1.6	22	2.6	3.7	3.0	3.2
24	3.4	2.4	6.0	1.5	1.4	2.0	1.9	10	2.4	3.4	2.9	3.0
25	3.4	10	4.6	1.5	1.4	1.8	2.2	7.0	2.4	3.0	2.6	2.8
26	22	2.6	2.7	1.5	1.3	1.7	15	5.5	2.3	2.9	51	3.0
27	20	2.9	2.4	1.4	1.2	1.7	19	4.9	2.3	14	99	2.8
28	6.3	2.6	2.7	1.4	1.2	1.6	91	7.0	14	3.0	9.4	15
29	5.4	2.4	2.3	1.4	------	1.6	11	3.9	11	5.2	18	2.8
30	9.0	2.4	2.2	1.4	------	1.8	5.2	3.7	3.4	2.7	5.9	2.6
31	6.5	------	2.3	1.3	------	1.7	------	3.2	------	2.7	5.9	------
TOTAL	328.6	94.7	101.9	100.9	38.3	143.97	179.5	371.4	229.1	293.4	551.4	204.6
MEAN	10.6	3.16	3.29	3.25	1.37	4.64	5.98	12.0	7.64	9.46	17.8	6.82
MAX	80	10	8.8	27	2.4	40	91	73	48	63	99	50
MIN	2.0	1.9	2.2	1.3	1.2	.97	1.3	2.4	2.3	2.7	2.3	2.6
AC-FT	652	188	202	200	76	286	356	737	454	582	1,090	406

CAL YR 1973 TOTAL 1,010.64 MEAN 2.77 MAX 80 MIN .40 AC-FT 2,000
WTR YR 1974 TOTAL 2,637.77 MEAN 7.23 MAX 99 MIN .97 AC-FT 5,230

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
5- 3	1230	5.61	693	7- 6	1000	5.43	639
5-17	1245	6.69	1,060	7-14	0745	5.99	807
5-21	1515	6.40	940	8-27	1115	7.10	1,220

16849000 FENA DAM SPILLWAY NEAR AGAT

LOCATION.--Lat 13°21'28" N., long 144°42'12" E., on left bank 3.5 mi (5.6 km) southeast of Agat and 5.8 mi (9.3 km) southwest of Yona.

DRAINAGE AREA.--5.88 mi^2 (15.23 km^2).

PERIOD OF RECORD.--September 1951 to July 1952, November 1952 to current year. Daily mean gage heights published since October 1973.

GAGE.--Water-stage recorder and concrete-dam control. Datum of gage is 111.35 ft (33.939 m) above mean sea level (from U.S. Navy construction plans).

AVERAGE DISCHARGE.--20 years (1953-73), 17.9 ft^3/s (0.507 m^3/s), 12,970 acre-ft/yr (16.0 hm^3/yr).

EXTREMES.--Current year: Maximum gage height, 1.98 ft (0.604 m); minimum, -12.06 ft (-3.676 m) Oct. 2.

Period of record: Maximum discharge, not determined, occurred Oct. 15, 1953, gage height, at least 4.5 ft (1.37 m); no flow for many days each year.

REMARKS.--Records fair. About 10 ft^3/s (0.28 m^3/s) is diverted from Fena Valley Reservoir and tributary springs for military and civilian use. Records represent flow over spillway only.

REVISIONS.--WSP 2137: Drainage area.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-12.04	.09	.02	.12	-.74	-2.31	-.36	.09	.11	.14	.07	.21
2	-12.02	.07	.03	.04	-.78	-2.41	-.41	.07	.06	.16	.08	.18
3	-11.90	.06	.02	.00	-.84	-2.42	-.46	.53	.17	.13	.14	.16
4	-11.23	.07	.11	-.02	-.92	-2.53	-.53	.35	.11	.51	.20	.15
5	-8.62	.06	.06	-.04	-.97	-2.60	-.60	.20	.05	.21	.13	.15
6	-3.47	.05	.02	-.04	-1.02	-2.69	-.68	.12	.06	.46	.10	.14
7	-1.85	.04	.00	-.02	-1.07	-2.70	-.75	.09	.09	.27	.08	.16
8	-1.44	.04	.00	.17	-1.08	-2.75	-.80	.08	.11	.26	.07	.17
9	-1.15	.02	.10	.04	-1.13	-2.78	-.88	.06	.11	.16	.06	.14
10	-.91	.02	.05	.26	-1.17	-2.82	-.95	.04	.09	.12	.05	.12
11	-.15	.02	.06	.10	-1.21	-2.85	-1.01	.02	.08	.10	.36	.24
12	.17	.09	.04	.07	-1.27	-2.86	-1.05	.01	.11	.10	.93	.26
13	.13	.05	.02	.05	-1.26	-2.51	-1.13	.03	.13	.09	.51	.18
14	.11	.03	.03	.01	-1.27	-2.13	-1.22	.02	.12	.55	.49	.58
15	.10	.03	.02	-.01	-1.32	-.50	-1.27	.01	.09	.26	.54	.37
16	.08	.04	.02	-.04	-1.39	-.10	-1.36	.03	.08	.16	.68	.23
17	.15	.04	.01	-.07	-1.42	.14	-1.45	.33	.05	.35	.38	.18
18	.13	.01	-.01	-.10	-1.48	.10	-1.53	.23	.12	.24	.28	.23
19	.09	.00	.03	-.14	-1.52	.07	-1.63	.19	.11	.22	.25	.21
20	.08	-.01	.02	-.17	-1.58	.05	-1.75	.16	.07	.22	.22	.18
21	.05	.00	.00	-.21	-1.66	.02	-1.84	.60	.05	.17	.22	.50
22	.05	.07	.05	-.24	-1.75	-.01	-1.90	.34	.03	.14	.24	.25
23	.12	.03	.03	-.28	-1.84	-.02	-2.00	.28	.02	.13	.20	.19
24	.06	.00	.09	-.32	-1.92	-.03	-2.07	.26	.00	.15	.16	.18
25	.05	.12	.10	-.37	-2.01	-.05	-2.13	.16	.01	.15	.15	.15
26	.06	.00	.06	-.41	-2.05	-.08	-1.82	.13	.00	.12	.42	.14
27	.49	-.03	.03	-.47	-2.14	-.12	-.90	.11	.00	.15	.91	.15
28	.21	-.02	.03	-.52	-2.23	-.15	.63	.10	.09	.16	.39	.27
29	.14	-.03	.01	-.59	------	-.21	.31	.07	.18	.16	.39	.27
30	.14	.02	.00	-.64	------	-.26	.15	.06	.15	.12	.27	.18
31	.17	------	-.01	-.70	------	-.32	------	.04	------	.08	.24	------
MEAN	-2.01	.03	.03	-.15	-1.39	-1.22	-1.05	.16	.08	.20	.30	.22
MAX	.49	.12	.11	.26	-.74	.14	.63	.60	.18	.55	.93	.58
MIN	-12.04	-.03	-.01	-.70	-2.23	-2.86	-2.13	.01	0	.08	.05	.12

16858000 YLIG RIVER NEAR YONA

LOCATION.--Lat 13°23'28" N., long 144°45'06" E., on right bank 2.2 mi (3.5 km) upstream from mouth, 1.9 mi (3.1 km) southwest of Yona, and 5.6 mi (9.0 km) south of Agana.

DRAINAGE AREA.--6.48 mi^2 (16.78 km^2).

PERIOD OF RECORD.--June 1952 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 20 ft (6.1 m) from topographic map.

AVERAGE DISCHARGE.--22 years, 28.6 ft^3/s (0.810 m^3/s), 20,720 acre-ft/yr (25.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 3,160 ft^3/s (89.5 m^3/s) Sept. 20, gage height, 15.01 ft (4.575 m), from rating curve extended as explained below; minimum, 2.8 ft^3/s (0.079 m^3/s) Mar. 11.

Period of record: Maximum discharge, 4,900 ft^3/s (139 m^3/s) Sept. 9, 1963, gage height, 19.77 ft (6.026 m), from floodmarks, from rating curve extended above 620 ft^3/s (17.6 m^3/s) on basis of slope-area measurements at gage heights 11.24 (3.426) and 15.87 ft (4.837 m); minimum, 0.07 ft^3/s (0.002 m^3/s) May 20, 1973, but may have been less during period of diversion from gage pool May 15 to June 20, 1966.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1937: 1957-58. WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	28	11	29	5.9	3.4	8.0	32	27	21	10	72
2	17	25	18	11	5.9	3.2	7.6	27	16	22	11	46
3	17	23	11	11	5.7	4.1	7.3	776	29	19	12	39
4	99	21	34	9.5	5.3	3.1	6.9	167	19	34	11	40
5	836	21	12	8.5	5.0	3.0	6.6	50	16	23	9.5	25
6	280	19	11	83	6.2	3.0	6.4	36	16	182	9.0	20
7	174	17	9.5	85	6.2	3.4	6.0	31	254	39	14	20
8	47	16	10	28	5.5	3.8	6.2	26	98	39	12	100
9	36	15	27	14	5.0	3.6	5.9	23	27	25	9.5	40
10	56	14	10	160	4.8	3.0	6.9	20	22	21	25	15
11	92	13	24	21	4.8	4.1	6.0	18	20	19	41	20
12	40	15	11	18	4.5	4.5	5.9	17	24	18	783	18
13	31	13	10	16	10	125	5.9	17	39	16	213	15
14	28	12	9.5	16	5.1	28	5.1	15	20	127	164	25
15	24	16	8.7	13	4.5	146	4.6	14	18	27	162	15
16	46	30	8.5	12	4.3	52	4.5	17	16	43	279	13
17	24	23	8.0	12	4.6	30	4.3	495	15	32	58	12
18	21	14	7.6	11	17	18	4.2	121	17	26	42	20
19	19	13	10	10	5.7	25	4.2	63	14	23	40	13
20	17	12	8.0	9.8	4.6	28	4.0	50	15	22	32	226
21	15	12	7.3	9.3	4.3	18	4.3	288	14	19	28	192
22	15	18	21	8.5	4.1	14	4.8	53	19	17	60	27
23	22	14	28	8.7	3.8	22	4.1	44	12	16	25	21
24	49	14	18	7.8	4.0	15	4.3	35	12	17	22	21
25	73	40	16	7.3	4.0	13	4.2	29	12	14	46	18
26	136	20	13	7.1	3.8	12	62	25	10	37	248	31
27	176	14	11	6.9	3.6	11	250	23	10	15	387	49
28	63	14	13	6.4	3.6	9.8	841	22	43	14	64	63
29	37	12	9.8	6.4	------	9.5	76	19	52	13	48	23
30	35	12	9.3	6.2	------	9.3	36	18	23	13	42	21
31	37	------	13	6.0	------	8.2	------	16	------	11	123	------
TOTAL	2,575	530	418.2	658.4	151.8	636.0	1,403.2	2,587	929	964	3,030.0	1,260
MEAN	83.1	17.7	13.5	21.2	5.42	20.5	46.8	83.5	31.0	31.1	97.7	42.0
MAX	836	40	34	160	17	146	841	776	254	182	783	226
MIN	13	12	7.3	6.0	3.6	3.0	4.0	14	10	11	9.0	12
AC-FT	5,110	1,050	829	1,310	301	1,260	2,780	5,130	1,840	1,910	6,010	2,500

CAL YR 1973 TOTAL 6,516.39 MEAN 17.9 MAX 836 MIN .14 AC-FT 12,930
WTR YR 1974 TOTAL 15,142.6 MEAN 41.5 MAX 841 MIN 3.0 AC-FT 30,040

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10- 5	1500	12.82	2,510	8-12	0515	14.19	2,920
5- 3	1200	13.26	2,640	8-27	1145	11.37	2,070
5-17	1730	12.13	2,300	9-20	2230	15.01	3,160
5-21	1630	11.80	2,200				

16865000 PAGO RIVER NEAR ORDOT

LOCATION.--Lat 13°26'08" N., long 144°45'14" E., on left bank 0.8 mi (1.3 km) south of Ordot, 2.6 mi (4.2 km) south of Agana, and 3.6 mi (5.8 km) southeast of Asan.

DRAINAGE AREA.--5.67 mi^2 (14.69 km^2).

PERIOD OF RECORD.--September 1951 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 25 ft (7.6 m) from topographic map. Prior to Apr. 10, 1972, at datum 1.00 ft (0.305 m) lower.

AVERAGE DISCHARGE.--23 years, 25.5 ft^3/s (0.722 m^3/s), 18,470 acre-ft/yr (22.8 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 4,580 ft^3/s (130 m^3/s) Sept. 20, gage height, 15.94 ft (4.859 m), from rating curve extended as explained below; minimum, 2.0 ft^3/s (0.057 m^3/s) Mar. 11.

Period of record: Maximum discharge, 9,470 ft^3/s (268 m^3/s) Aug. 2, 1962, gage height, 18.87 ft (5.752 m), from floodmarks, from rating curve extended above 320 ft^3/s (9.06 m^3/s) on basis of slope-area measurements at gage heights 13.22 ft (4.029 m), 15.07 ft (4.593 m), and 18.87 ft (5.752 m); no flow for many days in 1959 and 1966.

REMARKS.--Records good except those above 400 ft^3/s (11.3 m^3/s), which are fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS (FISCAL YEARS).--WSP 1937: 1954(M), 1958(M). WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	26	7.5	18	4.9	3.0	5.9	28	24	24	9.7	28
2	12	23	12	10	3.9	2.8	6.3	22	12	21	9.3	25
3	11	19	6.7	18	3.9	3.6	6.3	644	22	20	9.7	20
4	64	17	49	10	3.9	2.8	5.2	124	15	34	8.8	25
5	715	15	10	8.8	3.6	2.8	4.9	46	13	25	8.3	20
6	197	14	8.3	49	4.5	2.7	5.2	32	12	237	8.3	15
7	125	13	7.4	26	4.5	2.6	4.5	31	103	48	13	30
8	44	12	7.4	13	3.9	2.6	4.5	22	68	210	28	25
9	31	12	46	11	3.6	2.4	4.2	19	23	34	12	20
10	40	10	10	47	3.6	2.2	4.5	17	17	26	11	15
11	88	9.8	11	16	3.6	3.3	4.2	14	15	22	38	30
12	46	12	9.3	12	3.6	3.6	4.2	13	17	19	768	15
13	32	9.3	8.3	11	7.5	58	4.2	14	79	17	149	12
14	26	8.8	7.8	10	3.6	21	3.6	12	21	87	118	17
15	21	12	7.4	8.3	3.6	66	3.3	10	17	26	118	15
16	51	11	7.0	7.5	3.6	64	3.1	17	14	33	358	10
17	29	12	6.7	7.1	3.3	32	3.1	449	13	36	56	13
18	28	9.3	6.3	6.7	4.2	16	2.9	90	19	23	37	10
19	21	7.9	8.8	6.7	3.3	29	2.9	35	13	21	45	9.0
20	18	7.5	6.3	6.3	3.6	32	3.1	25	83	22	29	425
21	15	7.9	5.9	6.3	3.6	18	3.6	186	24	17	23	197
22	17	11	18	5.9	3.6	13	3.6	47	17	15	58	24
23	30	7.9	10	5.9	3.4	14	2.9	38	17	14	22	18
24	56	7.1	12	5.2	3.5	13	3.6	29	14	15	18	16
25	67	32	12	5.2	3.5	10	3.1	23	17	13	18	14
26	102	10	9.3	5.2	3.4	9.3	16	20	12	13	149	19
27	122	8.8	8.3	4.9	3.1	8.3	190	17	11	12	475	13
28	55	7.5	11	4.5	3.1	7.5	588	16	49	11	46	23
29	40	7.5	7.8	4.5	------	7.1	68	14	49	12	32	15
30	30	8.8	7.0	4.5	------	6.7	33	13	26	10	67	12
31	45	------	16	4.5	------	6.3	------	12	------	9.7	97	------
TOTAL	2,191	369.1	360.5	359.0	107.4	465.6	997.9	2,079	836	1,126.7	2,839.1	1,130.0
MEAN	70.7	12.3	11.6	11.6	3.84	15.0	33.3	67.1	27.9	36.3	91.6	37.7
MAX	715	32	49	49	7.5	66	588	644	103	237	768	425
MIN	11	7.1	5.9	4.5	3.1	2.2	2.9	10	11	9.7	8.3	9.0
AC-FT	4,350	732	715	712	213	924	1,980	4,120	1,660	2,230	5,630	2,240

CAL YR 1973 TOTAL 5,028.66 MEAN 13.8 MAX 715 MIN .07 AC-FT 9,970
WTR YR 1974 TOTAL 12,861.30 MEAN 35.2 MAX 768 MIN 2.2 AC-FT 25,510

PEAK DISCHARGE (BASE, 2,700 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10- 5	1515	13.18	3,300	8-16	0630	11.75	2,790
5- 3	1115	12.67	3,020	8-27	1030	13.54	3,450
5-17	1645	13.93	3,600	9-20	2245	15.94	4,580
8-12	0045	14.97	4,040				

16890600 ADEIDDO RIVER, BABELTHUAP

LOCATION.--Lat 7°36'01" N., long 134°35'38" E., on right bank at Ngardmau, 0.3 mi (0.5 km) upstream from left-bank tributary, and 0.6 mi (1.0 km) northwest of Mount Megilon.

DRAINAGE AREA.--4.43 mi^2 (11.47 km^2).

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 15 ft (4.6 km) from topographic map.

AVERAGE DISCHARGE.--5 years, 33.0 ft^3/s (0.935 m^3/s), 23,910 acre-ft/yr (29.5 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 1,070 ft^3/s (30.3 m^3/s) Oct. 3, gage height, 9.49 ft (2.893 m), from rating curve extended above 82 ft^3/s (2.32 m^3/s); minimum, 12 ft^3/s (0.34 m^3/s) Sept. 13.

Period of record: Maximum discharge, 3,140 ft^3/s (88.9 m^3/s) Sept. 16, 1973, gage height, 15.35 ft (4.679 m), from rating curve extended above 82 ft^3/s (2.32 m^3/s); minimum, 2.7 ft^3/s (0.076 m^3/s) Mar. 24, 25, 31, Apr. 1, 1973.

REMARKS.--Records good. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	28	28	22	28	16	20	44	18	24	45	20
2	104	22	27	20	25	15	19	36	16	41	40	18
3	297	20	27	19	27	15	24	33	24	61	47	17
4	209	23	24	19	24	42	17	31	33	56	118	16
5	146	26	23	24	22	27	25	29	25	45	86	16
6	112	23	22	20	21	66	18	27	21	38	62	15
7	91	19	20	20	20	36	19	26	44	36	55	15
8	76	21	20	28	110	30	21	25	53	34	50	14
9	67	37	19	28	117	40	22	25	34	31	50	14
10	72	100	18	29	57	53	19	26	33	32	73	13
11	67	92	19	27	46	42	54	22	28	31	75	14
12	61	96	19	23	39	36	29	20	26	32	61	14
13	128	74	21	24	36	34	28	19	26	41	52	13
14	92	62	19	22	33	32	61	21	25	30	47	20
15	73	55	17	21	30	31	44	18	23	27	44	26
16	64	52	16	198	28	42	36	17	22	34	41	36
17	57	50	15	184	26	32	32	16	21	27	39	27
18	52	46	14	125	26	34	44	17	25	71	36	20
19	46	46	17	91	24	29	32	28	47	49	34	17
20	45	69	18	75	24	27	40	25	34	37	41	21
21	46	50	16	64	34	26	66	33	28	42	46	20
22	46	61	19	55	24	26	165	28	26	47	32	17
23	43	49	77	56	26	24	80	20	26	36	29	16
24	39	44	34	49	21	24	70	18	24	32	28	16
25	34	40	27	43	20	22	70	21	22	52	27	18
26	31	38	25	41	27	21	66	19	26	39	26	16
27	30	35	21	36	19	20	55	19	22	49	25	15
28	28	34	20	34	17	26	48	25	21	73	26	14
29	26	32	18	31	------	19	45	19	21	40	22	17
30	25	30	21	44	------	27	40	17	25	51	21	15
31	28	------	29	32	------	23	------	17	------	46	20	------
TOTAL	2,265	1,374	710	1,504	951	937	1,309	741	819	1,284	1,398	530
MEAN	73.1	45.8	22.9	48.5	34.0	30.2	43.6	23.9	27.3	41.4	45.1	17.7
MAX	297	100	77	198	117	66	165	44	53	73	118	36
MIN	25	19	14	19	17	15	17	16	16	24	20	13
AC-FT	4,490	2,730	1,410	2,980	1,890	1,860	2,600	1,470	1,620	2,550	2,770	1,050

CAL YR 1973 TOTAL 10,879.7 MEAN 29.8 MAX 626 MIN 2.7 AC-FT 21,580
WTR YR 1974 TOTAL 13,822 MEAN 37.9 MAX 297 MIN 13 AC-FT 27,420

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10- 3	2200	9.49	1,070	2- 8	2300	8.45	850
1-16	1730	9.27	1,020	8- 4	2200	7.38	636

16890900 TABAGATEN RIVER, BABELTHUAP

LOCATION.--Lat 7°27'00" N., long 134°32'05" E., on left bank 0.3 mi (0.5 km) downstream from unnamed tributary, 0.7 mi (1.1 km) northeast of Mount Karukail, and 1.0 mi (1.6 km) south of Ngatpang.

DRAINAGE AREA.--6.34 mi^2 (16.42 km^2).

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 20 ft (6.1 m) from topographic map.

EXTREMES.--Current year: Maximum discharge, 3,580 ft^3/s (101 m^3/s) Dec. 23, gage height, 8.79 ft (2.679 m), from rating curve extended above 124 ft^3/s (3.51 m^3/s); minimum, 10 ft^3/s (0.28 m^3/s) Dec. 18.

Period of record: Maximum discharge, 3,580 ft^3/s (101 m^3/s) Dec. 23, 1973, gage height, 8.79 ft (2.679 m), from rating curve extended above 124 ft^3/s (3.51 m^3/s); minimum, 0.80 ft^3/s (0.023 m^3/s) Mar. 23, 24, 1973.

REMARKS.--Records fair. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	20	26	37	24	17	27	32	29	58	30	21
2	367	18	24	35	23	16	23	28	26	64	25	19
3	446	17	22	36	32	15	56	24	84	150	30	23
4	391	36	20	32	24	102	25	25	41	82	400	18
5	240	48	20	50	21	52	24	22	42	68	150	18
6	143	42	18	35	19	138	22	20	35	52	80	17
7	100	26	17	38	18	55	24	18	41	45	70	16
8	79	30	17	257	85	40	24	19	103	38	52	15
9	60	148	15	117	109	71	34	22	51	38	66	13
10	50	382	14	109	49	160	29	20	107	36	131	13
11	53	224	15	91	38	81	37	18	54	66	172	14
12	57	177	16	67	32	55	27	17	43	40	122	15
13	74	139	23	61	29	47	26	18	38	98	73	13
14	73	95	24	49	29	40	94	49	35	50	58	12
15	45	71	18	42	26	37	63	21	30	40	49	96
16	40	73	14	799	30	43	65	20	36	39	42	49
17	35	128	13	782	25	62	42	24	28	33	37	38
18	32	68	11	329	26	71	95	40	54	90	34	60
19	29	83	18	164	24	45	53	106	40	100	31	29
20	32	81	22	104	30	36	73	58	50	70	92	34
21	38	67	27	76	30	32	94	75	45	60	83	44
22	32	54	23	58	24	30	89	56	42	70	38	30
23	70	47	615	54	25	31	57	40	35	55	35	29
24	38	41	83	43	22	26	49	34	126	50	31	35
25	32	37	50	52	20	24	44	32	58	45	52	164
26	30	34	40	44	28	23	46	31	44	40	34	46
27	28	32	33	36	24	22	37	28	36	35	28	35
28	26	30	29	31	18	23	32	30	32	30	35	65
29	24	29	27	37	------	19	30	26	32	50	29	55
30	22	27	70	32	------	31	32	24	37	40	26	75
31	22	------	52	27	------	27	------	32	------	35	24	------
TOTAL	2,780	2,304	1,416	3,724	884	1,471	1,373	1,009	1,454	1,767	2,159	1,111
MEAN	89.7	76.8	45.7	120	31.6	47.5	45.8	32.5	48.5	57.0	69.6	37.0
MAX	446	382	615	799	109	160	95	106	126	150	400	164
MIN	22	17	11	27	18	15	22	17	26	30	24	12
AC-FT	5,510	4,570	2,810	7,390	1,750	2,920	2,720	2,000	2,880	3,500	4,280	2,200

CAL YR 1973 TOTAL 14,194.20 MEAN 38.9 MAX 615 MIN .80 AC-FT 28,150
WTR YR 1974 TOTAL 21,452. MEAN 58.8 MAX 799 MIN 11 AC-FT 42,550

PEAK DISCHARGE (BASE, 700 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10- 3	2300	7.02	1,480	1- 8	1000	6.25	1,020
11-10	1530	5.65	772	1-17	1800	8.09	2,580
12-23	0900	8.79	3,580	8- 4	/2000	-	Unknown

/ About.

CAROLINE ISLANDS, PALAU ISLANDS

16891200 GIHMEL RIVER, BABELTHUAP

LOCATION.--Lat 7°21'59" N., long 134°32'06" E., on right bank at Garuruon, 400 ft (122 m) downstream from dam, and 0.5 mi (0.8 km) upstream from coast road.

DRAINAGE AREA.--1.09 mi^2 (2.82 km^2).

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 15 ft (4.6 m) from topographic map.

AVERAGE DISCHARGE.--5 years, 2.50 ft^3/s (0.0708 m^3/s), 1,810 acre-ft/yr (2.23 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 185 ft^3/s (5.24 m^3/s) Jan. 16, gage height, 6.68 ft (2.036 m), from rating curve extended above 6.4 ft^3/s (0.18 m^3/s); no flow for several days in December.

Period of record: Maximum discharge, 185 ft^3/s (5.24 m^3/s) Jan. 16, 1974, gage height, 6.68 ft (2.036 m), from rating curve extended above 6.4 ft^3/s (0.18 m^3/s); no flow for many days during 1973-74.

REMARKS.--Records fair. An 8-inch (20 cm) pipeline diverts an average of about 0.75 ft^3/s (0.021 m^3/s) from above the dam, 400 ft (122 m) upstream from the gage, for consumption on the island of Koror. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	1.4	.06	.84	1.1	.24	.66	.40	.66	6.3	1.4	.84
2	23	1.1	.02	.66	1.0	.28	.52	.36	.66	4.2	1.3	.66
3	22	.96	.02	2.2	1.4	.55	1.7	.24	.66	12	5.5	.66
4	20	2.3	.01	1.7	1.1	5.7	.60	.16	.72	5.1	23	.60
5	16	2.2	0	4.2	.90	1.9	.44	.20	.52	4.0	14	.52
6	11	2.2	0	1.8	.78	12	.72	.13	.40	2.6	8.9	.48
7	7.5	1.2	0	1.7	.78	3.3	1.2	.10	.24	2.5	6.2	.44
8	5.3	1.1	0	18	5.2	2.0	1.5	.10	1.1	1.7	4.9	.48
9	4.2	3.9	0	9.8	3.0	5.0	1.0	.06	.72	1.6	5.5	.44
10	3.3	23	0	7.2	1.5	13	.66	.06	1.9	4.0	8.5	.44
11	3.6	18	0	4.7	1.0	6.0	1.8	.08	1.0	3.6	9.5	.44
12	4.0	14	.13	3.5	.78	3.6	.72	.16	.66	2.6	6.5	.52
13	8.4	8.0	.40	2.9	.72	2.8	.60	.08	.44	3.9	4.9	.52
14	7.5	6.8	0	2.5	.72	2.1	3.0	.48	.24	2.5	3.6	.50
15	4.0	4.7	.11	2.1	.60	1.7	1.4	.20	.20	2.0	3.0	2.0
16	3.5	4.2	.08	63	.66	1.9	1.5	.44	.08	2.5	2.3	1.5
17	2.8	8.1	0	43	.48	1.8	1.0	.28	.04	2.2	2.2	1.0
18	2.6	4.7	0	21	.66	2.5	1.4	.24	.04	7.4	2.1	2.0
19	2.6	6.5	1.2	12	.52	1.5	1.0	1.1	.04	8.0	2.0	1.0
20	2.3	13	.36	8.0	.72	1.1	2.8	.56	2.1	4.6	4.3	.90
21	2.8	8.6	.46	5.5	.72	1.0	4.2	1.8	.96	3.6	3.3	.70
22	2.9	5.1	1.1	4.7	.48	.96	3.2	1.4	.56	3.3	2.0	.60
23	5.0	3.8	8.3	6.6	.60	.90	1.7	.60	.56	2.5	1.9	.50
24	4.0	2.9	1.5	4.7	.36	1.1	1.4	.36	.72	2.0	1.8	.45
25	3.0	2.2	.84	4.2	.36	.84	1.1	.24	.52	3.4	1.7	7.9
26	2.5	1.6	.66	4.4	.44	.78	1.0	.60	.84	2.0	1.6	1.6
27	2.0	1.1	.48	3.6	.32	.72	.78	.72	.72	2.0	1.4	1.0
28	1.5	.78	.44	3.0	.20	.84	.66	.52	.20	1.7	1.8	3.6
29	1.2	.48	.40	4.2	------	.66	.52	.28	.10	2.3	1.5	8.1
30	2.0	.24	1.1	2.2	------	.56	.40	.06	.16	2.1	1.1	5.1
31	1.5	------	.90	1.5	------	.66	------	.40	------	2.0	.96	------
TOTAL	190.7	154.16	18.57	255.40	27.10	77.99	39.18	12.41	17.76	110.2	138.66	45.49
MEAN	6.15	5.14	.60	8.24	.97	2.52	1.31	.40	.59	3.55	4.47	1.52
MAX	23	23	8.3	63	5.2	13	4.2	1.8	2.1	12	23	8.1
MIN	1.2	.24	0	.66	.20	.24	.40	.06	.04	1.6	.96	.44
AC-FT	378	306	37	507	54	155	78	25	35	219	275	90

CAL YR 1973 TOTAL 706.09 MEAN 1.93 MAX 23 MIN 0 AC-FT 1,400
WTR YR 1974 TOTAL 1,087.62 MEAN 2.98 MAX 63 MIN 0 AC-FT 2,160

PEAK DISCHARGE (BASE, 50 CFS, REVISED)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1- 8	1000	5.40	100	3- 6	0330	4.71	57
1-16	1100	6.68	185	8- 4	1930	6.67	181

16891300 GADEN RIVER, BABELTHUAP

LOCATION (revised).--Lat 7°22'56" N., long 134°33'42" E., on left bank 1,000 ft (305 m) upstream from confluence with Kumekumeyel River, 1.0 mi (1.6 km) southwest of Mount Kabekobekushi, and 1.8 mi (2.9 km) north of Airai.

DRAINAGE AREA.--4.23 m^2 (10.96 km^2).

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7 ft (2.1 m) from topographic map.

AVERAGE DISCHARGE.--5 years, 31.5 ft^3/s (0.892 m^3/s), 22,820 acre-ft/yr (28.1 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 2,210 ft^3/s (62.6 m^3/s) Jan. 8, gage height, 15.87 ft (4.837 m), from rating curve extended above 61 ft^3/s (1.73 m^3/s); minimum, 9.3 ft^3/s (0.26 m^3/s) Dec. 18.

Period of record: Maximum discharge, 2,210 ft^3/s (62.6 m^3/s) Jan. 8, 1974, gage height, 15.87 ft (4.837 m), from rating curve extended above 61 ft^3/s (1.73 m^3/s); minimum, 1.6 ft^3/s (0.045 m^3/s) Mar. 23, 24, 1973.

REMARKS.--Records fair except those above 200 ft^3/s, which are poor. No diversion above gage. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	18	21	18	18	11	19	50	23	68	20	17
2	259	15	20	17	17	11	16	31	18	45	18	16
3	265	14	18	19	23	13	48	25	28	99	22	18
4	217	26	17	22	17	62	20	23	20	60	369	14
5	143	31	17	41	15	36	17	21	22	50	103	13
6	94	32	15	24	14	120	17	20	17	36	49	13
7	68	20	14	24	15	48	21	18	20	31	39	12
8	56	20	14	424	64	33	22	18	30	27	33	12
9	46	61	13	109	57	58	21	21	22	24	37	11
10	41	307	12	77	29	191	20	19	37	25	61	11
11	44	152	12	63	24	70	23	16	22	46	63	12
12	45	112	12	52	21	48	17	15	19	26	57	12
13	75	90	18	49	19	43	17	16	17	45	39	11
14	62	70	15	40	18	35	38	26	17	29	34	13
15	40	52	12	35	16	31	26	15	16	23	29	36
16	35	46	12	1,090	18	35	27	15	15	25	27	25
17	31	70	10	744	15	40	21	16	14	21	24	20
18	28	49	9.5	275	19	43	37	15	16	60	22	39
19	26	64	20	124	16	32	26	33	14	71	22	17
20	26	78	18	80	17	27	39	26	39	41	85	17
21	26	66	25	60	18	25	50	51	22	35	65	14
22	26	50	20	48	14	23	45	37	20	51	35	13
23	52	43	127	45	17	22	33	26	16	32	29	13
24	31	38	34	38	13	27	29	22	40	26	27	15
25	27	34	23	33	13	20	34	21	22	26	26	102
26	24	31	20	36	21	18	42	23	22	22	31	25
27	22	28	17	29	15	18	31	18	17	21	25	20
28	20	27	15	26	12	19	27	17	15	21	28	25
29	18	26	14	24	------	16	25	16	15	28	22	25
30	22	23	29	23	------	18	24	15	19	23	19	30
31	17	------	25	20	------	18	------	20	------	22	18	------
TOTAL	1,947	1,693	648.5	3,709	575	1,211	832	705	634	1,159	1,478	621
MEAN	62.8	56.4	20.9	120	20.5	39.1	27.7	22.7	21.1	37.4	47.7	20.7
MAX	265	307	127	1,090	64	191	50	51	40	99	369	102
MIN	17	14	9.5	17	12	11	16	15	14	21	18	11
AC-FT	3,860	3,360	1,290	7,360	1,140	2,400	1,650	1,400	1,260	2,300	2,930	1,230

CAL YR 1973 TOTAL 9,140.0 MEAN 25.0 MAX 307 MIN 1.8 AC-FT 18,130
WTR YR 1974 TOTAL 15,212.5 MEAN 41.7 MAX 1,090 MIN 9.5 AC-FT 30,170

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
1- 8	0800	15.87	2,210	3-10	1430	10.24	901
1-16	1100	15.56	2,120	8- 4	2030	15.81	2,180

CAROLINE ISLANDS, PALAU ISLANDS

16891400 SOUTH FORK NGARDOK RIVER, BABELTHUAP

LOCATION.--Lat 7°26'15" N., long 134°35'03" E., on right bank 0.3 mi (0.5 km) upstream from left-bank tributary, 0.6 mi (1.0 km) northwest of Garasho Mountain, and 1.3 mi (2.1 km) west of village of Ngarsul.

DRAINAGE AREA.--2.26 mi^2 (5.85 km^2).

PERIOD OF RECORD.--March 1971 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 65 ft (20 m) from topographic map.

EXTREMES.--Current year: Maximum discharge, 1,140 ft^3/s (32.3 m^3/s) Dec. 23, gage height, 6.89 ft (2.100 m), from rating curve extended above 70 ft^3/s (1.98 m^3/s); minimum, 4.3 ft^3/s (0.12 m^3/s) Mar. 3.

Period of record: Maximum discharge, 1,200 ft^3/s (34.0 m^3/s) May 1, 1972, gage height, 7.10 ft (2.164 m), from rating curve extended above 70 ft^3/s (1.98 m^3/s); minimum, 0.55 ft^3/s (0.016 m^3/s) Mar. 9, 1973.

REMARKS.--Records good. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	8.0	11	17	8.4	5.7	12	38	12	25	12	7.2
2	148	7.2	11	14	7.7	5.2	8.4	20	11	20	9.9	7.2
3	154	7.7	11	13	11	5.2	21	15	14	44	11	12
4	119	17	9.9	13	7.2	37	9.9	17	12	36	123	6.7
5	79	27	9.2	17	6.7	20	8.4	14	14	28	49	6.2
6	54	20	8.4	14	6.2	57	7.7	11	11	20	27	6.2
7	39	17	7.7	14	6.2	26	9.2	9.9	13	17	20	6.7
8	32	13	7.2	133	35	17	11	11	21	16	17	6.2
9	26	53	6.7	52	35	32	14	15	14	15	21	5.7
10	22	142	8.4	42	20	66	12	12	21	15	40	5.2
11	22	76	6.7	34	15	33	11	9.9	14	18	60	7.2
12	22	63	6.7	28	12	23	8.4	11	11	15	48	5.7
13	33	48	15	27	11	21	9.9	9.9	11	35	28	4.8
14	29	35	13	21	11	16	30	25	9.2	21	22	4.8
15	18	28	8.4	19	9.2	15	24	12	9.2	16	19	27
16	14	27	6.7	334	9.9	21	24	13	12	16	17	13
17	12	39	6.2	256	7.7	25	16	12	8.4	14	15	9.2
18	9.9	25	5.7	104	9.9	24	21	13	9.2	34	13	15
19	8.4	29	7.7	58	7.2	17	16	35	7.7	38	16	7.7
20	9.2	34	9.2	40	11	15	21	40	17	21	36	7.2
21	9.2	27	11	31	11	13	34	62	11	18	32	6.2
22	8.4	22	9.2	25	9.2	12	31	37	11	19	17	5.7
23	19	20	173	22	9.2	11	21	26	8.4	14	14	6.7
24	11	18	31	19	7.2	11	18	21	25	13	12	17
25	9.2	17	21	17	7.7	9.9	22	18	14	12	11	62
26	8.4	16	17	17	11	9.2	21	18	13	11	19	14
27	7.7	15	14	14	7.2	8.4	17	16	9.9	12	11	9.9
28	7.2	14	12	12	5.7	9.2	14	15	8.4	11	11	9.9
29	7.2	14	11	11	------	7.2	13	14	9.2	16	9.2	9.2
30	7.7	13	20	11	------	13	13	12	11	14	8.4	16
31	7.7	------	18	9.2	------	9.2	------	14	------	14	7.7	------
TOTAL	992.2	891.9	513.0	1,438.2	315.5	594.2	498.9	596.7	372.6	618	756.2	327.5
MEAN	32.0	29.7	16.5	46.4	11.3	19.2	16.6	19.2	12.4	19.9	24.4	10.9
MAX	154	142	173	334	35	66	34	62	25	44	123	62
MIN	7.2	7.2	5.7	9.2	5.7	5.2	7.7	9.9	7.7	11	7.7	4.8
AC-FT	1,970	1,770	1,020	2,850	626	1,180	990	1,180	739	1,230	1,500	650

CAL YR 1973 TOTAL 5,475.59 MEAN 15.0 MAX 173 MIN .70 AC-FT 10,860
WTR YR 1974 TOTAL 7,914.9 MEAN 21.7 MAX 334 MIN 4.8 AC-FT 15,700

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10- 3	2330	4.48	496	1-16	1830	5.86	828
12-23	0830	6.89	1,140	8- 4	2000	6.82	1,120
1- 8	1100	5.80	810	9-26	2400	4.65	530

16892400 ARINGEL STREAM, YAP

LOCATION.--Lat 9°31'01" N., long 138°05'11" E., on right bank at Aringel and 0.3 mi (0.5 km) upstream from mouth.

DRAINAGE AREA.--0.24 mi^2 (0.62 km^2).

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 35 ft (10.7 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 1.06 ft^3/s (0.0300 m^3/s), 768 acre-ft/yr (947,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 434 ft^3/s (12.3 m^3/s) July 2, gage height, 6.53 ft (1.990 m), from floodmark in well, from rating curve extended above 20 ft^3/s (0.57 m^3/s); no flow for many days.

Period of record: Maximum discharge, 457 ft^3/s (12.9 m^3/s) Sept. 15, 1973, gage height, 6.68 ft (2.036 m), from floodmark in well, from rating curve extended above 20 ft^3/s (0.57 m^3/s); no flow for many days most years.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	.16	.14	.81	.47	0	.11	.01	.29	4.0	.41	.10
2	9.0	.07	.06	1.2	.19	0	.13	0	2.2	23	5.2	.08
3	3.0	.27	.04	.37	.11	0	.65	0	.73	2.8	1.4	.16
4	2.5	.19	.03	.27	.07	0	.69	0	1.5	.41	.57	1.8
5	4.0	.10	.03	4.0	.04	0	.23	0	2.1	8.3	.41	4.5
6	2.0	.05	.02	2.2	.03	0	.21	0	20	.53	.23	.61
7	2.0	.03	.02	.65	.02	0	.11	0	1.7	.65	.14	3.3
8	1.5	.26	.02	.33	.03	.01	.06	0	.53	.29	.10	.61
9	.41	.35	.01	10	.03	.01	.27	0	1.2	.17	.07	.25
10	.25	3.5	.04	11	.05	.01	.57	0	6.7	.75	17	.11
11	.33	.65	.15	.93	.06	.01	2.5	0	.89	.57	8.4	.19
12	1.5	.21	.25	.44	.08	.01	2.0	0	.44	.21	23	.77
13	1.0	.11	1.0	.81	.23	.02	.53	0	.44	.33	1.8	.29
14	2.5	.06	.61	1.1	.33	.03	.47	5.1	.76	.35	.73	.19
15	2.0	.04	.33	1.1	.17	.10	3.6	2.1	1.7	.23	.29	.60
16	.90	.16	.11	.65	.11	.50	2.3	.29	.41	.19	.16	.37
17	.33	9.0	.05	.65	.35	.20	.89	.17	1.2	6.3	.10	.21
18	.21	5.0	.04	1.2	.25	.20	.93	.14	.57	.93	.07	.13
19	.10	2.0	.73	.73	.17	8.0	.77	.11	.33	.85	.06	.08
20	.06	2.0	2.2	1.1	.11	.50	18	.07	11	.93	.08	.08
21	.16	.39	9.8	.69	.07	.10	5.8	.06	.81	2.5	.07	.13
22	.31	.19	.47	.89	.07	.07	.77	14	.33	.77	.04	.14
23	.35	.10	.25	.44	.05	.05	.39	3.2	.31	.33	.04	.07
24	.47	.10	.73	.31	.05	.03	.27	.41	.23	.23	.05	1.6
25	.50	.07	3.0	.33	.05	.02	.14	.23	.14	.70	.06	3.3
26	.25	.04	.40	.93	.03	.01	.07	.56	.10	.37	.10	.41
27	7.0	.03	.23	.29	.02	.01	.06	.73	.06	.78	.35	.16
28	2.0	.03	.17	.19	.01	.06	.04	.41	.04	1.3	.14	.25
29	1.0	2.5	.13	.16	------	.05	.03	.39	.16	8.2	.40	.19
30	5.0	.35	.13	.13	------	.03	.01	.23	.47	1.0	.19	.17
31	.35	------	5.0	.82	------	.02	------	.81	------	.53	.17	------
TOTAL	55.98	28.01	26.19	44.72	3.25	10.05	42.60	29.82	57.34	68.60	61.83	20.85
MEAN	1.81	.93	.84	1.44	.12	.32	1.42	.96	1.91	2.21	1.99	.70
MAX	9.0	9.0	9.8	11	.47	8.0	18	14	20	23	23	4.5
MIN	.06	.03	.01	.13	.01	0	.01	0	.04	.17	.04	.07
AC-FT	111	56	52	89	6.4	20	84	59	114	136	123	41

CAL YR 1973 TOTAL 249.16 MEAN .68 MAX 20 MIN 0 AC-FT 494
WTR YR 1974 TOTAL 449.24 MEAN 1.23 MAX 23 MIN 0 AC-FT 891

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6- 6	0100	/5.0	/210	7- 2	1700	6.53	434
6-20	0100	4.93	202				

/ About.

16892800 DALOLAB STREAM, YAP

LOCATION.--Lat 9°31'04" N., long 138°06'04" E., on left bank at Talagu and 0.9 mi (1.4 km) upstream from mouth.

DRAINAGE AREA.--0.09 mi^2 (0.23 km^2).

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 150 ft (46 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 0.357 ft^3/s (0.0101 m^3/s), 259 acre-ft/yr (319,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 76 ft^3/s (2.15 m^3/s) July 2, gage height, 3.54 ft (1.079 m), from floodmark in well, from rating curve extended above 17 ft^3/s (0.48 m^3/s); no flow for many days.

Period of record: Maximum discharge, 180 ft^3/s (5.10 m^3/s) Sept. 15, 1973, gage height, 4.80 ft (1.463 m), from floodmark in well, from rating curve extended above 17 ft^3/s (0.48 m^3/s); no flow for many days each year.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	.01	.04	.70	.06	0	0	0	.10	2.6	.14	.01
2	3.9	.01	.01	.40	.01	0	0	0	.50	9.0	.82	.02
3	1.1	.14	.01	.05	.01	0	.12	0	.40	.75	.33	.08
4	.90	.06	0	.03	0	0	.08	0	.50	.15	.14	1.2
5	2.0	.02	0	1.2	0	0	.01	0	.45	1.0	.10	1.5
6	.36	.01	0	.59	0	0	.01	0	8.0	.15	.04	.19
7	.42	.01	0	.08	0	0	0	0	.70	.25	.03	.38
8	.24	.10	0	.02	0	0	0	0	.20	.10	.02	.17
9	.08	.10	0	3.5	0	0	.01	0	.40	.05	.02	.05
10	.04	1.5	.01	3.3	.01	0	.12	0	2.0	.60	3.0	.02
11	.05	.19	.05	.20	.01	0	.68	0	.20	.10	1.7	.04
12	.49	.04	.15	.10	.01	.01	.30	0	.08	.03	7.5	.19
13	.19	.02	.30	.15	.02	.01	.06	0	.04	.23	.71	.05
14	1.4	.01	.35	.30	.05	.01	.05	1.5	.29	.56	.22	.02
15	1.4	.01	.20	.40	.01	.08	1.4	.40	.44	.14	.06	.10
16	.22	.04	.15	.20	.01	.49	.65	.08	.04	.17	.02	.10
17	.10	4.9	.08	.20	.01	.10	.08	.03	.30	2.7	.01	.03
18	.06	2.0	.10	.44	.01	.05	.22	.02	.10	.22	.01	.01
19	.03	.49	.25	.17	0	3.5	.12	.01	.04	.24	0	.01
20	.01	.59	.60	.27	0	.08	6.4	.01	4.5	.27	0	.01
21	.08	.14	4.0	.10	0	.01	2.0	.54	.19	.59	.01	.03
22	.12	.05	.15	.17	0	0	.12	5.5	.04	.14	0	.01
23	.30	.03	.05	.05	0	0	.05	.83	.10	.04	0	.01
24	.19	.05	.15	.02	0	0	.03	.10	.05	.03	0	.24
25	.06	.03	1.0	.13	0	0	.01	.04	.02	.14	0	1.1
26	.03	.01	.10	.27	0	0	.01	.05	.01	.05	0	.06
27	2.3	.01	.05	.01	0	0	0	.10	0	.02	.02	.01
28	.33	.01	.03	.01	0	0	0	.10	0	.12	.01	.01
29	.19	.91	.02	.01	------	0	0	.10	.18	2.6	.02	.01
30	.80	.10	.02	0	------	0	0	.04	.17	.24	.01	.01
31	.05	------	2.0	.28	------	0	------	.30	------	.19	.02	------
TOTAL	20.24	11.59	9.87	13.35	.22	4.34	12.53	9.75	20.04	23.47	14.96	5.67
MEAN	.65	.39	.32	.43	.008	.14	.42	.31	.67	.76	.48	.19
MAX	3.9	4.9	4.0	3.5	.06	3.5	6.4	5.5	8.0	9.0	7.5	1.5
MIN	.01	.01	0	0	0	0	0	0	0	.02	0	.01
AC-FT	40	23	20	26	.4	8.6	25	19	40	47	30	11

CAL YR 1973 TOTAL 94.55 MEAN .26 MAX 16 MIN 0 AC-FT 188
WTR YR 1974 TOTAL 146.03 MEAN .40 MAX 9.0 MIN 0 AC-FT 290

PEAK DISCHARGE (BASE, 75 CFS).--July 2 (1600) 76 cfs (3.54 ft).

NOTE.--No gage-height record July 2-11.

16892900 PEMGOY STREAM, YAP

LOCATION.--Lat 9°31'07" N., long 138°06'18" E., on right bank at Talagu, 100 ft (30 m) upstream from Talagu Stream, and 0.8 mi (1.3 km) upstream from mouth.

DRAINAGE AREA.--0.17 mi^2 (0.44 km^2).

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Concrete control since Mar. 30, 1974. Altitude of gage is 100 ft (30 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 0.538 ft^3/s (0.0152 m^3/s), 390 acre-ft/yr (481,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 156 ft^3/s (4.42 m^3/s) July 2, gage height, 4.01 ft (1.222 m), from rating curve extended above 11 ft^3/s (0.31 m^3/s); no flow for many days.

Period of record: Maximum discharge, 240 ft^3/s (6.80 m^3/s) Sept. 15, 1973, gage height, 4.72 ft (1.439 m), from rating curve extended above 11 ft^3/s (0.31 m^3/s); no flow for many days most years.

REMARKS.--Records poor to Apr. 25, fair thereafter. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	.10	.24	1.1	.24	0	0	.02	.11	3.6	.31	.05
2	7.0	.05	.14	.94	.12	0	1.0	.02	.93	10	1.1	.04
3	2.0	.25	.08	.21	.06	0	.94	.02	.80	2.4	.75	.36
4	1.5	.25	.06	.14	.03	0	1.4	.02	1.2	.31	.25	2.0
5	3.0	.10	.07	2.8	.01	0	.08	.02	1.3	2.3	.14	1.9
6	1.0	.06	.04	.90	.01	0	.06	.02	11	.31	.09	.25
7	.60	.02	.03	.27	0	0	.05	.02	1.5	.42	.07	.82
8	.80	.20	.01	.16	0	.02	.04	.01	.25	.20	.05	.22
9	.40	.20	.01	8.1	0	.02	.05	.01	.75	.09	.05	.07
10	.20	2.5	.05	8.7	.10	.02	.25	.02	3.8	1.4	4.1	.04
11	.25	.40	.12	.34	.04	.01	1.3	.02	.64	.45	3.0	.06
12	1.0	.19	.29	.20	.02	.03	.60	.02	.22	.10	10	.22
13	.60	.12	.60	.32	.05	.08	.15	.02	.25	.91	1.7	.10
14	2.0	.06	.68	.68	.10	.08	.10	1.9	.22	1.6	.47	.18
15	1.7	.02	.42	.70	.03	.19	2.5	1.1	1.5	.81	.13	.47
16	.50	.17	.23	.40	.03	.50	1.3	.05	.22	.47	.08	.38
17	.20	9.6	.17	.40	.03	.30	.20	.04	1.6	4.6	.05	.09
18	.08	4.0	.18	.90	.04	.28	.50	.03	.42	.69	.05	.05
19	.05	.94	.45	.44	.04	3.5	.30	.03	.14	.34	.05	.04
20	.02	.98	1.2	.45	.02	.23	13	.02	8.0	.93	.06	.11
21	.20	.32	7.3	.29	.01	.12	4.0	.69	.52	1.0	.06	.13
22	.40	.20	.24	.30	.01	.09	.25	7.5	.14	.38	.05	.06
23	.80	.15	.13	.22	0	.08	.10	2.5	.14	.14	.04	.04
24	.80	.17	.23	.17	.01	.06	.08	.16	.13	.12	.04	.26
25	.30	.17	1.9	.19	.01	.04	.07	.08	.09	.28	.04	1.4
26	.15	.15	.29	.42	0	.01	.05	.08	.07	.13	.05	.14
27	5.0	.10	.13	.13	0	0	.05	.12	.05	.08	.06	.05
28	2.0	.07	.10	.04	0	.02	.04	.11	.05	.11	.05	.06
29	1.0	2.3	.08	.07	------	.01	.03	.14	.22	3.7	.08	.05
30	3.0	.40	.08	.03	------	.01	.03	.07	.64	.71	.08	.05
31	.30	------	3.5	.61	------	.01	------	.58	------	.25	.07	------
TOTAL	40.85	24.24	19.05	30.62	1.01	5.71	28.52	15.44	36.90	38.83	23.12	9.69
MEAN	1.32	.81	.61	.99	.036	.18	.95	.50	1.23	1.25	.75	.32
MAX	7.0	9.6	7.3	8.7	.24	3.5	13	7.5	11	10	10	2.0
MIN	.02	.02	.01	.03	0	0	0	.01	.05	.08	.04	.04
AC-FT	81	48	38	61	2.0	11	57	31	73	77	46	19

CAL YR 1973 TOTAL 159.48 MEAN .44 MAX 11 MIN 0 AC-FT 316
WTR YR 1974 TOTAL 273.98 MEAN .75 MAX 13 MIN 0 AC-FT 543

PEAK DISCHARGE (BASE, 70 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-17	1900	2.86	81	6-20	0100	3.25	88
6- 6	0030	3.18	83	7- 2	1700	4.01	156

NOTE.--No gage-height record Oct. 1 to Nov. 5.

16893000 TALAGU STREAM, YAP

LOCATION.--Lat 9°31'08" N., long 138°06'13" E., on left bank at Talagu, 300 ft (91 m) upstream from mouth, and 0.9 mi (1.4 km) upstream from mouth of Pemgoy Stream.

DRAINAGE AREA.--0.07 mi^2 (0.18 km^2).

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 130 ft (40 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 0.337 ft^3/s (0.0095 m^3/s), 244 acre-ft/yr (301,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 141 ft^3/s (3.99 m^3/s) July 2, gage height, 3.26 ft (0.994 m), from rating curve extended above 29 ft^3/s (0.82 m^3/s); no flow for many days.

Period of record: Maximum discharge, 213 ft^3/s (6.03 m^3/s) Sept. 15, 1973, gage height, 3.98 ft (1.213 m), from rating curve extended above 29 ft^3/s (0.82 m^3/s); no flow for many days most years.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	.04	.06	.64	.08	0	.01	0	.06	1.9	.15	.01
2	3.2	.02	.03	.40	.01	0	.05	0	.43	7.6	.41	.01
3	.75	.12	.02	.10	.01	0	.10	0	.35	.70	.30	.04
4	.70	.12	.02	.05	.01	0	.22	0	.47	.11	.13	1.0
5	1.6	.04	.02	.78	0	0	.03	0	.40	.75	.09	1.0
6	.43	.02	.01	.50	0	0	.02	0	7.2	.12	.05	.16
7	.26	.01	.01	.11	.01	0	.01	0	.62	.20	.04	.16
8	.35	.13	.01	.04	.01	0	0	0	.15	.06	.03	.13
9	.15	.09	.01	2.9	.01	0	.03	0	.37	.03	.03	.03
10	.08	1.1	.01	2.9	.02	0	.09	0	1.8	.55	2.4	.01
11	.09	.16	.03	.15	.01	0	.36	0	.32	.26	1.5	.02
12	.43	.06	.12	.03	.01	0	.28	0	.15	.06	6.6	.13
13	.26	.03	.30	.11	.03	.02	.09	0	.12	.28	.70	.05
14	1.1	.02	.35	.24	.03	.02	.08	1.3	.13	.74	.28	.04
15	1.0	.01	.26	.35	.01	.08	1.2	.30	.62	.37	.09	.12
16	.22	.11	.15	.15	.01	.40	.50	.03	.15	.26	.04	.09
17	.09	5.0	.07	.15	.01	.15	.13	.03	.40	2.3	.03	.02
18	.03	1.7	.09	.43	.01	.10	.26	.02	.24	.37	.02	.01
19	.02	.50	.28	.18	.01	4.1	.22	.02	.10	.20	.01	.01
20	.01	.50	.40	.22	0	.24	7.0	.02	4.2	.40	.02	.02
21	.09	.11	3.6	.13	0	.12	2.2	.32	.22	.49	.02	.02
22	.16	.04	.09	.15	0	.04	.13	4.1	.07	.24	.01	.01
23	.37	.03	.03	.06	0	.01	.05	.66	.09	.10	.01	.01
24	.35	.04	.12	.03	0	.01	.05	.09	.05	.07	.01	.28
25	.11	.04	.62	.06	0	0	.03	.03	.03	.13	.01	.58
26	.04	.03	.09	.24	0	0	.02	.03	.03	.07	.02	.05
27	2.0	.02	.03	.03	0	0	.01	.08	.02	.03	.03	.02
28	.43	.01	.01	.01	0	.01	.01	.07	.02	.11	.01	.02
29	.28	.51	.01	.02	------	.01	.01	.09	.11	2.4	.02	.02
30	.72	.16	.01	.01	------	0	0	.03	.28	.28	.02	.02
31	.11	------	1.5	.13	------	.01	------	.28	------	.15	.02	------
TOTAL	18.03	10.77	8.36	11.30	.29	5.32	13.19	7.50	19.20	21.33	13.10	4.09
MEAN	.58	.36	.27	.36	.010	.17	.44	.24	.64	.69	.42	.14
MAX	3.2	5.0	3.6	2.9	.08	4.1	7.0	4.1	7.2	7.6	6.6	1.0
MIN	.01	.01	.01	.01	0	0	0	0	.02	.03	.01	.01
AC-FT	36	21	17	22	.6	11	26	15	38	42	26	8.1

CAL YR 1973 TOTAL 76.60 MEAN .21 MAX 6.5 MIN 0 AC-FT 152
WTR YR 1974 TOTAL 132.48 MEAN .36 MAX 7.6 MIN 0 AC-FT 263

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-20	1200	2.31	63	6-20	0130	2.32	63
6- 6	0130	2.38	68	7- 2	1730	3.26	141

CAROLINE ISLANDS, YAP ISLANDS

16893100 BURONG STREAM, YAP

LOCATION.--Lat 9°31'59" N., long 138°07'05" E., on left bank at Dugor and 0.1 mi (0.2 km) upstream from mouth.

DRAINAGE AREA.--0.29 mi^2 (0.75 km^2).

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 0.910 ft^3/s (0.0258 m^3/s), 659 acre-ft/yr (813,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 260 ft^3/s (7.36 m^3/s) Apr. 20, gage height, 4.83 ft (1.472 m), from rating curve extended above 15 ft^3/s (0.42 m^3/s); no flow for many days.

Period of record: Maximum discharge, 303 ft^3/s (8.58 m^3/s) Sept. 15, 1973, gage height, 5.09 ft (1.551 m), from rating curve extended above 15 ft^3/s (0.42 m^3/s); no flow for many days most years.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	.25	.25	.54	.82	0	.02	.01	.30	3.5	1.0	.10
2	8.7	.15	.19	1.3	.28	0	.34	.01	1.5	10	2.2	.10
3	3.3	.15	.10	.34	.15	0	1.1	0	.98	2.9	1.3	.20
4	2.5	.40	.07	.19	.10	0	.62	0	3.3	.44	.70	2.0
5	4.2	.21	.06	3.9	.06	0	.13	0	5.0	1.1	.30	5.0
6	1.8	.11	.05	1.6	.05	0	.11	0	17	.37	.17	.60
7	2.2	.07	.04	.58	.03	0	.06	0	2.0	.25	.10	3.5
8	1.9	.19	.02	.37	.02	0	.02	0	.48	.15	.06	.60
9	.44	.25	.02	9.5	.02	0	.02	0	.54	.08	.05	.30
10	.23	3.6	.04	11	.06	0	.11	0	4.8	.89	6.1	.15
11	.83	.65	.17	.98	.15	0	2.1	0	1.0	.58	3.8	.20
12	1.4	.21	.28	.40	.07	.01	.62	0	.40	.19	17	.80
13	.92	.13	1.0	.62	.21	.01	.30	0	.48	1.5	3.4	.30
14	2.5	.10	.82	1.3	.17	.02	.25	1.4	.37	3.6	1.0	.20
15	2.3	.06	.40	2.5	.10	.08	3.6	1.0	1.3	1.4	.28	.60
16	.92	.99	.15	1.1	.06	.62	1.0	.15	.48	1.0	.15	.40
17	.34	8.5	.08	.98	.06	.23	.60	.08	1.7	9.3	.13	.20
18	.23	5.6	.07	1.8	.06	.21	.70	.28	.58	1.1	.11	.15
19	.11	3.4	.58	1.3	.04	7.5	.58	.48	.23	1.3	.06	.10
20	.07	2.2	2.0	2.1	.03	.48	20	.34	9.8	2.2	.06	.10
21	.19	.70	8.5	.87	.02	.13	7.3	2.2	.82	.54	.06	.25
22	.40	.37	.48	.76	.01	.06	.82	12	.28	.40	.03	.15
23	2.2	.19	.21	.44	.01	.04	.37	4.2	.54	.72	.03	.08
24	1.3	.15	.21	.25	.02	.02	.21	.48	.44	3.5	.04	.60
25	.37	.10	.70	.78	.01	.01	.13	.21	.19	1.3	.06	1.8
26	.54	.07	.28	1.7	.01	.01	.07	.30	.13	.40	.10	.30
27	8.4	.06	.15	.37	.01	.01	.05	.54	.10	.23	.40	.13
28	3.7	.04	.08	.19	.01	.06	.04	.40	.07	.23	.15	.15
29	1.6	2.7	.07	.34	------	.05	.02	.44	.28	4.7	.40	.13
30	5.2	.58	.07	.19	------	.02	.01	.15	.58	1.0	.20	.13
31	.58	------	2.1	1.6	------	.02	------	1.2	------	.62	.20	------
TOTAL	64.77	32.18	19.24	49.89	2.64	9.59	41.30	25.87	55.67	55.49	39.64	19.32
MEAN	2.09	1.07	.62	1.61	.094	.31	1.38	.83	1.86	1.79	1.28	.64
MAX	8.7	8.5	8.5	11	.82	7.5	20	12	17	10	17	5.0
MIN	.07	.04	.02	.19	.01	0	.01	0	.07	.08	.03	.08
AC-FT	128	64	38	99	5.2	19	82	51	110	110	79	38

CAL YR 1973 TOTAL 232.74 MEAN .64 MAX 20 MIN 0 AC-FT 462
WTR YR 1974 TOTAL 415.60 MEAN 1.14 MAX 20 MIN 0 AC-FT 824

PEAK DISCHARGE (BASE, 75 CFS).--Apr. 20 (1200) 260 cfs (4.83 ft); Aug. 12 (1800) 100 cfs (3.58 ft).

CAROLINE ISLANDS, YAP ISLANDS

16893300 BILEIY SPRING, GAGIL-TOMIL

LOCATION.--Lat 9°32'19" N., long 138°10'59" E., on right bank at Binau, 200 ft (61 m) downstream from main spring, and 0.6 mi (1.0 km) upstream from mouth.

PERIOD OF RECORD.--April 1968 to September 1974 (discontinued as a continuous-record station; converted to a low-flow partial-record station).

GAGE.--Water-stage recorder. Altitude of gage is 70 ft (21 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 0.129 ft^3/s (0.0037 m^3/s), 93.4 acre-ft/yr (115,000 m^3/yr).

EXTREMES.--Period of record: Maximum daily discharge, 1.5 ft^3/s (0.042 m^3/s) Sept. 8, 1972; no flow for many days in 1968-69, 1973.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	.22	.11	.12	.17	.02	.01	.08	.17	.16	.24	.08
2	.33	.19	.09	.10	.16	.02	.01	.07	.17	.18	.24	.08
3	.33	.17	.09	.10	.16	.02	.02	.07	.19	.17	.22	.07
4	.33	.17	.08	.09	.14	.03	.01	.06	.19	.16	.24	.07
5	.42	.15	.08	.11	.14	.04	.02	.06	.21	.15	.19	.07
6	.45	.14	.08	.12	.13	.02	.02	.05	1.0	.14	.17	.06
7	.72	.13	.08	.11	.12	.01	.01	.05	.76	.13	.17	.06
8	.96	.12	.07	.11	.11	.02	.01	.10	.64	.12	.16	.05
9	.72	.12	.07	.16	.10	.01	.01	.08	.60	.11	.14	.06
10	.60	.16	.06	.72	.09	.01	.01	.06	.54	.11	.28	.05
11	.51	.12	.06	.57	.07	.01	.03	.05	.48	.10	.39	.05
12	.45	.11	.07	.48	.06	.03	.06	.04	.39	.10	1.1	.05
13	.36	.10	.06	.39	.06	.02	.04	.02	.30	.15	1.0	.04
14	.36	.10	.06	.39	.05	.02	.03	.07	.28	.12	.68	.05
15	.30	.09	.05	.42	.04	.02	.04	.07	.26	.11	.54	.05
16	.24	.10	.05	.39	.04	.04	.03	.06	.22	.50	.51	.04
17	.22	.13	.05	.36	.04	.01	.02	.04	.22	.45	.42	.05
18	.19	.19	.05	.36	.03	.01	.02	.08	.24	.40	.33	.05
19	.16	.28	.07	.30	.03	.19	.01	.07	.21	.35	.26	.07
20	.14	.42	.09	.30	.03	.11	.12	.07	.30	.30	.24	.06
21	.13	.36	.30	.28	.02	.08	.27	.06	.28	.25	.22	.06
22	.11	.30	.22	.26	.02	.07	.26	.28	.28	.20	.19	.06
23	.11	.26	.19	.26	.01	.06	.22	.57	.26	.20	.16	.06
24	.10	.22	.17	.24	.01	.05	.19	.42	.22	.25	.14	.06
25	.08	.19	.16	.22	.01	.04	.16	.30	.21	.20	.13	.06
26	.08	.16	.13	.22	.01	.03	.14	.28	.20	.18	.12	.05
27	.50	.14	.11	.21	.02	.03	.12	.22	.19	.15	.10	.05
28	.40	.12	.10	.21	.02	.03	.10	.22	.18	.50	.10	.06
29	.35	.17	.09	.22	------	.02	.09	.21	.17	.35	.11	.06
30	.45	.12	.09	.19	------	.02	.08	.19	.16	.24	.11	.05
31	.25	------	.12	.19	------	.02	------	.17	------	.22	.09	------
TOTAL	10.63	5.25	3.10	8.20	1.89	1.11	2.16	4.17	9.52	6.75	8.99	1.73
MEAN	.34	.18	.10	.26	.068	.036	.072	.13	.32	.22	.29	.058
MAX	.96	.42	.30	.72	.17	.19	.27	.57	1.0	.50	1.1	.08
MIN	.08	.09	.05	.09	.01	.01	.01	.02	.16	.10	.09	.04
AC-FT	21	10	6.1	16	3.7	2.2	4.3	8.3	19	13	18	3.4

CAL YR 1973 TOTAL 24.87 MEAN .068 MAX .96 MIN 0 AC-FT 49
WTR YR 1974 TOTAL 63.50 MEAN .17 MAX 1.1 MIN .01 AC-FT 126

NOTE.--No gage-height record June 26 to July 29.

16893700 WICHEN RIVER AT ALTITUDE 55 M, MOEN

LOCATION.--Lat 7°26'45" N., long 151°52'02" E., on left bank at Peniesence, 1.0 mi (1.6 km) upstream from mouth, and 1.6 mi (2.6 km) west of Saint Xaviers Academy.

DRAINAGE AREA.--0.23 mi^2 (0.60 km^2).

PERIOD OF RECORD.--June 1968 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 180 ft (55 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 1.05 ft^3/s (0.0297 m^3/s), 761 acre-ft/yr (938,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 94 ft^3/s (2.66 m^3/s) Dec. 26, gage height, 3.17 ft (0.966 m), from rating curve extended above 3 ft^3/s (0.085 m^3/s); minimum, 0.03 ft^3/s (0.001 m^3/s) Jan. 20, 21.

Period of record: Maximum discharge, 193 ft^3/s (5.47 m^3/s) Nov. 25, 1969, gage height, 4.08 ft (1.241 m), from rating curve extended above 15 ft^3/s (0.42 m^3/s); minimum, 0.01 ft^3/s (<0.001 m^3/s) Mar. 29-31, 1969, and for several days in March and April 1973.

REMARKS.--Records poor. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.4	.34	3.3	.79	4.2	.26	.62	1.3	1.9	.19	.11
2	1.9	1.4	.30	2.3	3.7	2.0	.22	.49	1.1	1.2	.16	.11
3	4.5	1.3	.26	1.9	2.2	2.4	.34	.39	.88	.88	6.4	.16
4	3.0	1.1	.26	1.7	1.2	2.9	.22	.44	1.5	.70	1.7	1.2
5	2.3	.79	.22	1.2	.79	2.4	.30	.39	1.4	4.0	2.4	.30
6	4.0	.62	.19	1.3	.62	1.9	.22	.34	1.2	1.7	1.6	.19
7	2.7	1.2	.16	.97	.55	2.7	1.2	.30	.97	2.6	.88	.13
8	1.9	1.0	.16	.44	1.2	4.7	.70	.25	.79	2.4	.55	.11
9	3.6	.80	.16	.34	.79	9.0	2.3	.20	.88	1.5	1.1	.11
10	2.7	.70	.16	.30	.49	7.3	1.9	.20	1.7	1.7	1.9	.09
11	2.4	.60	.16	.26	.39	6.6	2.5	.20	3.3	1.4	5.5	.51
12	1.9	.50	.62	.19	1.2	3.8	5.1	.20	2.0	2.8	2.2	1.2
13	1.6	.40	1.7	.13	1.1	3.0	2.6	.15	1.5	2.9	1.3	2.0
14	1.3	.80	1.2	.11	.55	2.2	1.6	.20	1.5	3.2	.97	.70
15	1.2	1.8	.55	.11	.39	1.6	1.3	.20	1.3	2.2	.70	1.0
16	1.1	1.4	.97	.09	.30	2.2	1.1	.15	1.2	1.4	.49	.70
17	.88	1.2	1.9	.07	.22	1.3	.79	.80	4.7	1.1	.39	.50
18	.97	.79	1.3	.05	.26	1.1	.70	5.0	2.7	.70	.44	.40
19	1.1	.70	.97	.04	1.7	.97	.62	2.0	2.0	.62	.30	.30
20	6.9	.79	.97	.04	.55	.88	.55	.70	1.5	.55	.26	.25
21	1.6	.70	.88	.04	.34	.70	.49	.44	1.2	.44	.19	.20
22	1.2	.62	.97	.16	.26	.62	.70	1.2	.97	.39	.34	.15
23	1.1	.79	1.1	.09	.26	.55	1.1	1.4	.88	.39	.30	.15
24	2.0	.70	.79	.16	.70	.49	.90	.97	.79	.34	.19	.25
25	3.3	.55	1.2	.22	.30	.44	3.0	.62	.62	.26	.16	3.0
26	2.6	.49	10	1.2	.26	.44	2.0	.55	.62	.26	.13	.70
27	4.4	.44	2.2	1.1	.19	.39	1.2	1.7	.55	.26	.13	.50
28	2.6	.39	1.3	1.9	.16	.39	1.5	1.2	.70	.30	.13	1.0
29	1.7	.39	.97	.79	------	.34	.88	1.1	1.2	.26	.34	2.5
30	2.4	.34	.79	.97	------	.30	.70	1.1	3.5	.22	.16	.70
31	1.6	------	4.2	.49	------	.26	------	2.2	------	.19	.11	------
TOTAL	71.65	24.70	36.95	21.96	21.46	68.07	36.99	25.70	44.45	38.76	31.61	19.22
MEAN	2.31	.82	1.19	.71	.77	2.20	1.23	.83	1.48	1.25	1.02	.64
MAX	6.9	1.8	10	3.3	3.7	9.0	5.1	5.0	4.7	4.0	6.4	3.0
MIN	.88	.34	.16	.04	.16	.26	.22	.15	.55	.19	.11	.09
AC-FT	142	49	73	44	43	135	73	51	88	77	63	38

CAL YR 1973 TOTAL 262.03 MEAN .72 MAX 10 MIN .01 AC-FT 520
WTR YR 1974 TOTAL 441.52 MEAN 1.21 MAX 10 MIN .04 AC-FT 876

PEAK DISCHARGE (BASE, 70 CFS).--Dec. 26 (0430) 94 cfs (3.17 ft); Aug. 3 (1300) 86 cfs (3.07 ft).

16893800 WICHEN RIVER AT ALTITUDE 18 M, MOEN

LOCATION.--Lat 7°27'05" N., long 151°52'18" E., on left bank at Peniesence and 0.5 mi (0.8 km) upstream from mouth.

DRAINAGE AREA.--0.60 mi^2 (1.55 km^2).

PERIOD OF RECORD.--April 1955 to March 1956 (published as "at Peniesence"), June 1968 to current year. All figures of discharge above 3 ft^3/s (0.085 m^3/s) prior to April 1956, published in WSP 1751, are unreliable and should not be used.

GAGE.--Water-stage recorder and concrete control since Mar. 29, 1973. Altitude of gage is 60 ft (18 m) from topographic map. Prior to Apr. 1, 1956, nonrecording gage at site 100 ft (30 m) downstream at different datum.

AVERAGE DISCHARGE.--6 years, 2.69 ft^3/s (0.0762 m^3/s), 1,950 acre-ft/yr (2.40 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 404 ft^3/s (11.4 m^3/s) Dec. 26, gage height, 4.77 ft (1,454 m), from rating curve extended above 20 ft^3/s (0.57 m^3/s); minimum, 0.04 ft^3/s (0.001 m^3/s) Jan. 21.

Period of record: Maximum discharge, 910 ft^3/s (25.8 m^3/s) June 4, 1972, gage height, 6.80 ft (2.073 m), from rating curve extended above 26 ft^3/s (0.74 m^3/s); minimum, 0.03 ft^3/s (0.001 m^3/s) Mar. 31, 1969.

REMARKS.--Records fair to poor. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.9	.25	18	3.5	24	.12	1.3	5.4	5.6	.52	.15
2	3.5	4.4	.19	8.8	20	6.2	.10	.97	3.7	3.2	.80	.19
3	20	4.2	.15	6.4	8.1	7.2	.19	.65	3.0	2.2	31	.41
4	8.8	3.2	.15	6.2	4.4	9.2	.12	.65	5.6	1.6	6.4	5.9
5	5.6	2.2	.12	4.2	3.0	6.9	.15	.52	4.9	15	9.5	1.6
6	16	1.6	.10	2.7	2.5	4.9	.12	.25	4.4	4.4	5.9	.80
7	8.5	3.7	.10	1.8	2.3	6.9	1.6	.32	2.2	7.0	3.2	.41
8	4.9	3.0	.10	1.3	5.2	17	.97	.32	2.0	6.4	2.2	.25
9	12	2.5	.10	.97	3.9	43	6.8	.32	2.0	3.9	3.7	.32
10	7.4	2.0	.10	.97	2.2	32	5.2	.25	3.7	4.6	6.4	.19
11	4.4	1.6	.10	.52	1.6	27	10	.32	12	4.2	30	1.4
12	3.0	1.5	1.6	.32	4.4	9.9	19	.32	6.2	16	7.2	3.9
13	2.2	1.3	6.7	.25	4.2	6.9	6.2	.19	4.4	15	4.4	9.7
14	1.8	2.5	3.9	.25	2.5	4.7	3.5	.25	4.2	14	3.0	3.0
15	1.3	4.2	1.8	.19	1.6	3.2	2.3	.32	3.7	8.1	2.2	4.7
16	1.3	3.7	2.3	.12	.97	4.2	1.8	.25	3.2	5.9	1.6	3.0
17	1.1	2.7	5.9	.10	.97	2.7	1.1	1.3	19	4.7	1.3	1.5
18	.80	2.0	4.9	.08	.97	1.8	.97	21	6.9	3.5	1.3	1.0
19	1.1	1.6	3.2	.08	7.8	1.5	.65	11	4.9	2.7	.80	.80
20	40	2.0	3.0	.08	3.0	1.1	.52	5.4	3.5	2.3	.65	.60
21	5.4	1.8	2.7	.06	1.8	.97	.41	3.2	2.3	1.8	.52	.40
22	3.5	1.6	3.0	.32	1.3	.80	.97	11	2.0	1.6	1.5	.30
23	3.0	1.8	3.5	.15	1.1	.65	1.6	7.8	1.5	1.3	1.1	.20
24	6.9	1.5	2.3	.25	3.7	.52	1.5	5.4	1.3	1.3	.65	.50
25	14	1.1	4.7	.97	1.8	.41	8.1	2.7	.97	.97	.41	12
26	9.2	.97	60	7.8	1.3	.41	3.7	3.7	1.1	.80	.25	3.0
27	21	.52	7.8	5.2	.80	.32	2.2	8.5	.80	.80	.19	2.0
28	7.4	.41	4.7	7.4	.52	.32	3.9	5.9	1.3	.80	.19	5.0
29	4.7	.41	3.2	3.7	------	.25	2.2	5.2	2.2	.80	.80	10
30	5.9	.32	2.7	4.4	------	.19	1.6	4.9	12	.65	.25	3.0
31	4.4	------	25	2.5	------	.15	------	8.5	------	.52	.19	------
TOTAL	232.10	64.23	154.36	86.08	95.43	225.29	87.59	112.70	130.37	141.64	128.12	76.22
MEAN	7.49	2.14	4.98	2.78	3.41	7.27	2.92	3.64	4.35	4.57	4.13	2.54
MAX	40	4.4	60	18	20	43	19	21	19	16	31	12
MIN	.80	.32	.10	.06	.52	.15	.10	.19	.80	.52	.19	.15
AC-FT	460	127	306	171	189	447	174	224	259	281	254	151

CAL YR 1973 TOTAL 823.89 MEAN 2.26 MAX 60 MIN .04 AC-FT 1,630
WTR YR 1974 TOTAL 1,534.13 MEAN 4.20 MAX 60 MIN .06 AC-FT 3,040

PEAK DISCHARGE (BASE, 170 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-20	0300	4.54	360	7-12	2130	3.32	181
12-26	0500	4.77	404	8- 3	1300	4.46	346
3- 9	2100	3.95	266	8-11	0530	3.84	251
6-17	0830	3.43	195				

16894200 NACHIPONONG STREAM, MOEN

LOCATION.--Lat 7°25'45" N., long 151°51'31" E., on left bank at Wichap, 300 ft (91 m) downstream from dam site, and 0.2 mi (0.3 km) upstream from mouth.

DRAINAGE AREA.--0.16 mi^2 (0.41 km^2).

PERIOD OF RECORD.--June 1968 to current year.

GAGE.--Water-stage recorder. Concrete control since Aug. 10, 1971. Altitude of gage is 33 ft (10.1 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 0.525 ft^3/s (0.0149 m^3/s), 380 acre-ft/yr (469,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 74 ft^3/s (2.10 m^3/s) Aug. 3, gage height, 2.76 ft (0.841 m), from rating curve extended above 11 ft^3/s (0.31 m^3/s); minimum, no flow Dec. 10.

Period of record: Maximum discharge, 102 ft^3/s (2.89 m^3/s) June 4, 1972, gage height, 3.86 ft (1.177 m), from rating curve extended above 11 ft^3/s (0.31 m^3/s); no flow Mar. 26-31, 1969, March and April 1973, Dec. 10, 1973.

REMARKS.--Records fair to poor. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.64	1.1	.15	4.1	1.9	3.5	.15	.34	.84	.34	.15	.03
2	1.7	1.1	.15	3.0	3.7	.64	.12	.31	.55	.15	.22	.03
3	5.2	.90	.12	2.6	.84	1.8	.17	.25	.55	.12	6.6	.04
4	1.2	.64	.12	2.9	.51	1.8	.12	.25	1.1	.15	1.2	.47
5	.69	.51	.07	2.1	.37	1.6	.17	.22	.69	2.7	1.8	.05
6	2.0	.47	.06	1.7	.34	1.1	.12	.17	1.2	.55	1.1	.03
7	1.2	.84	.07	1.6	.25	4.0	.80	.15	.69	1.8	.79	.02
8	.74	.51	.05	1.3	.55	4.2	.50	.15	.55	1.9	.69	.02
9	2.4	.51	.02	1.2	.25	7.4	1.4	.12	.51	.74	1.0	.02
10	1.3	.40	.01	1.2	.15	5.2	.84	.10	.64	1.7	.84	.02
11	.84	.34	.08	1.1	.12	4.7	1.6	.15	1.3	1.1	4.1	.13
12	.59	.31	.43	1.1	1.3	2.7	1.9	.10	.69	1.5	.87	.09
13	.69	.69	.69	1.1	.43	2.2	.90	.09	.64	1.3	.59	.04
14	.59	.64	.25	1.0	.31	1.6	.51	.09	.69	1.2	.51	.02
15	.51	.74	.06	.79	.37	1.2	.59	.37	.55	.84	.40	.85
16	.43	.59	.07	.74	.22	1.3	.74	.12	.59	.64	.34	.17
17	.39	.51	1.1	.69	.22	.84	.51	1.2	3.1	.55	.40	.05
18	.40	.40	.51	.69	.25	.74	.40	6.1	.47	.43	.51	.04
19	.43	.43	.25	.69	1.7	.74	.40	1.9	.37	.37	.34	.03
20	5.0	.55	.25	.69	.37	.59	.31	.84	.37	.34	.25	.03
21	.74	.37	.20	.74	.25	.51	.28	.47	.31	.34	.22	.02
22	.59	.40	.25	.74	.40	.40	.51	.84	.25	.37	.20	.03
23	.69	.55	.40	.79	.28	.40	.69	.59	.20	.34	.15	.03
24	1.3	.43	.25	.79	.55	.34	.55	.69	.20	.28	.12	.07
25	1.6	.37	1.7	1.1	.34	.34	2.2	.43	.15	.17	.10	2.7
26	1.2	.28	7.1	1.2	.40	.31	.69	.37	.15	.15	.08	.40
27	3.6	.22	1.3	2.2	.25	.28	.51	1.9	.09	.17	.04	.17
28	1.6	.25	.84	1.4	.25	.25	.64	.84	.43	.25	.03	1.0
29	1.2	.22	.64	.31	------	.20	.40	1.1	.40	.22	.12	1.9
30	2.4	.20	.59	1.0	------	.17	.47	.79	1.6	.20	.04	.59
31	1.2	------	4.3	.20	------	.15	------	1.1	------	.15	.03	------
TOTAL	43.06	15.47	22.08	40.76	16.87	51.20	19.19	22.14	19.87	21.06	23.83	9.09
MEAN	1.39	.52	.71	1.31	.60	1.65	.64	.71	.66	.68	.77	.30
MAX	5.2	1.1	7.1	4.1	3.7	7.4	2.2	6.1	3.1	2.7	6.6	2.7
MIN	.39	.20	.01	.20	.12	.15	.12	.09	.09	.12	.03	.02
AC-FT	85	31	44	81	33	102	38	44	39	42	47	18

CAL YR 1973 TOTAL 170.50 MEAN .47 MAX 7.1 MIN 0 AC-FT 338
WTR YR 1974 TOTAL 304.62 MEAN .83 MAX 7.4 MIN .01 AC-FT 604

PEAK DISCHARGE (BASE, 40 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10- 2	2400	2.45	46	12-26	0330	3.06	62
10-20	0200	2.35	52	8- 3	1200	2.76	74

CAROLINE ISLANDS, TRUK ISLANDS

16895000 ECHAPACHIK STREAM, TOL

LOCATION.--Lat 7°20'57" N., long 151°37'26" E., on right bank 0.2 mi (0.3 km) upstream from mouth and 0.6 mi (1.0 km) north of Mount Tumuital.

DRAINAGE AREA.--0.15 mi^2 (0.39 km^2).

PERIOD OF RECORD.--April 1955 to March 1957 (published as "at Fasan"), June 1968 to current year.

GAGE.--Water-stage recorder. Concrete control since Nov. 6, 1971. Altitude of gage is 10 ft (3 m) from topographic map. Prior to Apr. 1, 1957, nonrecording gage at same site at different datum.

AVERAGE DISCHARGE.--7 years (1955-56, 1968-74), 0.510 ft^3/s (0.0144 m^3/s), 369 acre-ft/yr (455,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 23 ft^3/s (0.65 m^3/s) Aug. 11, gage height, 3.40 ft (1.036 m), from rating curve extended above 13 ft^3/s (0.37 m^3/s); no flow Feb. 17.

Period of record: Maximum discharge, 51 ft^3/s (1.44 m^3/s) Sept. 1, 1970, gage height, 3.23 ft (0.985 m), from rating curve extended above 0.7 ft^3/s (0.020 m^3/s); no flow Mar. 24, 25, 1957, for many days in 1969, and Feb. 17, 1974.

REMARKS.--Records poor. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 2137: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	.60	.16	2.3	.18	4.9	.04	.12	1.1	.66	.09	.09
2	.49	.35	.16	1.0	1.3	1.2	.04	.10	.49	.24	.09	.07
3	2.2	.27	.14	.44	.78	2.8	.06	.09	.14	.27	6.6	.21
4	1.0	.27	.27	.21	.35	2.4	.06	.09	.24	.67	3.6	.18
5	.44	.21	.14	.14	.16	1.1	.04	.07	.31	5.7	5.1	.12
6	.54	.21	.12	.10	.14	.39	.06	.06	.35	1.2	2.1	.10
7	.72	.18	.12	.09	.16	.84	.50	.07	.24	1.1	1.5	.14
8	.35	.16	.14	.06	.12	2.5	.30	.07	.12	.72	2.2	.12
9	.31	.16	.10	.04	.18	3.7	1.0	.09	.10	.66	1.4	.09
10	.39	.16	.10	.04	.21	2.7	.70	.09	.18	2.0	.90	.09
11	.27	.14	.09	.06	.10	2.2	1.0	.07	.31	.97	6.4	.12
12	.16	.14	.31	.06	.14	1.2	1.5	.06	.39	1.1	1.3	.14
13	.14	.14	.95	.04	.14	.90	.80	.06	.27	1.4	.60	.09
14	.10	.24	1.3	.04	.07	.66	.40	.06	.24	.90	.39	.07
15	.09	.66	.60	.04	.03	.49	.20	.06	.21	1.4	.24	1.1
16	.10	2.6	.16	.10	.01	.39	.30	.04	.16	1.5	.18	.66
17	.09	1.1	.78	.04	.01	.27	.20	.16	.84	.84	.18	.31
18	.10	.39	1.3	.04	.02	.21	.15	1.9	.66	.54	.18	.18
19	.14	.31	1.4	.06	.66	.16	.10	1.7	.27	.39	.16	.12
20	3.3	.27	.97	.06	.39	.14	.09	.78	.21	.31	.14	.10
21	1.0	.21	.49	.04	.09	.14	.08	.14	.18	.24	.14	.09
22	.66	.61	.49	.09	.10	.10	.20	.04	.16	.18	.12	.09
23	.44	1.5	4.5	.04	.07	.12	.30	.21	.24	.14	.09	.10
24	1.5	1.4	3.2	.12	1.4	.09	.20	.44	.14	.14	.09	.71
25	2.6	.72	3.6	.16	.66	.07	1.5	.27	.10	.12	.10	2.9
26	1.9	.60	3.7	.14	.44	.07	1.1	.10	.09	.10	.10	1.1
27	5.0	.39	1.5	.27	.27	.10	.31	.24	.09	.10	.09	.80
28	1.4	.35	.72	.90	.59	.07	.16	.16	.24	.14	.18	.99
29	.84	.35	.44	.44	------	.06	.12	.31	.21	.11	.16	3.3
30	.90	.18	.44	.35	------	.06	.10	1.1	1.4	.09	.12	.84
31	.84	------	4.8	.18	------	.04	------	.84	------	.07	.10	------
TOTAL	28.91	14.87	33.19	7.69	8.77	30.07	11.61	9.59	9.68	24.00	34.64	15.02
MEAN	.93	.50	1.07	.25	.31	.97	.39	.31	.32	.77	1.12	.50
MAX	5.0	2.6	4.8	2.3	1.4	4.9	1.5	1.9	1.4	5.7	6.6	3.3
MIN	.09	.14	.09	.04	.01	.04	.04	.04	.09	.07	.09	.07
AC-FT	57	29	66	15	17	60	23	19	19	48	69	30

CAL YR 1973 TOTAL 170.53 MEAN .47 MAX 5.5 MIN .01 AC-FT 338
WTR YR 1974 TOTAL 228.04 MEAN .62 MAX 6.6 MIN .01 AC-FT 452

PEAK DISCHARGE (BASE, 15 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
3- 1	0130	2.78	18	8- 3	1300	3.00	21
3- 9	1930	2.74	16	8-11	0430	3.40	23

16896800 CHUN STREAM, DUBLON ISLAND

LOCATION.--Lat 7°22'36" N., long 151°52'13" E., on right bank at Chun, 0.4 mi (0.6 km) upstream from mouth, and 1.8 mi (2.9 km) west of Penienuk.

DRAINAGE AREA.--0.09 mi^2 (0.23 km^2).

PERIOD OF RECORD.--June 1968 to current year.

GAGE.--Water-stage recorder. Concrete control since Sept. 10, 1971. Altitude of gage is 50 ft (15 m) from topographic map.

AVERAGE DISCHARGE.--6 years, 0.477 ft^3/s (0.0135 m^3/s), 346 acre-ft/yr (427,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 36 ft^3/s (1.02 m^3/s) Aug. 3, gage height, 3.15 ft (0.960 m), from rating curve extended above 1.1 ft^3/s (0.031 m^3/s); minimum, 0.06 ft^3/s (0.002 m^3/s) Jan. 21.

Period of record: Maximum discharge, 39 ft^3/s (1.10 m^3/s) Feb. 18, 1970, gage height, 3.00 ft (0.914 m), from rating curve extended above 0.8 ft^3/s (0.023 m^3/s); minimum, 0.01 ft^3/s (<0.001 m^3/s) many days February to April, 1969, March and April, 1973.

REMARKS.--Records poor. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.85	1.0	.23	3.5	.37	3.9	.18	.37	.65	.42	.23	.15
2	.75	.85	.23	2.5	.95	2.0	.18	.33	.56	.33	.20	.25
3	1.7	.80	.26	2.0	.65	1.9	.26	.29	.56	.29	3.3	.25
4	1.6	.70	.23	2.5	.47	1.5	.18	.29	1.0	.29	1.0	.20
5	1.0	.61	.20	1.8	.42	1.2	.18	.29	.75	.70	.75	.18
6	1.2	.56	.20	1.5	.47	1.2	.26	.29	1.0	.37	.65	.15
7	1.0	.56	.20	1.3	.47	1.0	.26	.26	.75	.61	.56	.15
8	.85	.52	.18	1.1	.56	1.2	.20	.29	.56	.37	.52	.18
9	1.1	.52	.18	1.0	.47	1.8	.85	.26	.61	.33	.62	.15
10	.95	.42	.18	.90	.33	2.2	.56	.26	.70	.56	1.2	.15
11	.75	.33	.18	.80	.26	2.8	.40	.26	.85	.42	2.7	.20
12	.65	.33	.23	.70	.85	1.5	.85	.23	.61	.37	1.1	.18
13	.56	.56	.26	.60	.70	1.2	.60	.23	.56	.37	.85	.15
14	.52	.37	.20	.50	.47	1.0	.40	.20	.56	.37	.65	.13
15	.47	.61	.15	.40	.70	.85	.35	.23	.52	.42	.65	.65
16	.47	.61	.15	.30	.47	.90	.30	.18	.47	.37	.61	.35
17	.37	.85	.23	.25	.42	.75	.25	1.0	.52	.37	.56	.25
18	.33	.61	.18	.20	.52	.65	.22	2.8	.42	.33	.52	.20
19	.42	.47	.23	.15	1.2	.56	.20	1.4	.42	.29	.47	.18
20	1.7	.47	.26	.10	.70	.52	.18	.90	.37	.29	.37	.15
21	.75	.47	.18	.08	.56	.47	.18	.61	.33	.29	.33	.13
22	.61	.47	.42	.20	1.7	.37	.25	.56	.26	.29	.33	.11
23	.56	.65	.56	.08	1.0	.37	.50	.52	.26	.29	.29	.11
24	1.0	.47	.29	.09	2.3	.33	.40	.56	.23	.29	.26	.18
25	1.2	.37	3.0	.67	1.2	.29	1.2	.47	.23	.26	.23	1.0
26	1.5	.29	4.0	.95	.95	.29	.65	.47	.23	.26	.20	.50
27	2.9	.33	.95	.70	.85	.26	.56	1.5	.20	.26	.18	.35
28	1.0	.29	.61	1.0	1.7	.33	.52	1.7	.23	.33	.15	.65
29	.88	.26	.47	.47	------	.23	.47	.95	.15	.29	.25	1.0
30	2.0	.26	.18	.37	------	.20	.47	.85	.80	.26	.20	.50
31	1.0	------	4.5	.29	------	.18	------	.75	------	.23	.20	------
TOTAL	30.64	15.61	19.32	27.00	21.71	31.95	12.06	19.30	15.36	10.92	20.13	8.78
MEAN	.99	.52	.62	.87	.78	1.03	.40	.62	.51	.35	.65	.29
MAX	2.9	1.0	4.5	3.5	2.3	3.9	1.2	2.8	1.0	.70	3.3	1.0
MIN	.33	.26	.15	.08	.26	.18	.18	.18	.15	.23	.15	.11
AC-FT	61	31	38	54	43	63	24	38	30	22	40	17

CAL YR 1973 TOTAL 142.39 MEAN .39 MAX 4.5 MIN .01 AC-FT 282
WTR YR 1974 TOTAL 232.78 MEAN .64 MAX 4.5 MIN .08 AC-FT 462

PEAK DISCHARGE (BASE, 16 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-30	0130	2.73	19	5-18	1300	2.77	20
12-26	0300	3.08	30	8- 3	1230	3.15	36
12-31	1400	2.77	19	8-11	0400	2.74	20
3- 1	0100	2.88	24				

NOTE.--No gage-height record Aug. 29 to Sept. 30.

16897200 TUMUNU STREAM, DUBLON ISLAND

LOCATION.--Lat 7°22'42" N., long 151°52'51" E., on left bank at Roro, 0.1 mi (0.2 km) upstream from mouth, and 1.1 mi (1.8 km) west of Penienuk.

DRAINAGE AREA.--0.26 mi^2 (0.67 km^2).

PERIOD OF RECORD.--June 1968 to current year.

GAGE.--Water-stage recorder. Concrete control since Aug. 13, 1971. Altitude of gage is 15 ft (4.6 m), from topographic map.

AVERAGE DISCHARGE.--6 years, 1.04 ft^3/s (0.0295 m^3/s), 753 acre-ft/yr (928,000 m^3/yr).

EXTREMES.--Current year: Maximum discharge, 52 ft^3/s (1.47 m^3/s) Dec. 26, gage height, 3.11 ft (0.948 m) from rating curve extended above 2.0 ft^3/s (0.057 m^3/s); minimum, 0.01 ft^3/s (<0.001 m^3/s) May 16.

Period of record: Maximum discharge, 168 ft^3/s (4.76 m^3/s) Feb. 18, 1970, gage height, 5.08 ft (1.548 m), from rating curve extended above 5.4 ft^3/s (0.15 m^3/s); minimum, 0.01 ft^3/s (<0.001 m^3/s) Mar. 29, Apr. 1-7, 1973, May 16, 1974.

REMARKS.--Records poor. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	3.0	.78	6.0	1.0	10	.35	.89	2.6	1.6	.56	.35
2	1.5	2.4	.67	5.0	3.0	5.8	.42	.78	2.2	1.2	.45	.56
3	5.0	2.0	.67	4.0	2.0	5.0	.62	.72	2.1	1.0	5.9	.56
4	4.0	1.8	.62	5.0	1.3	4.3	.42	.62	3.2	.89	3.0	.50
5	3.0	1.5	.56	3.0	1.1	3.5	.45	.62	2.9	1.6	1.9	.38
6	3.5	1.5	.50	2.5	1.3	2.9	.62	.56	3.4	1.2	1.4	.35
7	3.0	1.4	.45	2.3	1.2	2.6	.50	.50	2.8	1.9	1.1	.35
8	2.0	1.2	.50	2.0	1.5	2.7	.42	.42	2.3	1.4	1.0	.42
9	3.0	1.2	.45	1.8	1.3	3.8	2.3	.42	2.1	1.2	1.4	.35
10	2.2	.94	.56	1.6	1.0	5.3	1.4	.35	3.4	1.5	3.2	.35
11	1.6	.89	.50	1.4	.90	7.2	1.0	.35	3.8	1.4	6.0	.45
12	1.3	.84	.60	1.3	1.8	4.5	2.4	.28	3.2	1.3	3.4	.38
13	1.2	2.0	.70	1.2	1.9	3.6	1.5	.25	2.7	1.2	2.7	.32
14	1.1	1.6	.50	1.1	1.4	2.9	1.1	.18	2.6	1.1	2.0	.30
15	.93	2.4	.45	1.0	1.6	2.3	.94	.15	2.2	1.4	1.7	2.0
16	.93	2.5	.40	.90	1.3	2.1	.84	.12	1.9	1.2	1.4	.70
17	.83	3.0	.60	.80	1.2	1.6	.78	2.4	2.1	1.2	1.2	.60
18	.79	2.5	.50	.70	1.3	1.4	.67	7.9	1.9	.94	1.0	.50
19	.83	2.0	.60	.60	3.0	1.2	.62	4.8	1.8	.84	.89	.40
20	2.8	1.7	.70	.50	1.7	.94	.56	3.4	1.7	.67	.84	.35
21	1.4	1.5	.50	.40	1.4	.78	.50	2.4	1.4	.56	.78	.30
22	1.2	1.4	1.2	.60	3.9	.67	.78	2.3	1.3	.45	.72	.25
23	1.0	2.5	1.5	.40	2.8	.56	1.5	2.0	1.0	.50	.67	.25
24	1.6	1.5	1.0	.50	5.8	.45	1.3	2.3	.94	.45	.56	.40
25	1.8	1.3	7.0	2.0	3.6	.42	3.5	2.1	.84	.42	.50	4.0
26	3.0	1.1	10	3.0	2.8	.50	2.0	1.8	.84	.42	.45	1.0
27	6.0	1.1	3.0	2.0	2.2	.50	1.5	4.5	.78	.42	.38	.70
28	2.0	.94	2.0	3.0	2.4	.62	1.3	5.0	.72	.62	.38	2.0
29	1.5	.89	1.3	1.5	------	.45	1.1	4.0	.62	.42	.56	3.0
30	4.8	.84	.70	1.0	------	.38	1.0	3.2	2.7	.32	.42	1.0
31	3.2	------	10	.70	------	.35	------	2.9	------	.35	.50	------
TOTAL	69.01	49.44	49.51	57.80	55.70	79.32	32.39	58.21	62.04	29.67	46.96	23.07
MEAN	2.23	1.65	1.60	1.86	1.99	2.56	1.08	1.88	2.07	.96	1.51	.77
MAX	6.0	3.0	10	6.0	5.8	10	3.5	7.9	3.8	1.9	6.0	4.0
MIN	.79	.84	.40	.40	.90	.35	.35	.12	.62	.32	.38	.25
AC-FT	137	98	98	115	110	157	64	115	123	59	93	46

CAL YR 1973 TOTAL 327.98 MEAN .90 MAX 10 MIN .01 AC-FT 651
WTR YR 1974 TOTAL 613.12 MEAN 1.68 MAX 10 MIN .12 AC-FT 1,220

PEAK DISCHARGE (BASE, 30 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-26	/0300	3.11	52	5-18	1200	2.54	30
3- 1	0300	2.61	33	8- 3	1200	2.95	46

/ About.

NOTE.--No gage-height record Dec. 11 to Feb. 11.

16897600 NANEPIL RIVER

LOCATION.--Lat 6°55'11" N., long 158°12'36" E., on left bank 1.4 mi (2.3 km) northeast of Mount Tamatanansakir and 1.4 mi (2.3 km) southeast of Rekisau.

DRAINAGE AREA.--2.93 mi^2 (7.59 km^2).

PERIOD OF RECORD.--March 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 390 ft (119 m) from topographic map.

EXTREMES.--Current year: Maximum discharge, 8,800 ft^3/s (249 m^3/s) July 11, gage height, 8.16 ft (2.487 m), from rating curve extended above 130 ft^3/s (3.68 m^3/s); minimum, 1.6 ft^3/s (0.045 m^3/s) Oct. 21, 22.

Period of record: Maximum discharge, 8,800 ft^3/s (249 m^3/s) July 11, 1974, gage height, 8.16 ft (2.487 m), from rating curve extended above 130 ft^3/s (3.68 m^3/s); minimum, 1.6 ft^3/s (0.045 m^3/s) Nov. 17-23, 1972, Feb. 6, Oct. 21, 22, 1973.

REMARKS.--Records fair except those above 200 ft^3/s (5.66 m^3/s), which are poor. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	28	6.0	98	49	9.8	24	34	159	24	33	16
2	20	21	5.2	29	161	16	130	54	105	15	49	12
3	12	21	7.1	160	43	52	64	30	45	13	42	9.0
4	9.7	31	13	30	72	91	29	30	156	56	81	19
5	12	35	78	15	400	50	34	18	266	34	32	12
6	105	391	27	187	44	23	53	16	51	38	38	21
7	29	30	21	88	50	52	37	17	27	19	28	16
8	36	23	16	32	126	135	42	14	34	18	370	9.7
9	22	16	45	16	25	38	51	18	94	77	227	29
10	200	11	74	11	67	160	280	30	29	143	54	151
11	30	8.7	19	8.3	25	224	58	130	68	370	49	51
12	14	14	100	6.4	30	46	81	62	31	41	38	91
13	11	13	37	5.2	14	26	123	130	21	19	227	34
14	9.0	33	26	4.3	14	19	37	77	31	200	44	16
15	8.3	16	127	3.8	11	118	114	37	23	70	22	185
16	14	59	132	3.2	7.1	107	234	45	14	32	16	33
17	9.0	25	25	2.8	15	260	34	61	18	84	72	14
18	8.6	46	150	16	152	24	21	32	14	40	27	29
19	7.2	21	38	31	105	23	82	18	17	76	14	17
20	4.0	34	25	11	64	15	97	16	61	43	12	11
21	2.2	21	202	67	36	10	43	16	20	25	10	10
22	66	119	39	49	101	8.6	46	44	16	16	8.6	9.7
23	221	22	52	27	39	32	154	38	13	170	8.3	18
24	40	16	71	16	85	21	43	77	27	37	8.6	12
25	70	11	127	9.0	20	13	28	61	20	18	8.6	113
26	28	9.0	115	198	12	39	62	58	38	12	12	24
27	155	25	36	25	32	20	34	26	32	24	10	12
28	93	15	16	15	12	20	25	49	46	53	10	11
29	251	9.4	23	10	------	224	28	62	88	23	12	17
30	49	7.5	35	9.0	------	32	96	60	41	60	352	10
31	96	------	188	8.7	------	17	------	22	------	34	32	------
TOTAL	1,679.0	1,131.6	1,875.3	1,191.7	1,811.1	1,925.4	2,184	1,382	1,605	1,884	1,947.1	1,012.4
MEAN	54.2	37.7	60.5	38.4	64.7	62.1	72.8	44.6	53.5	60.8	62.8	33.7
MAX	251	391	202	198	400	260	280	130	266	370	370	185
MIN	2.2	7.5	5.2	2.8	7.1	8.6	21	14	13	12	8.3	9.0
AC-FT	3,330	2,240	3,720	2,360	3,590	3,820	4,330	2,740	3,180	3,740	3,860	2,010

CAL YR 1973 TOTAL 17,397.6 MEAN 47.7 MAX 554 MIN 1.6 AC-FT 34,510
WTR YR 1974 TOTAL 19,628.6 MEAN 53.8 MAX 400 MIN 2.2 AC-FT 38,930

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-29	1230	7.04	4,220	7-11	0530	8.16	8,800
11- 6	0600	8.04	8,200				

16897900 LUI RIVER

LOCATION.--Lat 6°55'36" N., long 158°12'55" E., on right bank 300 ft (91 m) upstream from right-bank tributary and 1.3 mi (2.1 km) southeast of Rekisau.

DRAINAGE AREA.--0.47 mi^2 (1.22 km^2).

PERIOD OF RECORD.--March 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 270 ft (82 m) from topographic map.

EXTREMES.--Current year: Maximum discharge, 766 ft^3/s (21.7 m^3/s) July 11, gage height, 5.13 ft (1.564 m), from rating curve extended above 37 ft^3/s (1.05 m^3/s); minimum, 0.35 ft^3/s (0.010 m^3/s) Jan. 16.

Period of record: Maximum discharge, 970 ft^3/s (27.5 m^3/s) May 4, 1972, gage height, 5.64 ft, from rating curve extended above 37 ft^3/s (1.05 m^3/s); minimum, 0.13 ft^3/s (0.004 m^3/s) Feb. 2-4, 1973.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	4.8	.47	8.9	3.4	1.7	2.5	3.0	12	5.0	5.7	2.3
2	2.3	3.1	.47	3.2	11	1.9	7.0	4.8	12	3.5	8.1	1.5
3	2.0	3.0	.53	13	4.6	2.5	5.9	3.1	5.3	2.5	5.7	.96
4	1.2	3.0	.80	3.8	3.1	6.7	3.0	3.0	16	7.0	10	1.1
5	4.2	2.1	6.1	2.3	34	7.3	3.4	1.4	23	6.0	5.3	.96
6	12	33	3.2	12	5.5	3.2	3.0	1.0	9.8	5.0	5.7	1.9
7	4.8	4.0	1.3	5.7	6.7	6.7	5.7	.96	5.5	3.5	4.2	1.5
8	3.1	3.7	1.2	2.8	10	12	6.1	.80	5.0	3.0	15	.96
9	3.0	2.1	9.1	1.5	3.1	4.0	5.3	1.0	12	15	21	.73
10	30	1.4	10	1.2	7.6	15	29	2.1	5.7	12	6.4	33
11	4.2	1.0	3.8	.80	7.0	37	7.3	12	8.9	58	14	8.7
12	2.3	3.5	10	.73	6.4	5.7	9.0	5.3	5.5	7.0	5.9	14
13	1.5	1.7	3.4	.60	2.5	2.8	13	17	3.7	3.8	28	4.8
14	1.2	4.0	3.6	.47	1.7	2.0	5.9	13	4.8	23	5.7	2.0
15	1.0	3.0	16	.47	1.5	21	15	5.0	3.7	9.0	3.4	15
16	3.4	3.8	12	.41	1.0	11	10	4.2	2.4	5.5	2.4	4.6
17	1.7	3.2	3.4	.41	2.3	17	3.8	9.0	2.6	3.7	6.7	2.1
18	1.3	5.7	9.4	1.3	13	4.2	2.8	4.2	3.8	3.2	3.4	3.2
19	1.1	4.8	4.4	3.4	9.0	5.0	6.8	2.4	4.0	5.0	2.1	2.3
20	.80	5.3	3.0	.80	6.1	2.5	9.5	2.0	6.9	7.0	1.8	1.5
21	.66	2.6	12	5.0	4.4	1.3	7.0	2.1	3.7	5.7	1.3	1.4
22	7.4	7.7	4.2	6.0	11	.88	5.3	5.3	3.7	3.6	1.0	1.5
23	26	2.5	5.9	4.0	5.5	1.7	8.7	3.8	3.0	26	.96	2.4
24	7.3	1.7	5.7	2.4	5.3	1.2	3.6	8.1	6.4	6.1	.96	1.9
25	9.8	1.1	5.9	.96	2.4	.73	2.3	8.7	6.1	3.4	.96	12
26	4.8	1.9	9.8	4.2	1.5	1.1	5.5	4.0	19	2.3	1.5	4.2
27	13	2.3	4.2	2.4	8.7	1.8	4.4	2.5	5.5	3.4	1.1	2.1
28	14	1.9	2.4	1.5	2.5	2.3	3.2	9.9	6.2	3.7	1.7	1.5
29	49	.80	2.3	1.0	------	17	3.4	15	15	3.9	1.4	2.1
30	9.0	.53	5.0	.96	------	4.4	8.9	7.3	7.0	6.9	17	1.2
31	7.6	------	13	.96	------	2.0	------	3.6	------	5.9	4.6	------
TOTAL	231.66	119.23	172.57	93.17	180.8	203.61	206.3	165.56	228.2	258.6	192.98	133.41
MEAN	7.47	3.97	5.57	3.01	6.46	6.57	6.88	5.34	7.61	8.34	6.23	4.45
MAX	49	33	16	13	34	37	29	17	23	58	28	33
MIN	.66	.53	.47	.41	1.0	.73	2.3	.80	2.4	2.3	.96	.73
AC-FT	459	236	342	185	359	404	409	328	453	513	383	265

CAL YR 1973 TOTAL 1,732.65 MEAN 4.75 MAX 58 MIN .13 AC-FT 3,440
WTR YR 1974 TOTAL 2,186.09 MEAN 5.99 MAX 58 MIN .41 AC-FT 4,340

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-29	1230	4.74	642	7-11	0500	5.13	766
11- 6	0630	4.47	561	9-10	0930	4.37	531
3-11	1200	4.44	552				

16898200 LUI RIVER AT MOUTH

LOCATION.--Lat 6°57'07" N., long 158°13'16" E., on right bank 0.4 mi (0.6 km) upstream from mouth and 1.3 mi (2.1 km) west of Tolenot Peak.

DRAINAGE AREA.--2.06 mi^2 (5.34 km^2).

PERIOD OF RECORD.--March 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 40 ft (12 m) from topographic map.

EXTREMES.--Current year: Maximum discharge, 4,000 ft^3/s (113 m^3/s) Mar. 11, gage height, 6.20 ft (1.890 m), from rating curve extended above 92 ft^3/s (2.61 m^3/s); minimum, 0.62 ft^3/s (0.018 m^3/s) Jan. 20, when gate in dam 500 ft (152 m) upstream was closed.

Period of record: Maximum discharge, 7,440 ft^3/s (211 m^3/s) July 17, 1971, gage height, 7.92 ft (2.414 m), from rating curve extended above 92 ft^3/s (2.61 m^3/s); minimum, 0.26 ft^3/s (0.007 m^3/s) Jan. 20, 1973.

REMARKS.--Records fair. During dry periods, water is diverted from dam, 500 ft upstream, to Tawannu River pump-station pool for domestic use in Kolonia. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	30	5.6	39	11	12	13	19	50	24	16	9.8
2	11	20	5.0	19	30	10	22	22	54	17	35	7.8
3	10	17	4.9	52	16	10	19	15	24	14	25	6.7
4	8.4	16	5.5	24	12	20	13	14	58	35	41	6.0
5	56	15	23	15	240	24	14	10	116	31	25	5.3
6	55	188	14	35	32	13	12	8.4	49	28	29	7.4
7	19	26	9.5	27	25	21	20	8.0	30	17	21	7.0
8	14	20	9.8	19	50	48	26	7.6	24	17	66	5.5
9	11	14	32	11	18	19	25	7.6	52	64	87	4.7
10	126	11	46	9.2	30	50	320	8.4	28	48	34	80
11	24	8.8	17	7.8	31	305	43	53	40	360	83	21
12	14	15	33	6.7	30	37	34	20	25	34	34	60
13	10	10	19	5.8	15	21	56	64	17	21	153	22
14	8.4	21	15	5.2	11	16	35	64	19	197	33	12
15	7.6	14	60	4.7	9.2	113	80	25	16	36	20	43
16	12	13	67	4.3	7.6	61	60	20	12	25	14	18
17	8.0	11	20	4.0	10	73	24	26	11	17	21	11
18	6.5	20	40	6.8	36	23	16	17	14	17	15	14
19	6.0	20	27	15	33	26	28	12	17	19	10	11
20	5.0	21	18	6.7	27	17	41	10	27	49	8.8	8.6
21	4.3	13	42	11	17	12	29	9.0	16	28	7.8	8.0
22	17	36	24	19	39	10	23	16	15	20	6.7	8.2
23	129	16	24	14	24	11	32	14	15	76	6.2	10
24	36	11	20	11	24	9.8	17	31	27	27	6.5	8.4
25	39	9.5	21	7.8	13	7.8	14	41	26	16	6.2	24
26	23	7.6	43	14	11	8.4	27	21	63	12	7.2	14
27	59	14	23	10	38	9.2	23	14	26	12	6.5	9.0
28	79	9.5	15	8.4	15	8.6	17	68	27	14	6.4	7.8
29	290	7.2	12	6.5	------	66	15	80	105	12	6.7	9.2
30	46	6.2	15	5.8	------	23	58	41	36	20	46	6.7
31	34	------	44	5.5	------	13	------	22	------	19	17	------
TOTAL	1,182.2	640.8	754.3	430.2	854.8	1,097.8	1,156	788.0	1,039	1,326	894.0	466.1
MEAN	38.1	21.4	24.3	13.9	30.5	35.4	38.5	25.4	34.6	42.8	28.8	15.5
MAX	290	188	67	52	240	305	320	80	116	360	153	80
MIN	4.3	6.2	4.9	4.0	7.6	7.8	12	7.6	11	12	6.2	4.7
AC-FT	2,340	1,270	1,500	853	1,700	2,180	2,290	1,560	2,060	2,630	1,770	925

CAL YR 1973 TOTAL 8,155.24 MEAN 22.3 MAX 467 MIN .70 AC-FT 16,180
WTR YR 1974 TOTAL 10,629.2 MEAN 29.1 MAX 360 MIN 4.0 AC-FT 21,080

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-29	1300	6.12	3,880	7-11	0500	6.04	3,760
3-11	1300	6.20	4,000				

CAROLINE ISLANDS, ISLAND OF PONAPE

16898300 TAWANNU RIVER

LOCATION.--Lat 6°56'57" N., long 158°12'50" E., on left bank 1.3 mi (2.1 km) northeast of Rekisau and 1.8 mi (2.9 km) west of Tolenot Peak.

DRAINAGE AREA.--1.00 mi^2 (2.59 km^2).

PERIOD OF RECORD.--March 1970 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 110 ft (34 m) from topographic map.

EXTREMES.--Current year: Maximum discharge, 1,060 ft^3/s (30.0 m^3/s) Mar. 11, gage height, 4.72 ft (1.439 m), from rating curve extended above 76 ft^3/s (2.15 m^3/s); minimum, 0.18 ft^3/s (0.005 m^3/s) Oct. 21.

Period of record: Maximum discharge, 1,550 ft^3/s (43.9 m^3/s) July 17, 1971, gage height, 5.58 ft (1.701 m), from rating curve extended above 76 ft^3/s (2.15 m^3/s); no flow for many days during January and February 1973.

REMARKS.--Records fair. During dry periods, water from Lui River is pumped to the gage pool to augment the water supply and up to 360,000 gallons per day (1,368 m^3/day) is then diverted 100 ft (30 m) above station for domestic use in Kolonia. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	12	1.1	14	2.2	5.2	3.3	5.6	34	9.9	5.0	2.2
2	4.2	8.1	.82	6.6	4.5	4.2	7.1	6.7	29	7.1	14	1.8
3	2.8	7.2	.62	21	3.8	3.5	6.7	4.7	12	5.2	7.5	1.1
4	2.3	7.2	.75	8.4	3.5	8.2	5.0	4.2	40	18	11	1.3
5	3.0	8.1	6.4	5.5	90	8.2	6.3	3.0	50	13	6.0	.68
6	15	46	2.9	9.0	14	4.5	4.7	2.8	20	9.9	6.0	2.0
7	6.0	9.0	1.5	8.4	9.0	6.3	7.1	2.7	10	6.3	5.6	2.0
8	4.8	6.9	2.0	5.8	24	15	12	2.4	8.0	6.0	16	1.2
9	3.0	4.8	10	3.8	7.9	6.7	11	2.2	30	27	26	.53
10	42	3.1	11	2.9	11	18	115	2.1	10	21	13	12
11	9.4	2.4	5.2	1.9	11	91	24	20	12	85	36	4.7
12	5.8	3.0	10	1.8	11	18	14	5.2	10	14	15	18
13	4.2	2.5	6.3	1.5	6.0	9.0	30	20	8.0	8.2	64	8.2
14	2.8	6.0	4.2	1.2	4.0	6.7	17	23	7.0	42	14	4.5
15	2.2	4.2	16	.70	3.5	31	32	9.9	6.3	14	8.2	13
16	2.8	3.1	23	.62	2.8	26	32	7.1	4.2	8.6	5.6	6.3
17	1.8	2.4	7.2	.75	3.3	37	12	7.5	3.8	6.7	6.7	4.2
18	1.3	4.8	14	2.1	8.6	10	8.2	5.6	4.7	5.0	5.2	5.2
19	.88	6.3	9.7	4.7	9.9	9.0	7.5	4.0	7.1	5.2	4.0	4.5
20	.57	6.0	6.9	1.7	8.2	6.3	13	3.0	12	42	2.8	3.3
21	.30	3.8	15	1.8	4.7	4.5	9.0	2.8	6.7	11	2.5	3.3
22	1.1	9.4	8.4	3.5	11	3.5	7.9	4.0	5.6	7.9	2.2	3.0
23	38	5.2	7.2	3.0	7.9	4.0	9.4	3.5	6.3	21	2.1	3.5
24	14	3.8	6.9	2.8	7.9	3.5	7.9	7.5	13	9.4	2.2	2.8
25	16	2.4	6.6	2.1	4.7	3.0	5.2	15	7.9	5.6	2.2	4.7
26	8.7	2.1	14	2.4	3.8	3.8	8.0	7.9	28	4.7	1.5	4.2
27	30	3.3	7.5	2.5	35	3.5	6.0	5.2	10	4.5	.92	2.8
28	26	2.1	5.0	2.0	7.9	3.3	4.5	32	12	4.7	1.3	2.5
29	66	1.6	3.5	1.4	------	27	4.5	33	41	4.2	1.5	2.5
30	17	1.3	4.0	1.4	------	8.2	20	19	17	5.2	10	1.4
31	11	------	12	1.3	------	5.0	------	10	------	7.1	3.8	------
TOTAL	348.95	188.1	229.69	126.57	321.1	393.1	450.3	281.6	465.6	439.4	301.82	127.41
MEAN	11.3	6.27	7.41	4.08	11.5	12.7	15.0	9.08	15.5	14.2	9.74	4.25
MAX	66	46	23	21	90	91	115	33	50	85	64	18
MIN	.30	1.3	.62	.62	2.2	3.0	3.3	2.1	3.8	4.2	.92	.53
AC-FT	692	373	456	251	637	780	893	559	924	872	599	253

CAL YR 1973 TOTAL 2,591.62 MEAN 7.10 MAX 134 MIN 0 AC-FT 5,140
WTR YR 1974 TOTAL 3,673.64 MEAN 10.1 MAX 115 MIN .30 AC-FT 7,290

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-29	1300	/3.8	/640	7-11	0630	/4.5	/950
3-11	1200	4.72	1,060				

/ About.

16898600 LUPWOR RIVER

LOCATION.--Lat 6°54'15" N., long 158°09'45" E., on left bank about 300 ft (91 m) upstream from 50-ft (15-m) waterfall, 1.8 mi (2.9 km) above mouth, and 2.1 mi (3.4 km) west of Mount Tamatamansakir.

DRAINAGE AREA.--1.12 mi^2 (2.90 km^2).

PERIOD OF RECORD.--September 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 100 ft (30 m) from topographic map.

EXTREMES.--Current year: Maximum discharge, 1,770 ft^3/s (50.1 m^3/s) July 11, gage height, 6.53 ft (1.990 m), from rating curve extended above 11 ft^3/s (0.31 m^3/s); minimum, 1.0 ft^3/s (0.028 m^3/s) Dec. 2.

Period of record: Maximum discharge, 1,770 ft^3/s (50.1 m^3/s) July 11, 1974, gage height, 6.53 ft (1.990 m), from rating curve extended above 11 ft^3/s (0.31 m^3/s); minimum, 0.40 ft^3/s (0.011 m^3/s) Feb. 18, 19, 1973.

REMARKS.--Records poor. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	4.6	1.2	10	6.2	2.3	4.8	5.9	12	5.9	5.4	4.9
2	4.5	3.8	1.2	6.0	18	2.4	12	6.4	11	4.6	7.0	3.8
3	3.0	3.2	1.2	15	8.0	9.5	9.5	4.6	6.5	3.7	5.9	3.0
4	2.5	5.0	2.0	6.0	8.2	13	5.6	3.9	16	8.2	9.8	3.3
5	5.0	6.0	8.0	4.0	55	9.0	5.7	2.9	34	6.8	6.0	2.9
6	15	50	4.0	20	9.2	5.0	7.6	2.5	12	6.0	6.0	4.1
7	6.0	8.0	3.5	9.0	9.0	6.7	7.4	2.5	5.7	4.2	16	3.9
8	6.5	5.0	3.0	6.0	14	11	7.6	2.0	5.0	3.4	58	2.6
9	4.0	4.0	7.0	4.0	6.7	6.0	7.2	1.9	9.0	5.4	34	4.6
10	30	3.5	9.0	3.2	10	8.6	39	2.6	4.9	4.5	11	21
11	10	3.0	4.0	2.7	6.2	21	11	8.4	8.2	198	8.2	6.7
12	5.0	4.5	10	2.2	6.7	8.0	11	8.0	4.5	10	9.0	8.4
13	3.0	3.0	5.0	2.0	4.2	6.4	15	9.2	4.5	6.4	27	6.2
14	2.5	6.0	3.0	1.8	3.6	5.1	7.4	9.2	5.6	32	8.2	4.8
15	2.0	2.0	12	1.6	2.9	32	12	6.0	4.5	9.8	5.9	18
16	4.5	5.4	14	1.6	2.4	14	12	5.3	3.1	6.8	5.4	7.0
17	2.5	3.5	5.0	1.4	3.3	33	6.5	6.0	3.3	15	12	4.8
18	1.7	6.0	15	2.5	13	7.4	5.9	5.1	3.2	11	6.5	6.7
19	1.5	4.0	7.0	5.0	12	5.3	27	3.8	2.8	6.5	5.1	6.2
20	1.2	5.0	5.0	2.5	7.4	4.2	21	3.3	5.1	5.0	5.7	5.1
21	1.1	4.0	20	7.0	5.4	3.4	8.2	3.1	3.9	4.2	4.4	4.5
22	3.9	13	7.0	6.0	10	2.8	6.8	4.9	3.0	3.4	3.4	3.7
23	25	5.0	8.0	4.5	6.5	4.5	18	4.6	4.0	24	2.9	3.9
24	5.9	3.5	9.0	3.5	8.4	3.7	8.0	10	5.0	7.8	2.6	3.4
25	9.7	3.0	12	2.4	4.8	3.3	6.2	7.2	4.4	4.9	2.7	16
26	5.1	2.5	11	19	3.7	8.6	12	4.9	6.4	3.8	2.9	6.0
27	8.9	4.0	6.0	6.8	4.5	5.1	6.8	4.0	5.4	4.4	2.4	4.1
28	12	3.0	4.0	4.4	2.8	4.0	5.1	5.6	9.2	5.6	3.2	3.7
29	64	2.0	4.0	3.2	------	24	4.5	12	10	4.0	3.1	11
30	6.5	1.4	6.0	2.7	------	6.7	10	9.2	7.8	11	50	4.4
31	11	------	20	2.4	------	4.2	------	5.0	------	5.7	7.0	------
TOTAL	271.5	176.9	227.1	168.4	252.1	280.2	320.8	170.0	220.0	432.0	336.7	188.7
MEAN	8.76	5.90	7.33	5.43	9.00	9.04	10.7	5.48	7.33	13.9	10.9	6.29
MAX	64	50	20	20	55	33	39	12	34	198	58	21
MIN	1.1	1.4	1.2	1.4	2.4	2.3	4.5	1.9	2.8	3.4	2.4	2.6
AC-FT	539	351	450	334	500	556	636	337	436	857	668	374

CAL YR 1973 TOTAL 2,487.00 MEAN 6.81 MAX 89 MIN .45 AC-FT 4,930
WTR YR 1974 TOTAL 3,044.4 MEAN 8.34 MAX 198 MIN 1.1 AC-FT 6,040

PEAK DISCHARGE (BASE, 900 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-29	1230	5.76	1,050	3-17	0200	6.31	1,550
11- 6	/0630	5.78	1,060	7-11	0515	6.53	1,770

/ About.

16899500 MUTUNTE RIVER

LOCATION.--Lat 5°22'25" N., long 163°00'24" E., on left bank at dam, 0.3 mi (0.5 km) upstream from mouth, and 1.1 mi (1.8 km) northwest of Mount Buache.

DRAINAGE AREA.--0.60 mi^2 (1.55 km^2).

PERIOD OF RECORD.--May 1971 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 46 ft (14.0 m) from stadia survey.

EXTREMES.--Current year: Maximum discharge, 581 ft^3/s (16.5 m^3/s) Sept. 26, gage height, 2.47 ft (0.753 m), from rating curve extended above 140 ft^3/s (3.96 m^3/s); minimum, 2.2 ft^3/s (0.062 m^3/s) Feb. 6, 7, 16-20, Mar. 22, 28.

Period of record: Maximum discharge, 1,290 ft^3/s (26.5 m^3/s) Sept. 11, 1972, gage height, 2.87 ft (0.875 m), from rating curve extended above 140 ft^3/s (3.96 m^3/s); minimum, 1.4 ft^3/s (0.040 m^3/s) Apr. 2-5, 1973.

REMARKS.--Records good. Water is diverted from the gage pool through a 3-inch (7.6 cm) pipe for domestic use in Tafunsak. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	3.0	3.0	16	2.6	2.8	4.9	4.3	21	4.3	4.3	8.1
2	2.5	2.8	3.0	19	3.2	2.3	5.3	3.2	4.7	3.6	4.1	4.5
3	2.6	3.2	6.3	5.8	2.2	3.4	6.6	3.9	3.4	3.0	6.5	3.2
4	2.5	4.3	14	3.8	2.5	12	3.4	2.6	7.0	5.0	5.6	15
5	27	13	4.3	3.2	2.5	4.7	3.8	3.0	7.7	6.4	3.9	15
6	5.8	18	13	6.9	2.3	4.1	3.8	6.4	4.7	9.3	3.2	4.3
7	3.2	4.9	6.0	9.3	2.5	3.2	7.1	3.2	6.9	4.1	4.1	3.2
8	2.8	3.8	6.2	3.8	3.4	35	3.9	9.4	5.5	3.0	13	2.8
9	7.3	12	14	3.2	4.3	5.5	4.1	4.7	6.6	3.0	9.4	2.6
10	41	24	6.6	2.8	3.8	3.4	14	3.2	4.5	2.6	12	2.5
11	4.1	5.8	4.1	2.6	37	3.0	25	6.4	3.4	10	4.9	17
12	3.6	6.2	9.1	6.1	4.3	6.0	7.4	3.2	3.0	10	4.9	5.8
13	9.3	4.7	4.1	2.8	3.0	11	4.9	2.8	3.0	4.3	3.9	3.2
14	3.8	3.8	3.8	2.5	2.5	3.6	14	3.4	5.0	3.9	15	3.0
15	3.0	3.4	3.6	2.3	2.3	3.8	8.7	21	3.0	3.0	6.2	5.3
16	3.8	3.9	3.6	2.3	2.3	3.0	3.9	5.5	2.8	2.8	4.1	2.6
17	5.5	3.4	3.2	3.9	2.2	2.6	3.8	3.6	3.2	2.5	4.1	3.0
18	3.6	3.2	13	4.1	2.3	7.1	3.0	3.2	3.0	21	3.2	11
19	3.0	3.2	3.8	3.0	2.2	3.0	3.2	3.0	3.9	4.3	2.8	10
20	2.8	3.4	15	2.6	2.2	2.5	2.8	2.6	2.8	3.0	2.6	5.5
21	2.8	8.7	4.1	2.8	3.2	2.5	2.5	3.2	2.6	3.4	2.5	3.2
22	4.1	3.9	3.0	2.6	3.0	2.5	4.7	3.0	3.6	3.0	8.9	3.6
23	3.8	3.2	6.1	2.5	2.5	3.4	5.5	2.8	2.8	2.6	12	3.8
24	3.2	3.2	11	3.0	16	8.2	11	3.2	7.9	2.5	3.2	8.7
25	7.3	2.8	4.9	3.0	3.9	2.8	11	3.8	3.8	2.6	2.6	11
26	7.6	2.8	31	3.0	2.6	2.6	5.5	3.7	8.0	2.5	2.5	27
27	3.4	2.6	5.1	2.6	3.4	2.3	3.4	8.1	7.6	2.6	2.3	4.5
28	12	2.6	3.8	2.6	3.9	2.3	6.1	3.0	3.6	2.8	2.3	3.4
29	6.0	2.6	3.4	2.6	------	4.3	9.0	4.6	13	19	2.3	2.8
30	4.1	2.8	4.7	2.8	------	28	16	9.0	12	5.6	2.5	2.6
31	3.2	------	6.7	2.5	------	5.1	------	13	------	13	3.4	------
TOTAL	197.3	165.2	223.5	136.0	128.1	186.0	208.3	156.0	170.0	168.7	162.3	198.2
MEAN	6.36	5.51	7.21	4.39	4.58	6.00	6.94	5.03	5.67	5.44	5.24	6.61
MAX	41	24	31	19	37	35	25	21	21	21	15	27
MIN	2.5	2.6	3.0	2.3	2.2	2.3	2.5	2.6	2.6	2.5	2.3	2.5
AC-FT	391	328	443	270	254	369	413	309	337	335	322	393

CAL YR 1973 TOTAL 1,934.6 MEAN 5.30 MAX 43 MIN 1.4 AC-FT 3,840
WTR YR 1974 TOTAL 2,099.6 MEAN 5.75 MAX 41 MIN 2.2 AC-FT 4,160

PEAK DISCHARGE (BASE, 600 CFS).--No peak above base.

16899600 OKAT RIVER

LOCATION.--Lat 5°20'32" N., long 162°59'30" E., on left bank 1.6 mi (2.6 km) upstream from mouth and 1.9 mi (3.1 km) northwest of Mount Crozer.

DRAINAGE AREA.--1.60 mi^2 (4.14 km^2).

PERIOD OF RECORD.--July 1971 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 10 ft (3.0 m) from topographic map.

EXTREMES.--Current year: Maximum discharge, 601 ft^3/s (17.0 m^3/s) Apr. 11, gage height, 6.64 ft (2.024 m), from rating curve extended above 230 ft^3/s (6.51 m^3/s); minimum, 3.0 ft^3/s (0.085 m^3/s) Feb. 7.

Period of record: Maximum discharge, 775 ft^3/s (21.9 m^3/s) May 22, 1972, gage height, 7.70 ft (2.347 m), from rating curve extended above 230 ft^3/s (6.51 m^3/s); minimum, 1.7 ft^3/s (0.048 m^3/s) Feb. 15, 20, 21, 1973.

REVISIONS.--The figures of maximum discharge for some water years have been revised as shown in the following table. They supersede those published in WRD for Hawaii and other Pacific Areas, 1971-73.

Water year	Date	Discharge (ft^3/s)	Gage height (feet)
1971 (period)	July 6, 1971	680	7.14
1972	May 22, 1972	775	7.70
1973	Sept. 15, 1973	559	6.36

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISED PEAK DISCHARGE.--1971 (period): July 6 (1300) 680 ft^3/s (7.14 ft); Aug. 6 (1030) 653 ft^3/s (6.97 ft); Sept. 19 (2130) 618 ft^3/s (6.75 ft).
1972: Nov. 5 (1400) 629 ft^3/s (6.82 ft); May 22 (0600) 775 ft^3/s (7.70 ft); May 28 (2300) 613 ft^3/s (6.72 ft); Sept. 11 (1800) 640 ft^3/s (6.89 ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	8.0	4.1	52	3.5	12	28	19	73	22	15	23
2	8.7	6.7	3.7	48	5.1	8.7	26	15	19	21	14	18
3	9.0	7.7	5.2	28	4.4	16	25	19	13	15	21	12
4	8.0	11	25	21	6.1	43	18	12	25	29	16	22
5	78	62	7.4	17	4.4	22	18	11	28	31	12	19
6	30	64	7.7	27	3.7	18	18	11	18	32	14	12
7	16	26	8.0	37	3.7	20	20	9.0	29	18	14	10
8	14	18	9.0	17	7.0	69	14	21	20	16	48	9.8
9	14	29	12	14	6.4	29	16	12	20	15	42	9.5
10	104	54	12	12	5.4	18	42	9.4	20	24	22	9.5
11	22	27	7.7	10	96	17	118	12	14	51	19	26
12	20	20	12	17	15	15	54	8.7	11	53	16	13
13	39	16	8.0	10	12	26	48	7.7	12	24	14	9.8
14	17	12	20	9.0	8.0	12	53	7.7	28	19	33	9.8
15	14	10	21	7.7	6.7	14	43	35	15	19	19	15
16	16	14	13	7.0	5.8	9.8	29	14	10	15	25	9.2
17	14	10	8.7	12	5.4	8.7	26	11	23	12	15	9.0
18	21	3.7	45	8.7	5.1	34	20	8.4	12	60	12	34
19	10	8.4	20	6.7	4.8	11	22	7.4	12	19	10	33
20	8.7	9.0	46	6.1	4.8	8.7	17	7.0	9.0	18	9.5	19
21	8.7	18	24	5.8	7.4	7.7	13	7.7	9.4	14	9.0	12
22	12	9.4	16	5.8	15	7.7	16	6.7	9.0	12	37	19
23	9.0	7.0	22	5.1	7.4	14	22	6.4	9.8	10	38	14
24	8.0	7.0	38	5.4	43	22	40	5.8	15	9.8	13	36
25	22	5.8	26	5.4	14	8.7	33	7.7	9.8	10	11	18
26	20	5.8	115	6.7	8.0	14	16	11	15	8.4	9.8	57
27	9.4	4.6	39	5.1	25	8.4	14	18	23	8.4	9.0	17
28	12	4.4	29	4.4	22	7.0	27	6.4	10	9.8	8.4	14
29	19	4.1	22	3.9	------	18	29	8.4	49	61	8.4	12
30	12	4.8	21	4.4	------	121	47	14	41	17	9.0	11
31	8.4	------	30	4.1	------	39	------	34	------	36	17	------
TOTAL	613.9	492.4	677.5	423.3	355.1	679.4	912	383.4	602.0	709.4	560.1	532.6
MEAN	19.8	16.4	21.9	13.7	12.7	21.9	30.4	12.4	20.1	22.9	18.1	17.8
MAX	104	64	115	52	96	121	118	35	73	61	48	57
MIN	8.0	4.1	3.7	3.9	3.5	7.0	13	5.8	9.0	8.4	8.4	9.0
AC-FT	1,220	977	1,340	840	704	1,350	1,810	760	1,190	1,410	1,110	1,060

CAL YR 1973 TOTAL 6,215.1 MEAN 17.0 MAX 125 MIN 1.9 AC-FT 12,330
WTR YR 1974 TOTAL 6,941.1 MEAN 19.0 MAX 121 MIN 3.5 AC-FT 13,770

PEAK DISCHARGE (BASE, 600 CFS, REVISED).--Apr. 11 (1330) 601 cfs (6.64 ft).

CAROLINE ISLANDS, ISLAND OF KUSAIE

16899750 MALEM RIVER

LOCATION.--Lat 5°18'21" N., long 163°01'46" E., on left bank 1.2 mi (1.9 km) upstream from mouth and 1.8 mi (2.9 km) southeast of Mount Crozer.

DRAINAGE AREA.--0.48 mi^2 (1.24 km^2).

PERIOD OF RECORD.--July 1971 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 95 ft (29 m) from stadia survey.

EXTREMES.--Current year: Maximum discharge, 542 ft^3/s (15.3 m^3/s) Oct. 10, gage height, 4.97 ft (1.515 m), from rating curve extended above 110 ft^3/s (3.12 m^3/s); minimum, 0.32 ft^3/s (0.009 m^3/s) Feb. 23.

Period of record: Maximum discharge, 980 ft^3/s (27.8 m^3/s) July 6, 1971, gage height, 5.60 ft (1.707 m), from rating curve extended above 110 ft^3/s (3.12 m^3/s); minimum, 0.26 ft^3/s (0.007 m^3/s) Apr. 7, 1973.

REMARKS.--Records good. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	2.9	1.9	35	1.8	3.7	6.6	7.5	36	7.5	5.8	6.7
2	3.5	2.5	1.8	19	2.1	2.3	7.6	5.6	7.3	8.2	5.2	5.1
3	3.5	3.2	1.7	10	1.8	4.0	8.7	5.2	4.9	4.7	5.8	4.3
4	3.2	4.0	4.8	6.9	3.8	12	4.9	4.3	8.9	6.4	9.9	4.5
5	16	16	3.5	5.8	2.2	6.0	4.3	4.1	9.9	17	5.2	3.3
6	7.5	25	4.1	14	1.8	4.7	4.3	4.1	6.0	14	4.1	2.7
7	4.3	7.3	2.6	16	1.7	4.9	4.9	3.3	8.6	7.5	6.3	2.3
8	4.0	5.2	2.6	6.6	2.1	39	4.0	6.2	4.9	6.5	7.8	2.5
9	4.0	5.4	4.3	5.2	4.1	8.9	4.1	4.5	6.5	5.6	31	2.2
10	84	14	7.5	4.7	2.5	5.2	19	3.3	9.0	4.7	13	2.1
11	8.9	7.1	3.7	4.1	26	4.7	47	3.3	4.7	22	14	6.5
12	6.6	4.9	8.0	6.6	4.0	5.6	13	2.7	3.8	21	19	4.2
13	12	4.0	3.8	4.1	2.5	9.7	11	2.5	3.5	15	15	2.5
14	6.9	3.5	3.3	3.5	2.2	4.5	21	2.3	14	10	22	2.6
15	5.2	3.2	6.7	3.2	2.0	4.9	15	6.9	4.7	6.4	11	5.4
16	5.4	3.5	3.3	2.9	1.8	3.3	7.5	3.3	4.3	5.4	17	2.3
17	4.5	3.3	2.5	6.2	1.8	3.2	6.4	3.8	6.3	4.7	8.0	2.5
18	4.3	2.9	9.6	3.5	1.7	8.7	5.2	2.7	4.0	6.9	6.0	10
19	3.7	2.9	5.4	2.6	1.7	3.5	5.4	2.5	6.6	4.7	4.9	16
20	3.2	4.0	30	2.5	1.6	2.9	4.9	2.5	3.8	4.4	4.5	8.0
21	3.0	6.0	6.6	3.7	2.1	2.5	4.1	3.2	3.2	6.4	3.8	4.0
22	6.2	3.3	4.7	2.7	4.7	2.3	5.2	2.5	3.6	4.9	26	3.7
23	3.8	2.7	8.1	2.3	1.9	3.2	10	2.2	3.8	3.8	19	3.3
24	3.5	2.6	13	2.3	4.2	5.0	20	2.1	2.9	3.3	6.2	13
25	9.7	2.3	8.2	2.1	2.6	2.3	16	4.4	3.2	3.7	5.2	6.6
26	7.7	2.1	30	2.1	1.8	2.1	7.1	3.2	4.6	2.7	4.3	17
27	4.5	2.0	8.7	2.0	9.8	2.0	5.2	7.4	5.5	2.7	4.0	5.1
28	4.9	1.9	17	1.9	9.2	2.0	12	2.6	3.2	2.7	3.5	3.8
29	4.5	1.9	6.9	1.8	------	4.6	13	3.9	12	15	3.3	3.3
30	3.8	1.9	6.9	2.1	------	28	27	8.7	13	7.6	3.2	2.9
31	3.0	------	10	1.8	------	11	------	10	------	23	4.0	------
TOTAL	249.3	151.5	231.2	187.2	105.5	206.7	324.4	130.8	212.7	258.4	298.0	158.4
MEAN	8.04	5.05	7.46	6.04	3.77	6.67	10.8	4.22	7.09	8.34	9.61	5.28
MAX	84	25	30	35	26	39	47	10	36	23	31	17
MIN	3.0	1.9	1.7	1.8	1.6	2.0	4.0	2.1	2.9	2.7	3.2	2.1
AC-FT	494	301	459	371	209	410	643	259	422	513	591	314

CAL YR 1973 TOTAL 2,255.0 MEAN 6.18 MAX 84 MIN 1.1 AC-FT 4,470
WTR YR 1974 TOTAL 2,514.1 MEAN 6.89 MAX 84 MIN 1.6 AC-FT 4,990

PEAK DISCHARGE (BASE, 500 CFS).--Oct. 10 (0230) 542 cfs (4.97 ft).

16899800 TOFOL RIVER

LOCATION.--Lat 5°19'53" N., long 163°01'25" E., on left bank 25 ft (7.6 m) downstream from right-bank tributary, 0.7 mi (1.1 km) upstream from mouth, and 1.2 mi (1.9 km) northeast of Mount Crozer.

DRAINAGE AREA.--0.44 mi^2 (1.14 km^2).

PERIOD OF RECORD.--June 1971 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 98 ft (29.9 m) from stadia survey.

EXTREMES.--Current year: Maximum discharge, 660 ft^3/s (18.7 m^3/s) July 11, gage height, 4.56 ft (1.390 m), from ratiug curve extended above 79 ft^3/s (2.24 m^3/s); minimum, 1.5 ft^3/s (0.042 m^3/s) Feb. 3, 6, 7, 20.

Period of record: Maximum discharge, 1,050 ft^3/s (29.7 m^3/s) July 6, 1971, gage height, 5.24 ft (1.597 m), from rating curve extended above 79 ft^3/s (2.24 m^3/s); minimum, 0.82 ft^3/s (0.023 m^3/s) Feb. 21, 1973.

REMARKS.--Records good. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.0	1.9	16	1.7	2.7	5.6	6.1	20	6.1	4.7	5.4
2	3.3	2.6	1.8	16	1.8	2.1	6.1	5.2	4.8	6.5	4.2	4.7
3	3.2	2.8	2.8	8.4	1.7	3.0	7.7	5.6	3.7	4.5	5.6	3.7
4	3.0	3.3	7.0	6.5	2.1	9.2	4.7	4.4	4.8	8.4	5.6	3.7
5	23	15	2.5	5.6	1.8	4.5	4.8	4.1	7.4	13	4.1	4.8
6	7.0	14	5.4	11	1.7	3.5	4.7	3.7	4.4	12	3.7	3.0
7	4.5	5.6	3.4	9.8	1.7	4.8	4.5	3.3	6.4	7.0	3.4	2.5
8	4.2	4.4	3.2	4.8	2.7	22	3.8	4.7	4.8	5.8	6.8	2.3
9	5.9	7.7	4.7	4.2	2.8	6.7	3.8	3.5	5.2	5.2	15	2.2
10	45	14	4.9	4.0	2.3	4.4	12	3.1	5.9	4.2	10	2.3
11	8.4	6.1	3.1	3.5	23	3.8	39	3.1	3.8	25	8.2	5.6
12	7.0	5.0	4.8	5.4	3.5	5.0	12	2.7	3.4	17	21	3.4
13	8.3	4.4	3.2	3.4	2.5	7.0	12	2.5	4.0	10	7.7	2.4
14	5.6	3.8	5.3	3.1	2.1	3.8	14	2.4	6.7	7.2	13	2.4
15	4.8	3.5	6.3	3.0	2.0	3.7	12	6.3	4.1	5.6	7.4	3.4
16	4.5	3.8	4.0	2.8	1.9	3.1	6.7	3.3	3.5	4.8	8.2	2.1
17	4.1	3.4	3.8	6.0	1.8	2.7	6.1	3.1	5.8	4.2	6.3	2.1
18	4.4	3.1	14	3.5	1.7	8.7	5.0	2.5	3.7	9.0	5.4	7.0
19	3.4	3.1	6.0	2.5	1.7	3.3	8.0	2.2	5.2	4.5	4.4	11
20	3.1	3.3	13	2.5	1.6	2.8	5.0	2.2	3.3	4.6	4.0	5.4
21	3.0	4.2	6.5	3.5	2.1	2.6	4.4	2.5	3.1	4.2	3.7	3.2
22	4.2	3.1	4.8	3.0	4.0	2.6	5.9	2.3	3.1	3.7	22	3.8
23	3.2	2.6	7.0	2.5	2.1	3.1	7.7	2.1	3.3	3.5	13	3.4
24	2.8	2.6	11	2.3	4.0	7.7	12	2.0	2.7	3.3	5.6	7.6
25	6.6	2.4	7.0	2.2	2.5	2.8	12	2.1	3.0	3.2	4.5	4.4
26	5.6	2.3	20	2.1	1.8	2.5	5.6	3.5	4.2	2.8	4.1	17
27	3.2	2.1	8.7	2.0	5.6	2.3	4.7	5.1	5.9	3.0	3.7	4.2
28	3.7	2.1	9.8	1.9	6.1	2.2	8.9	2.2	3.3	3.3	3.4	3.5
29	5.9	2.0	6.3	1.8	------	3.4	9.3	2.6	11	15	3.3	3.2
30	4.5	2.1	6.5	2.1	------	28	17	4.5	14	5.8	3.1	2.8
31	3.1	------	11	1.8	------	8.2	------	7.1	------	14	3.0	------
TOTAL	202.0	137.4	199.7	147.2	90.3	172.2	265.0	110.0	164.5	226.4	218.1	132.5
MEAN	6.52	4.58	6.44	4.75	3.23	5.55	8.83	3.55	5.48	7.30	7.04	4.42
MAX	45	15	20	16	23	28	39	7.1	20	25	22	17
MIN	2.8	2.0	1.8	1.8	1.6	2.1	3.8	2.0	2.7	2.8	3.0	2.1
AC-FT	401	273	396	292	179	342	526	218	326	449	433	263

CAL YR 1973 TOTAL 1,830.24 MEAN 5.01 MAX 45 MIN .82 AC-FT 3,630
WTR YR 1974 TOTAL 2,065.3 MEAN 5.66 MAX 45 MIN 1.6 AC-FT 4,100

PEAK DISCHARGE (BASE, 450 CFS).--Apr. 11 (1330) 536 cfs (4.29 ft); July 11 (1200) 660 cfs (4.56 ft).

16912000 PAGO STREAM AT AFONO

LOCATION.--Lat 14°16'03" S., long 170°39'02" W., on left bank 0.2 mi (0.3 km) south of Afono and 0.3 mi (0.5 km) upstream from mouth.

DRAINAGE AREA.--0.60 mi^2 (1.55 km^2).

PERIOD OF RECORD.--October 1958 to current year. Prior to July 1960, published as Afono Stream at Afono.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 30 ft (9 m) from topographic map.

AVERAGE DISCHARGE.--15 years (1959-74), 3.31 ft^3/s (0.0937 m^3/s), 2,400 acre-ft/yr (2.96 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 185 ft^3/s (5.24 m^3/s) Mar. 27, gage height, 3.24 ft (0.988 m), from rating curve extended above 12 ft^3/s (0.34 m^3/s); minimum, 0.17 ft^3/s (0.005 m^3/s) Sept. 22.

Period of record: Maximum discharge, 1,350 ft^3/s (38.2 m^3/s) July 5, 1969, gage height, 5.49 ft (1.673 m), from rating curve extended above 22 ft^3/s (0.62 m^3/s); minimum, 0.17 ft^3/s (0.005 m^3/s) Sept. 22, 1974.

REMARKS.--Records fair. About 0.06 ft^3/s (0.002 m^3/s) is diverted above station for domestic use in Afono. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 1937: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	2.2	6.6	1.0	2.6	1.4	4.0	6.0	.82	1.5	.42	.34
2	.85	8.2	3.6	.93	1.3	1.2	2.7	4.0	.78	1.0	.71	.34
3	.58	29	19	.85	8.8	1.3	2.3	3.2	.74	.85	.47	.34
4	.52	15	31	.85	3.6	1.1	2.0	2.8	.70	.78	.47	.34
5	.78	14	13	.85	1.8	1.0	1.9	2.4	.68	.93	.42	.34
6	1.3	13	5.7	.78	1.4	.93	1.7	2.1	.66	.85	.47	.34
7	1.8	13	4.4	.93	1.2	1.0	1.6	1.9	.64	.71	.42	.34
8	8.9	16	3.8	.93	1.0	.93	1.5	1.8	.62	.64	.47	.38
9	7.9	12	22	.78	.93	.85	1.4	1.7	1.1	.64	.42	.52
10	21	7.6	6.3	.78	1.0	3.2	1.3	1.7	.80	.58	.42	.38
11	23	4.4	5.2	.78	.93	1.8	1.3	1.6	.70	.58	.42	.34
12	9.4	3.6	3.4	.93	1.0	1.2	1.3	1.6	.64	.58	.38	.31
13	6.6	3.0	3.0	.71	1.1	.93	1.3	1.5	.60	.71	.38	.29
14	3.4	2.6	2.6	.71	.85	.78	1.2	1.5	.56	.58	.34	.29
15	2.5	2.5	2.3	.85	1.6	.78	1.2	1.4	.54	.58	.34	.29
16	2.0	2.0	2.0	.78	1.3	.78	1.2	1.3	.52	.58	.34	.29
17	1.8	1.9	1.9	.78	.93	.71	2.0	1.3	.50	.58	.34	.29
18	1.6	1.8	1.8	.85	.78	.71	2.4	1.2	.50	.64	.38	.29
19	2.2	2.1	1.5	.85	5.1	.71	15	1.2	.52	.58	.38	.29
20	12	2.2	1.5	1.2	7.8	.85	4.0	1.1	.64	.52	.38	.26
21	6.0	4.3	1.5	.85	4.0	.93	2.0	1.1	.64	.47	.38	.23
22	4.4	3.8	1.3	.71	2.6	.78	1.7	1.2	2.2	.47	.38	.21
23	2.8	2.2	1.3	4.1	4.2	1.0	1.5	2.0	2.6	.47	.38	.21
24	2.0	1.9	1.2	1.8	4.9	6.0	1.4	1.6	7.3	.52	.42	.21
25	1.8	1.8	1.2	1.0	3.8	7.6	2.0	1.4	5.3	.47	.38	.21
26	1.6	1.5	1.4	.78	2.8	14	2.4	1.2	6.0	.47	.38	.26
27	1.6	1.4	1.1	.64	1.9	59	2.3	1.1	4.9	.47	.38	.23
28	1.9	1.3	1.1	.71	1.5	15	4.0	1.0	1.9	.47	.38	.23
29	1.6	1.2	1.0	.85	------	6.9	6.0	.96	1.8	.47	.38	.23
30	3.4	1.3	.93	1.0	------	6.6	25	.90	2.6	.42	.34	.26
31	3.8	------	.93	12	------	6.3	------	.86	------	.42	.38	------
TOTAL	140.33	176.8	153.56	41.56	70.72	146.27	99.6	54.62	48.50	19.53	12.55	8.88
MEAN	4.53	5.89	4.95	1.34	2.53	4.72	3.32	1.76	1.62	.63	.40	.30
MAX	23	29	31	12	8.8	59	25	6.0	7.3	1.5	.71	.52
MIN	.52	1.2	.93	.64	.78	.71	1.2	.86	.50	.42	.34	.21
AC-FT	278	351	305	82	140	290	198	108	96	39	25	18

CAL YR 1973 TOTAL 1,408.94 MEAN 3.86 MAX 120 MIN .52 AC-FT 2,790
WTR YR 1974 TOTAL 972.92 MEAN 2.67 MAX 59 MIN .21 AC-FT 1,930

PEAK DISCHARGE (BASE, 210 CFS).--No peak above base.

NOTE.--No gage-height record Apr. 2 to June 18.

16917500 LEELE STREAM AT MOUTH, AT FAGASA

LOCATION.--Lat 14°17'28" S., long 170°43'09" W., on left bank at Fagasa and 200 ft (61 m) upstream from mouth.

DRAINAGE AREA.--0.23 mi^2 (0.60 km^2).

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 10 ft (3 m) from topographic map.

AVERAGE DISCHARGE.--8 years, 1.59 ft^3/s (0.0450 m^3/s), 1,150 acre-ft/yr (1.42 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 122 ft^3/s (3.46 m^3/s) Mar. 27, gage height, 3.14 ft (0.957 m), from rating curve extended as explained below; minimum, 0.03 ft^3/s (0.001 m^3/s) Sept. 3, 4.

Period of record: Maximum discharge, 390 ft^3/s (11.0 m^3/s) Aug. 30, 1970, gage height, 3.82 ft (1.164 m), from rating curve extended above 13 ft^3/s (0.37 m^3/s) on basis of slope-area measurement at gage height 3.61 ft (1.100 m); minimum, 0.03 ft^3/s (0.001 m^3/s) Sept. 3, 4, 1974.

REMARKS.--Records good. Small diversion above station for local village use. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.69	1.5	1.9	.40	1.2	.37	2.4	1.2	.22	1.2	.10	.05
2	.34	5.6	3.0	.34	.66	.34	1.1	.56	.19	.51	.11	.04
3	.28	15	10	.31	7.5	.34	.56	.37	.13	.31	.11	.04
4	.26	9.0	13	.30	1.5	.28	.43	.47	.11	.28	.08	.04
5	2.1	8.0	4.6	.30	.72	1.4	.31	.28	.11	1.5	.08	.05
6	2.5	6.8	1.6	.29	.51	.34	.28	.28	.11	2.3	.11	.05
7	2.7	6.8	1.3	.40	.56	.34	.28	.22	.11	.61	.08	.05
8	8.2	9.1	.85	.36	.60	.34	.28	.22	.22	.43	.11	.06
9	8.6	7.5	3.0	.28	.70	.28	.24	.19	.24	.43	.10	.10
10	13	2.6	1.0	.28	.47	2.4	.24	.17	.17	.37	.08	.08
11	7.1	1.6	.72	.28	.43	.85	.19	.17	.11	.37	.08	.06
12	5.0	1.1	.66	.36	.72	.40	.19	.17	.11	.31	.07	.05
13	2.0	.92	1.3	.28	.56	.31	.19	.15	.10	.43	.06	.05
14	.92	.92	.92	.28	.40	.28	.28	.15	.10	.22	.05	.05
15	.66	.72	.66	1.0	.65	.26	.19	.13	.10	.19	.05	.05
16	.56	.66	.51	.56	.56	.24	.22	.13	.10	.19	.05	.05
17	.47	.61	.51	.47	.37	.24	.66	.13	.10	.17	.05	.05
18	.51	.51	.66	.56	.34	.26	.66	.11	.08	.17	.05	.05
19	1.4	.61	.47	.51	5.0	.28	5.4	.11	.08	.15	.05	.05
20	6.8	1.4	.43	.51	2.7	.34	1.7	.11	.10	.15	.06	.05
21	5.2	2.0	.79	.37	1.1	.45	.51	.11	.11	.15	.06	.05
22	3.9	1.1	.40	.34	.72	.42	.31	.15	1.9	.15	.06	.05
23	1.8	.72	.38	4.6	2.8	.60	.24	.17	2.3	.15	.05	.04
24	.72	.66	.37	.92	1.9	2.0	.19	.28	5.3	.22	.06	.04
25	.56	.51	.37	.51	1.2	3.0	.28	.17	3.4	.13	.05	.10
26	.51	.43	.56	.47	.61	5.0	.37	.15	3.9	.11	.05	.17
27	.66	.43	.40	.51	.43	16	.43	.43	3.2	.11	.05	.08
28	.61	.40	.37	1.4	.37	3.8	1.1	.31	.66	.11	.04	.07
29	.51	.40	.35	3.2	------	2.1	1.1	.17	.64	.11	.05	.07
30	4.2	.56	.34	3.0	------	1.2	9.9	.17	3.0	.11	.04	.07
31	2.8	------	.34	6.8	------	5.0	------	.15	------	.10	.05	------
TOTAL	85.56	88.16	51.76	30.19	35.28	49.46	30.23	7.58	27.00	11.74	2.09	1.81
MEAN	2.76	2.94	1.67	.97	1.26	1.60	1.01	.24	.90	.38	.067	.060
MAX	13	15	13	6.8	7.5	16	9.9	1.2	5.3	2.3	.11	.17
MIN	.26	.40	.34	.28	.34	.24	.19	.11	.08	.10	.04	.04
AC-FT	170	175	103	60	70	98	60	15	54	23	4.1	3.6

CAL YR 1973 TOTAL 650.76 MEAN 1.78 MAX 50 MIN .20 AC-FT 1,290
WTR YR 1974 TOTAL 420.86 MEAN 1.15 MAX 16 MIN .04 AC-FT 835

PEAK DISCHARGE (BASE, 78 CFS).--Oct. 10 (0130) 108 cfs (3.08 ft); Mar. 27 (0930) 122 cfs (3.14 ft).

16920500 AASU STREAM AT AASU

LOCATION.--Lat 14°17'51" S., long 170°45'30" W., on right bank at Aasu and 200 ft (61 m) upstream from mouth.

DRAINAGE AREA.--1.03 mi^2 (2.67 km^2).

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5 ft (1.5 m) by hand levels from high-tide mark.

AVERAGE DISCHARGE.--15 years (1959-74), 6.20 ft^3/s (0.176 m^3/s), 4,490 acre-ft/yr (5.54 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 137 ft^3/s (3.88 m^3/s) Oct. 10, gage height, 3.20 ft (0.975 m), from rating curve extended as explained below; minimum, 0.17 ft^3/s (0.005 m^3/s) Sept. 23-25, 30.

Period of record: Maximum discharge, 498 ft^3/s (14.1 m^3/s) Sept. 7, 1972, gage height, 5.16 ft (1.573 m), from rating curve extended above 20 ft^3/s (0.57 m^3/s) on basis of slope-area measurement at gage height 4.57 ft (1.393 m); minimum, 0.17 ft^3/s (0.005 m^3/s) Sept. 23-25, 30, 1974.

REMARKS.--Records good. Small diversion above station for domestic use. Recording rain gage located at station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 1937: Drainage area. (FISCAL YEARS).--WSP 2137: 1959-60(P), (WATER YEARS) 1960(P), 1961(M), 1962-65(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.77	6.1	10	2.7	5.9	2.8	6.4	6.4	2.2	6.4	1.0	.42
2	.70	12	12	2.2	4.4	3.0	6.1	4.7	1.7	5.6	1.1	.42
3	.77	33	26	2.4	15	2.7	5.2	4.0	1.5	4.9	.95	.38
4	.64	21	32	2.1	7.6	2.5	4.7	4.0	1.5	4.7	.95	.38
5	2.4	22	22	1.9	5.6	4.3	4.0	3.8	1.4	6.1	.95	.38
6	3.2	25	16	2.1	5.2	2.7	3.6	3.8	1.3	6.1	.95	.38
7	5.4	26	13	2.1	4.7	3.2	3.4	3.6	1.8	4.4	.87	.38
8	14	30	11	2.4	4.2	2.7	3.8	3.2	1.6	3.8	1.0	.38
9	15	33	14	3.8	5.0	2.5	3.0	3.0	1.8	3.2	.81	.42
10	28	22	10	2.4	4.9	8.1	2.8	2.7	1.5	3.0	.81	.38
11	14	16	8.3	1.9	3.8	5.9	2.5	2.5	1.4	2.8	.74	.38
12	12	14	7.3	1.8	3.8	4.0	2.4	2.4	1.2	2.5	.68	.34
13	9.7	12	6.9	1.8	4.0	3.2	3.1	2.2	1.2	2.8	.68	.30
14	7.6	10	6.1	1.9	3.2	3.0	3.4	2.1	1.1	2.4	.68	.26
15	6.6	9.0	5.4	4.4	3.2	2.8	2.8	1.9	1.1	2.2	.68	.26
16	5.9	8.0	4.9	2.5	3.4	2.7	2.5	1.8	1.0	2.1	.68	.26
17	5.2	7.3	4.7	2.8	2.7	2.5	3.8	1.8	1.0	1.9	.63	.26
18	4.7	6.4	4.4	4.4	2.5	2.4	4.8	1.7	1.0	1.9	.63	.26
19	10	5.9	3.8	3.0	6.0	2.4	5.0	1.7	1.0	1.8	.57	.26
20	14	5.6	3.6	2.7	6.4	2.5	4.4	1.6	1.0	1.7	.63	.23
21	11	7.9	3.8	2.1	4.9	2.2	3.2	1.6	1.3	1.6	.57	.23
22	20	6.1	3.2	1.9	4.2	2.2	2.7	1.7	5.4	1.6	.52	.23
23	10	5.2	2.8	9.8	4.9	2.7	2.4	2.0	3.0	1.6	.52	.20
24	8.3	4.7	2.7	5.4	5.9	5.7	2.2	3.0	9.8	1.6	.52	.20
25	7.6	4.4	2.8	3.6	4.4	4.0	2.1	1.9	11	1.4	.52	.23
26	6.9	3.8	3.6	3.8	3.6	4.9	2.2	1.5	15	1.3	.47	.34
27	6.4	3.6	2.5	4.0	3.2	19	2.8	2.8	13	1.3	.42	.26
28	6.1	3.4	2.5	4.4	3.0	11	2.6	2.4	7.6	1.2	.42	.23
29	5.2	3.2	2.4	5.4	------	8.2	3.0	1.9	6.6	1.2	.42	.23
30	9.1	3.6	2.8	4.7	------	6.1	16	1.8	7.6	1.1	.38	.20
31	10	------	3.0	8.6	------	6.4	------	1.6	------	1.1	.57	------
TOTAL	261.18	370.2	253.5	105.0	135.6	138.3	116.9	81.1	107.6	85.3	21.32	9.08
MEAN	8.43	12.3	8.18	3.39	4.84	4.46	3.90	2.62	3.59	2.75	.69	.30
MAX	28	33	32	9.8	15	19	16	6.4	15	6.4	1.1	.42
MIN	.64	3.2	2.4	1.8	2.5	2.2	2.1	1.5	1.0	1.1	.38	.20
AC-FT	518	734	503	208	269	274	232	161	213	169	42	18

CAL YR 1973 TOTAL 2,273.53 MEAN 6.23 MAX 69 MIN .64 AC-FT 4,510
WTR YR 1974 TOTAL 1,685.08 MEAN 4.62 MAX 33 MIN .20 AC-FT 3,340

PEAK DISCHARGE (BASE, 180 CFS).--No peak above base.

16931000 ATAULOMA STREAM AT AFAO

LOCATION.--Lat 14°20'10" S., long 170°48'02" W., on left bank at Afao, 100 ft (30 m) upstream from highway bridge, and 300 ft (91 m) upstream from mouth.

DRAINAGE AREA.--0.24 mi^2 (0.62 km^2).

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 20 ft (6 m) by hand levels from high-tide mark.

AVERAGE DISCHARGE.--15 years (1959-74), 1.45 ft^3/s (0.0411 m^3/s), 1,050 acre-ft/yr (1.29 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 135 ft^3/s (3.82 m^3/s) Nov. 8, gage height, 2.40 ft (0.732 m), from rating curve extended above 26 ft^3/s (0.58 m^3/s); minimum, 0.05 ft^3/s (0.001 m^3/s) Sept. 26-30.

Period of record: Maximum discharge, 605 ft^3/s (17.1 m^3/s) Aug. 10, 1967, gage height, 3.99 ft (1.216 m), from rating curve extended above 26 ft^3/s (0.74 m^3/s); minimum, 0.05 ft^3/s (0.001 m^3/s) Sept. 26-30, 1974.

REMARKS.--Records good. No diversion above station. Recording rain gage located at station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 1937: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	1.3	4.5	.38	.99	.23	.43	1.2	.63	.80	.08	.14
2	.34	5.4	6.4	.48	.68	.32	.43	.74	.38	.53	.08	.12
3	.34	14	12	.53	1.0	.40	.30	.43	.26	.48	.07	.12
4	.30	5.3	20	.43	.53	.17	.58	.38	.20	.43	.07	.10
5	.43	4.8	11	.26	.43	2.4	.30	.63	.20	.74	.08	.10
6	.68	5.3	3.8	.34	.38	.43	.26	.48	.20	.63	.10	.12
7	1.5	9.2	2.3	.45	.34	.70	.20	.38	.30	.38	.10	.10
8	5.0	18	1.8	.47	.34	.38	.20	.30	.26	.30	.12	.12
9	3.1	5.7	2.4	.53	.30	.30	.17	.26	.74	.30	.10	.12
10	4.8	4.5	1.5	.34	.34	.94	.17	.20	.38	.26	.08	.12
11	2.5	3.0	1.1	.26	.30	1.4	.17	.20	.30	.20	.13	.10
12	2.0	2.3	.92	.23	.23	.53	.17	.20	.26	.20	.10	.10
13	1.3	1.5	1.1	.17	.17	.38	.38	.20	.20	.38	.14	.08
14	.80	1.3	.74	.23	.17	.30	.26	.20	.26	.20	.08	.08
15	.63	1.1	.68	.59	.30	.26	.17	.20	.34	.17	.08	.08
16	.53	.92	.68	.26	.26	.20	.20	.20	.34	.17	.10	.07
17	.38	.80	.92	.38	.14	.20	.49	.17	.34	.17	.10	.07
18	.43	.68	.68	.69	.23	.20	.20	.17	.34	.17	.10	.07
19	1.9	.68	.53	.43	1.3	.20	.30	.97	.34	.17	.10	.10
20	4.3	.68	.53	.58	.84	.26	.20	.20	.38	.12	.08	.10
21	8.9	1.6	.53	.48	.58	.20	.46	.14	.48	.12	.10	.10
22	6.8	1.1	.38	.23	.79	.20	.26	.20	.98	.12	.10	.10
23	1.9	1.1	.34	5.6	1.2	.20	.17	.54	.34	.12	.12	.12
24	1.1	.80	.38	1.1	.99	1.1	.14	1.3	2.7	.17	.12	.14
25	.80	.74	.38	.58	.68	.68	.17	1.3	2.9	.14	.12	.13
26	.68	.63	.61	.43	.43	.74	.17	.38	6.4	.12	.14	.05
27	.58	.58	.38	.34	.30	2.3	1.0	.38	4.3	.10	.12	.05
28	.53	1.2	.38	.26	.23	1.5	.30	.71	1.4	.08	.10	.05
29	.43	.58	.30	1.6	------	.80	3.0	.48	.92	.08	.10	.05
30	1.5	2.1	.34	.74	------	.43	6.9	.80	1.5	.08	.10	.05
31	3.6	------	.55	3.2	------	.38	------	.63	------	.10	.14	------
TOTAL	58.42	96.89	78.15	22.59	14.47	18.73	18.15	14.57	28.57	8.03	3.15	2.85
MEAN	1.88	3.23	2.52	.73	.52	.60	.61	.47	.95	.26	.10	.095
MAX	8.9	18	20	5.6	1.3	2.4	6.9	1.3	6.4	.80	.14	.14
MIN	.30	.58	.30	.17	.14	.17	.14	.14	.20	.08	.07	.05
AC-FT	116	192	155	45	29	37	36	29	57	16	6.2	5.7

CAL YR 1973 TOTAL 597.07 MEAN 1.64 MAX 28 MIN .20 AC-FT 1,180
WTR YR 1974 TOTAL 364.57 MEAN 1.00 MAX 20 MIN .05 AC-FT 723

PEAK DISCHARGE (BASE, 160 CFS).--No peak above base.

16944200 PAPA STREAM AT NUUULI

LOCATION.--Lat 14°18'48" S., long 170°42'33" W., on right bank 500 ft (150 m) downstream from Tauese Stream and 0.8 mi (1.3 km) northwest of Nuuuli.

DRAINAGE AREA.--0.78 mi^2 (2.02 km^2).

PERIOD OF RECORD.--July 1966 to September 1967, November 1968 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 30 ft (9.1 m) from topographic map.

AVERAGE DISCHARGE.--6 years (1966-67, 1969-74), 4.36 ft^3/s (0.123 m^3/s), 3,160 acre-ft/yr (3.90 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 530 ft^3/s (15.0 m^3/s) Oct. 10, gage height, 3.45 ft (1.052 m), from rating curve extended as explained below; no flow for many days.

Period of record: Maximum discharge, 1,110 ft^3/s (31.4 m^3/s) Aug. 30, 1970, gage height, 4.59 ft (1.399 m), from floodmark in well, from rating curve extended above 66 ft^3/s (1.87 m^3/s) on basis of flow-over-road measurement at gage height 3.32 ft (1.012 m); no flow for many days each year.
Flood of Oct. 9, 1967, reached a stage of 3.32 ft (1.012 m), from floodmarks, discharge, 470 ft^3/s (13.3 m^3/s), from rating curve extended as explained above.

REMARKS.--Records poor. Diversion by frequent pumping from gage pool for public water supply. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	8.1	14	.40	5.0	1.5	7.0	6.0	1.5	1.5		
2	0	22	10	.20	1.7	1.1	4.5	3.6	.95	.95		
3	0	64	43	.15	12	1.1	3.1	2.8	.54	.64		
4	0	31	58	.10	4.0	.78	2.3	2.1	.32	.64		
5	11	21	21	.04	2.8	3.1	2.0	1.6	.22	3.6		
6	12	29	8.1	.12	2.1	1.6	1.6	1.3	.15	3.6		
7	14	31	5.4	.54	1.8	.95	1.6	1.1	.12	1.6		
8	34	39	3.9	.46	2.3	.78	1.9	.78	.36	1.1		
9	37	37	12	.95	1.6	.64	1.1	.64	.46	.78		
10	75	13	5.1	.38	1.1	8.4	.95	.46	.27	.54		
11	52	8.1	3.6	.11	.78	3.6	.64	.46	0	.46		
12	38	6.0	2.8	.09	2.2	1.6	.46	.38	0	.38		
13	24	4.5	4.2	.44	1.6	1.1	.54	.46	0	.78		
14	17	3.9	3.1	.38	.95	.64	1.6	.38	0	.32		
15	13	2.8	2.1	1.5	1.8	.54	.38	.27	0	.27		
16	11	2.3	1.8	.54	1.5	.46	.95	.22	0	.22		
17	9.6	2.0	1.8	.38	.64	.38	5.0	.18	0	.09		
18	9.3	1.8	1.5	.96	.46	.54	4.2	.15	0	.03		
19	12	2.1	1.1	.46	16	.78	32	.11	0	0		
20	22	3.6	.95	.46	8.5	.46	8.9	0	0	0		
21	16	6.6	.80	.18	3.6	.95	3.1	0	0	0		
22	13	4.2	.70	1.0	2.8	.38	2.0	.43	2.3	0		
23	5.4	2.3	.60	13	10	1.1	1.5	1.5	3.1	0		
24	3.1	2.0	.90	3.0	8.5	11	1.1	4.4	15	0		
25	2.5	1.6	.80	1.4	6.0	5.0	1.1	1.6	10	0		
26	1.8	.95	3.0	.80	4.2	13	1.5	.64	16	0		
27	1.8	.95	1.2	.90	2.1	53	2.8	2.4	13	0		
28	2.1	.64	.90	.60	1.6	16	3.2	2.6	4.2	0		
29	1.1	.78	.70	8.0	------	7.9	3.1	2.0	2.3	0		
30	9.8	1.3	1.2	7.0	------	5.1	43	.95	2.1	0		
31	13	------	.90	30	------	12	------	.46	------	0		------
TOTAL	465.3	353.52	215.15	74.54	107.63	155.48	143.12	39.97	72.89	17.50	0	0
MEAN	15.0	11.8	6.94	2.40	3.84	5.02	4.77	1.29	2.43	.56	0	0
MAX	75	64	58	30	16	53	43	6.0	16	3.6	0	0
MIN	0	.64	.60	.04	.46	.38	.38	0	0	0	0	0
AC-FT	923	701	427	148	213	308	284	79	145	35	0	0

CAL YR 1973 TOTAL 2,357.05 MEAN 6.46 MAX 170 MIN 0 AC-FT 4,680
WTR YR 1974 TOTAL 1,645.10 MEAN 4.51 MAX 75 MIN 0 AC-FT 3,260

PEAK DISCHARGE (BASE, 300 CFS).--Oct. 10 (0030) 530 cfs (3.45 ft); Nov. 3 (1000) 343 cfs (3.02 ft).

16948000 AFUELO STREAM AT MATUU

LOCATION.--Lat 14°18'07" S., long 170°41'07" W., on left bank 0.2 mi (0.3 km) northwest of Matuu and 0.3 mi (0.5 km) upstream from mouth.

DRAINAGE AREA.--0.25 mi^2 (0.65 km^2).

PERIOD OF RECORD.--March 1958 to current year. Prior to July 1960, published as Matuu Stream at Matuu.

GAGE.--Water-stage recorder. Altitude of gage is 80 ft (24.4 m) from topographic map.

AVERAGE DISCHARGE.--16 years, 1.47 ft^3/s (0.0416 m^3/s), 1,060 acre-ft/yr (1.31 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 176 ft^3/s (4.98 m^3/s) Apr. 19, gage height, 3.21 ft (0.978 m), from rating curve extended as explained below; minimum, 0.03 ft^3/s (0.001 m^3/s) Sept. 25-30.

Period of record: Maximum discharge, 490 ft^3/s (13.9 m^3/s) Oct. 9, 1967, gage height, 4.55 ft (1.387 m), from rating curve extended above 8.4 ft^3/s (0.24 m^3/s) on basis of slope-area measurement of peak flow; minimum, 0.03 ft^3/s (0.001 m^3/s) Sept. 25-30, 1974.

REMARKS.--Records good. Small diversion above station for domestic use since September 1972. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 1937: Drainage area. (FISCAL YEARS).--WSP 2137: 1958-60, (WATER YEARS) 1960-65.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.79	1.1	3.5	.28	1.3	.44	2.0	1.8	.48	.25	.06	.12
2	.22	4.0	1.9	.22	.56	.37	.86	.93	.28	.20	.08	.09
3	.20	20	12	.22	3.8	.44	.52	.66	.22	.16	.06	.08
4	.16	10	14	.20	1.2	.28	.34	.56	.18	.14	.06	.08
5	1.7	9.0	4.9	.20	.61	.88	.28	.44	.16	1.1	.06	.10
6	1.2	7.9	1.8	.25	.37	.31	.20	.37	.16	1.1	.06	.08
7	1.1	7.6	1.7	.48	.37	.25	.25	.34	.16	.34	.06	.04
8	6.0	11	1.2	.34	.34	.22	.28	.31	.22	.18	.07	.04
9	6.0	12	5.3	.31	.25	.20	.18	.28	.25	.14	.06	.09
10	10	3.0	1.6	.28	.31	2.2	.16	.25	.18	.12	.05	.05
11	16	2.2	1.1	.18	.41	1.2	.10	.28	.16	.12	.05	.04
12	4.0	1.2	.93	.22	.49	.48	.20	.22	.14	.12	.05	.04
13	1.5	.86	1.4	.18	.48	.31	.10	.36	.12	.18	.05	.05
14	.80	.81	1.2	.18	.37	.22	.16	.25	.12	.10	.05	.05
15	.50	.61	.76	.34	.81	.20	.20	.22	.12	.10	.05	.06
16	.40	.48	.61	.28	.61	.18	.10	.22	.12	.10	.04	.06
17	.32	.44	.66	.25	.28	.18	.81	.22	.12	.09	.04	.06
18	.40	.34	.48	.28	.20	.18	.61	.22	.12	.09	.05	.06
19	2.0	.77	.41	.25	5.3	.16	11	.20	.10	.08	.04	.07
20	9.0	.86	.37	.28	2.6	.20	3.2	.18	.12	.08	.04	.06
21	6.0	3.1	.41	.18	1.1	.82	1.2	.18	.14	.08	.04	.04
22	4.0	1.5	.34	.25	.76	.28	.71	.37	.79	.07	.04	.04
23	1.5	.86	.31	4.1	4.5	.39	.44	.48	1.9	.07	.04	.04
24	.54	.61	.41	.81	2.8	5.1	.34	.90	4.1	.08	.05	.04
25	.40	.66	.37	.41	1.7	2.5	.51	.37	2.5	.06	.04	.04
26	.35	.37	.92	.25	.86	6.2	.71	.41	3.9	.06	.04	.03
27	.54	.31	.37	.28	.56	16	1.2	.81	2.5	.06	.06	.03
28	.45	.20	.31	.20	.44	4.0	1.4	.60	.71	.06	.07	.03
29	.35	.31	.28	2.5	------	1.8	1.9	.41	.44	.06	.16	.03
30	5.0	.34	.41	2.2	------	.93	11	.28	.31	.06	.08	.03
31	2.0	------	.28	9.2	------	3.9	------	.22	------	.06	.08	------
TOTAL	83.42	102.43	60.23	25.60	33.38	50.82	40.96	13.34	20.82	5.51	1.78	1.67
MEAN	2.69	3.41	1.94	.83	1.19	1.64	1.37	.43	.69	.18	.057	.056
MAX	16	20	14	9.2	5.3	16	11	1.8	4.1	1.1	.16	.12
MIN	.16	.20	.28	.18	.20	.16	.10	.18	.10	.06	.04	.03
AC-FT	165	203	119	51	66	101	81	26	41	11	3.5	3.3

CAL YR 1973 TOTAL 580.43 MEAN 1.59 MAX 41 MIN .08 AC-FT 1,150
WTR YR 1974 TOTAL 439.96 MEAN 1.21 MAX 20 MIN .03 AC-FT 873

PEAK DISCHARGE (BASE, 95 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11- 9	0830	2.68	101	4-19	1600	3.21	176
3-27	0930	2.71	104				

16960000 ALEGA STREAM AT ALEGA

LOCATION.--Lat 14°16'58" S., long 170°38"19" W., on left bank 300 ft (91 m) upstream from left-bank tributary, 0.2 mi (0.3 km) northwest of Alega, and 0.3 mi (0.5 km) upstream from mouth.

DRAINAGE AREA.--0.19 mi^2 (0.49 km^2).

PERIOD OF RECORD.--March 1958 to current year. Prior to July 1960, published as West Branch Alega Stream at Alega.

GAGE.--Water-stage recorder. Altitude of gage is 180 ft (55 m) from topographic map.

AVERAGE DISCHARGE.--16 years, 1.26 ft^3/s (0.0357 m^3/s), 913 acre-ft/yr (1.13 hm^3/yr).

EXTREMES.--Current year: Maximum discharge, 50 ft^3/s (1.42 m^3/s) Mar. 27, gage height, 2.63 ft (0.802 m), from rating curve extended above 8.3 ft^3/s (0.24 m^3/s); minimum, 0.17 ft^3/s (0.005 m^3/s) for many days during July and August.

Period of record: Maximum discharge, 232 ft^3/s (6.57 m^3/s) Apr. 8, 1970, gage height, 4.48 ft (1.366 m), from recorded range in stage, from rating curve extended above 8.3 ft^3/s (0.24 m^3/s); minimum, 0.17 ft^3/s (0.005 m^3/s) many days during July and August 1974.

REMARKS.--Records good. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

REVISIONS.--WSP 1937: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.57	4.1	.69	.74	.47	1.4	2.0	.39	.35	.17	.24
2	.30	1.6	1.8	.60	.51	.43	1.1	1.4	.39	.35	.20	.24
3	.22	7.0	6.4	.60	2.4	.47	.96	1.1	.39	.35	.17	.27
4	.20	4.3	11	.60	.96	.43	.84	1.1	.39	.35	.17	.31
5	.30	4.3	4.4	.55	.64	.39	.79	.96	.35	.35	.17	.31
6	.47	4.0	2.6	.55	.55	.39	.74	.84	.35	.31	.17	.31
7	.60	4.0	2.0	.60	.51	.43	.64	.79	.35	.31	.17	.31
8	2.8	5.1	1.6	.55	.51	.39	.64	.74	.35	.31	.17	.35
9	2.5	4.2	8.4	.51	.47	.35	.60	.74	.43	.27	.20	.39
10	4.0	3.1	2.6	.51	.47	1.3	.55	.69	.35	.27	.20	.27
11	7.0	2.4	2.0	.51	.47	.51	.55	.64	.35	.27	.17	.27
12	2.8	2.0	1.6	.51	.51	.39	.55	.64	.35	.27	.17	.27
13	1.9	1.6	1.4	.47	.43	.39	.55	.60	.31	.27	.17	.27
14	1.1	1.5	1.3	.47	.43	.35	.51	.60	.31	.27	.17	.24
15	.90	1.3	1.2	.47	.55	.35	.51	.55	.31	.24	.17	.24
16	.78	1.2	1.1	.51	.43	.35	.51	.55	.31	.24	.17	.24
17	.62	1.1	1.1	.43	.39	.35	.84	.51	.31	.24	.17	.24
18	.57	.90	1.0	.47	.39	.31	1.0	.51	.39	.24	.17	.20
19	.87	1.1	.96	.43	1.7	.31	4.7	.51	.51	.24	.17	.20
20	2.7	1.0	.90	.51	1.9	.31	1.4	.47	.55	.24	.17	.20
21	1.4	2.1	.84	.43	1.3	.35	.84	.47	.60	.24	.17	.20
22	1.4	1.4	.84	.39	1.0	.31	.69	.51	.74	.24	.20	.24
23	.90	1.0	.79	1.2	1.5	.43	.64	.62	.51	.24	.20	.27
24	.78	.90	.79	.51	1.9	1.7	.60	.51	1.5	.24	.24	.27
25	.67	.96	.74	.43	1.0	2.1	.82	.51	.79	.24	.24	.27
26	.57	.84	.74	.39	.70	3.9	.99	.47	1.3	.24	.24	.31
27	.57	.72	.69	.39	.55	16	.96	.47	.90	.20	.24	.35
28	.57	.72	.69	.39	.51	4.7	1.4	.43	.51	.20	.20	.39
29	.57	.72	.64	.47	------	2.8	2.1	.43	.43	.17	.24	.39
30	1.2	.72	.64	.51	------	2.1	7.6	.43	.39	.17	.24	.39
31	.84	------	.64	4.0	------	1.9	------	.39	------	.17	.24	------
TOTAL	41.20	62.35	65.50	19.65	23.42	44.96	36.02	21.18	15.11	8.09	5.94	8.45
MEAN	1.33	2.08	2.11	.63	.84	1.45	1.20	.68	.50	.26	.19	.28
MAX	7.0	7.0	11	4.0	2.4	16	7.6	2.0	1.5	.35	.24	.39
MIN	.20	.57	.64	.39	.39	.31	.51	.39	.31	.17	.17	.20
AC-FT	82	124	130	39	46	89	71	42	30	16	12	17

CAL YR 1973 TOTAL 459.67 MEAN 1.26 MAX 23 MIN .20 AC-FT 912
WTR YR 1974 TOTAL 351.87 MEAN .96 MAX 16 MIN .17 AC-FT 698

PEAK DISCHARGE (BASE, 52 CFS).--No peak above base.

16963900 LEAFU STREAM NEAR AUASI

LOCATION.--Lat 14°16'27" S., long 170°34'26" W. (revised), on right bank 35 ft (11 m) upstream from upper village intake, 0.1 mi (0.2 km) north of Auasi, and 0.2 mi (0.3 km) upstream from mouth.

DRAINAGE AREA.--0.11 mi^2 (0.28 km^2).

PERIOD OF RECORD.--February 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 120 ft (37 m) from topographic map.

EXTREMES.--Current year: Maximum discharge, 154 ft^3/s (4.36 m^3/s) Dec. 9, gage height, 2.41 ft (0.735 m), from rating curve extended as explained below; minimum, 0.03 ft^3/s (0.001 m^3/s) Sept. 29, 30.

Period of record: Maximum discharge, 222 ft^3/s (6.29 m^3/s) July 29, 1973, gage height, 2.56 ft (0.780 m), from recorded range in stage, from rating curve extended above 5.0 ft^3/s (0.14 m^3/s); minimum, 0.03 ft^3/s (0.001 m^3/s) Sept. 29, 30, 1974.

REMARKS.--Records good. No diversion above station. Periodic determinations of water temperature for the water year 1974 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.13	3.3	.10	.16	.15	.23	1.0	.11	.11	.05	.04
2	.04	.70	.50	.08	.10	.13	.18	.40	.08	.11	.07	.04
3	.04	8.3	3.0	.08	1.9	.13	.16	.30	.08	.11	.04	.04
4	.04	2.6	7.4	.08	.38	.11	.16	.25	.08	.10	.04	.04
5	.11	1.9	2.4	.08	.18	.11	.15	.21	.08	.10	.04	.04
6	.07	3.5	.73	.08	.13	.10	.15	.19	.07	.10	.04	.04
7	.08	2.0	.50	.08	.11	.10	.15	.18	.08	.10	.04	.04
8	.34	4.0	.38	.08	.08	.10	.13	.17	.08	.08	.04	.04
9	.20	1.4	11	.08	.08	.08	.13	.16	.08	.07	.04	.05
10	.87	.50	1.1	.10	.07	.11	.11	.15	.10	.07	.04	.04
11	2.7	.38	.60	.08	.07	.10	.11	.14	.08	.06	.04	.04
12	.80	.31	.42	.10	.07	.08	.11	.14	.08	.06	.04	.04
13	.50	.25	.31	.08	.07	.08	.13	.13	.07	.06	.04	.04
14	.18	.28	.25	.10	.07	.10	.13	.13	.07	.06	.04	.04
15	.15	.23	.23	.10	.10	.08	.11	.12	.07	.06	.04	.04
16	.11	.18	.20	.08	.10	.07	.11	.12	.07	.06	.04	.04
17	.10	.16	.18	.10	.07	.07	.13	.11	.07	.06	.04	.04
18	.08	.16	.18	.08	.07	.07	.13	.11	.06	.07	.04	.04
19	.18	.15	.16	.07	.81	.06	6.3	.11	.06	.05	.04	.04
20	1.5	.15	.15	.11	2.4	.10	.55	.10	.07	.05	.04	.04
21	.50	.53	.15	.07	.80	.07	.20	.10	.06	.05	.04	.04
22	.55	.38	.15	.07	.73	.06	.17	.16	.11	.05	.04	.04
23	.31	.20	.13	.34	.60	.13	.15	.52	.11	.05	.04	.04
24	.18	.16	.13	.13	.38	.34	.14	.25	.67	.05	.04	.04
25	.15	.15	.13	.08	.99	1.2	.22	.16	.42	.05	.04	.04
26	.13	.13	.15	.07	.42	1.0	.70	.13	.38	.05	.04	.04
27	.11	.11	.13	.07	.20	9.5	.60	.29	.38	.05	.04	.04
28	.11	.11	.13	.07	.16	1.6	.80	.34	.20	.05	.04	.04
29	.10	.11	.11	.08	------	.94	1.2	.15	.15	.05	.04	.03
30	.40	.23	.11	.11	------	.46	5.0	.13	.13	.05	.04	.03
31	.25	------	.10	.55	------	.28	------	.11	------	.05	.04	------
TOTAL	10.93	29.39	34.41	3.38	11.30	17.51	18.54	6.56	4.15	2.09	1.28	1.19
MEAN	.35	.98	1.11	.11	.40	.56	.62	.21	.14	.067	.041	.040
MAX	2.7	8.3	11	.55	2.4	9.5	6.3	1.0	.67	.11	.07	.05
MIN	.04	.11	.10	.07	.07	.06	.11	.10	.06	.05	.04	.03
AC-FT	22	58	68	6.7	22	35	37	13	8.2	4.1	2.5	2.4

CAL YR 1973 TOTAL 163.16 MEAN .45 MAX 15 MIN .04 AC-FT 324
WTR YR 1974 TOTAL 140.73 MEAN .39 MAX 11 MIN .03 AC-FT 279

PEAK DISCHARGE (BASE, 47 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-3	1800	2.13	71	12- 9	0330	2.41	154
11-6	1930	2.07	59	3-27	1800	2.25	100
12-1	0800	2.01	49	4-19	1730	2.25	100
12-4	0430	2.08	61				

NOTE.--No gage-height record Apr. 22 to May 22.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of the stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1974

Station No.	Station name	Location	Drainage area mi^2 (km^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Hawaii, Island of Kauai				
16011000	Waiakoali Stream near Waimea	Lat 22°07'42", long 159°37'27", 0.3 mi (0.5 km) upstream from mouth and 12 mi (19 km) northeast of Waimea.	1.58 (4.09)	1909-13≠, 1914-17, 1919-25≠, 1961-62, 1964, 1966-70, 1972-74	3- 1-74 6-13-74 9- 9-74	0.95 1.5 .99
16012000	Kauaikinana Stream near Waimea	Lat 22°08'12", long 159°37'58", 0.6 mi (1.0 km) upstream from mouth and 12 mi (19 km) northeast of Waimea.	.84 (2.18)	1911-13, 1915-17, 1919-25≠, 1961-62, 1964, 1966-74	3- 1-74 6-13-74 9- 9-74	1.3 1.0 .51
16029500	Mokihana Stream near Waimea	Lat 21°59'38", long 159°40'07", 500 ft (152 m) upstream from mouth and 2.5 mi (4.0 km) north of Waimea.	4.83 (12.51)	1962, 1964-74	2-20-74 6-14-74 9-12-74	3.3 1.1 1.1
		Hawaii, Island of Oahu				
16201000	Right Branch of North Fork Kaukonahua Stream near Wahiawa	Lat 21°31'11", long 157°56'53", 200 ft (61 m) upstream from mouth and 4.5 mi (7.2 km) east of Leilehua High School in Wahiawa.	1.17 (3.03)	1913-53≠, 1960-62, 1966, 1968-74	12- 7-73 3-25-74 6-25-74 9-23-74	4.1 5.4 3.6 2.0
16214000	Pearl Harbor Springs at Waiawa, near Pearl City	Lat 21°23'36", long 157°59'11", 0.7 mi (1.1 km) west of Pearl City and 1.5 mi (2.4 km) east of Waipahu Post Office.	-	1931-34≠, 1937-64≠, 1967-68, 1970-74	3-29-74	13
16224000	Pearl Harbor Springs at Kalauao, near Aiea	Lat 21°23'05", long 157°56'46", 300 ft (91 m) downstream from Highway 90 and 0.8 mi (1.3 km) west of Aiea Post Office.	-	1931-62≠, 1964-65≠, 1966-68, 1970-74	3-28-74	18
16264100	Kahanaiki Stream at Highway 61, near Kailua	Lat 21°22'49", long 157°46'06", at bridge on Highway 61 and 1.9 mi (3.1 km) southwest of Kailua Post Office.	1.45 (3.76)	1960-63, 1965-66, 1971-74	9-26-74	1.2
*16274499	Keaahala Stream at Kamehameha Highway, at Kaneohe	Lat 21°25'13", long 157°48'16", 36 ft (11 m) upstream from bridge at Kamehameha Highway in Kaneohe.	.62 (1.61)	1961-63, 1965-66, 1971-74	9-26-74	3.7
16283400	Kahaluu Stream near Kahaluu	Lat 21°27'14", long 157°50'17", 600 ft (183 m) above Ahuimanu Stream and 0.6 mi (1.0 km) south of Kahaluu.	1.29 (3.34)	1962-63, 1966, 1972-74	9-26-74	3.1
*16283480	Ahuimanu Stream near Kahaluu	Lat 21°27'06", long 157°50'13", at bridge on Ahuimanu Road and 0.8 mi (1.3 km) south of Kahaluu	2.31 (5.98)	1962-63, 1965-66, 1968, 1972-74	9-26-74	1.9

* Also a crest-stage partial-record station.
≠ Operated as a continuous-record gaging station.

Discharge measurements made at low-flow partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi^2 (km^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Hawaii, Island of Oahu--Continued				
16295995	Kahana Stream at Mauka trail crossing, near Kahana	Lat 21°32'17", long 157°53'29", 1.8 mi (2.9 km) upstream from main bridge on Kamehameha Highway and 2.8 mi (4.5 km) southwest of Kaaawa School.	3.18 (8.24)	1960-62, 1966, 1971-72, 1974	4-16-74 9-30-74	26 18
16297000	Kawa Stream near Kahana	Lat 21°32'33", long 157°53'00", 0.1 mi (0.2 km) upstream from mouth and 1.0 mi (1.6 km) south of Kahana.	2.09 (5.41)	1914-17≠, 1958b, 1961-62, 1966, 1971-72, 1974	4-16-74 9-30-74	3.4 1.7
		Hawaii, Island of Molokai				
16403400	Kapuhi Stream at altitude 1,000 ft (305 m) near Pelekunu	Lat 21°07'50", long 156°53'02", 500 ft (152 m) upstream from Kawailena Stream, 2.2 mi (3.5 km) south of former village of Pelekunu, and 5.4 mi (8.7 km) north of Kamalo.	.51 (1.32)	1968-74	3-27-74 9-11-74	2.5 .57
16403500	Kawailena Stream near Pelekunu	Lat 20°07'52", long 156°53'05", 800 ft (244 m) upstream from mouth, 2.2 mi (3.5 km) south of former village of Pelekunu, and 5.5 mi (8.8 km) north of Kamalo.	.65 (1.68)	1968-74	3-27-74 9-11-74	2.9 1.2
16403600	Kapuhi Stream near Pelekunu	Lat 21°07'57", long 156°52'56", on left bank 400 ft (122 m) downstream from Kawailena Stream, 2.1 mi (3.4 km) south of former village of Pelekunu, and 5.6 mi (9.0 km) north of Kamalo.	1.20 (3.11)	1968-70≠, 1974	3-27-74 9-11-74	5.1 1.8
16403700	Kawainui Stream at altitude 1,000 ft (305 m) near Pelekunu	Lat 20°07'46", long 156°52'31", 400 ft (122 m) upstream from Kawaipoko Stream, 2.4 mi (3.9 km) south of former village of Pelekunu, and 5.4 mi (8.7 km) north of Kamalo.	.79 (2.05)	1968-74	3-26-74 9-10-74	5.4 1.1
16403800	Kawaipoko Stream near Pelekunu	Lat 21°07'48", long 156°52'30", 300 ft (91 m) upstream from mouth, 2.4 mi (3.9 km) south of former village of Pelekunu, and 5.4 mi (8.7 km) north of Kamalo.	.26 (.67)	1968-74	3-26-74 9-10-74	1.0 .16
		Hawaii, Island of Maui				
*16502000	Hahalawe Gulch near Kipahulu	Lat 20°40'54", long 156°02'50", at old ditch intake, 0.7 mi (1.1 km) upstream from mouth, and 1.8 mi (2.9 km) northeast of Kipahulu Church.	.43 (1.11)	1927-69≠, 1970-74	6-12-74 8- 8-74	2.0 1.8
		Mariana Islands, Island of Saipan				
16800500	Hasngot Stream	Lat 15°12'44"N., long 145°46'23"E., 750 ft (229 m) upstream from right-bank tributary, 0.5 mi (0.8 km) upstream from mouth, and 3.4 mi (5.5 km) east of Garapan.	.43 (1.11)	1968-74	10-12-73 11- 9-73 11-26-73 12- 7-73 4- 8-74	.16 .21 .18 .21 .06
16802500	East Achugau Spring	Lat 15°14'06"N., long 145°46'43"E., at spring 0.4 mi (0.6 km) east of Mount Dogas and 2.0 mi (3.2 km) east of Tanapag.	-	1965, 1969-74	4- 8-74	.04
		Mariana Islands, Island of Rota				
16806100	Asonan Springs	Lat 14°07'14"N., long 145°12'00"E., at base of cliff out of which the three springs emerge, 2.2 mi (3.5 km) west of Maaniya Cape, and 3.6 mi (5.8 km) east of Rota School.	-	1971-74	12- 2-73 1-20-74 2-10-74 2-18-74 2-24-74 3- 9-74 3-30-74 4- 6-74 5- 5-74 5-18-74 6- 2-74 6-15-74 6-30-74 7-28-74	.10 .09 .10 .12 .09 .14 .13 .11 .13 .11 .13 .11 .11 .11

* Also a crest-stage partial-record station.
≠ Operated as a continuous-record gaging station.
b Previously published with discharge measurements at miscellaneous sites.

Discharge measurements made at low-flow partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi^2 (km^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Mariana Islands, Island of Guam				
16812000	Madog River near Umatac	Lat 13°17'24"N., long 144°40'30"E., 50 ft (15 m) downstream from right-bank tributary and 1.1 mi (1.8 km) southeast of Sanchez School in Umatac.	0.36 (.93)	1960-74	9- 4-74	0.66
16813000	Piga Stream near Umatac	Lat 13°17'56"N., long 144°40'49"E., on left bank of Astaban River right-bank tributary, 0.3 mi (0.5 km) west of Mount Bolanos, and 1.3 mi (2.1 km) east of Sanchez School in Umatac.	-	1955, 1961-65, 1967-74	4-23-74	.16
16814000	Astaban River at Umatac	Lat 13°17'41"N., long 144°40'15"E., 200 ft (61 m) upstream from mouth and 0.7 mi (1.1 km) southeast of Sanchez School in Umatac.	.38 (.98)	1960-74	4-23-74 9- 4-74	.20 .24
16815800	Laelae River at Umatac	Lat 13°17'50"N., long 144°39'51"E., 100 ft (30 m) upstream from mouth and 0.2 mi (0.3 km) east of Sanchez School in Umatac.	.96 (2.49)	1960-74	4-23-74	.45
16817000	Toguan River near Umatac	Lat 13°17'03"N., long 144°39'36"E., at highway 4 bridge, 100 ft (30 m) upstream from mouth, and 0.9 mi (1.4 km) south of Umatac.	.48 (1.24)	1952, 1960-74	4-23-74	.20
16820000	Geus River above Siligin Spring tributary, near Merizo	Lat 13°16'38"N., long 144°40'56"E., 100 ft (30 m) upstream from Siligin Spring tributary, 0.1 mi (0.2 km) upstream from dam, and 1.5 mi (2.4 km) northeast of Merizo School.	.51 (1.32)	1960-74	4-23-74	.18
16820500	Siligin Spring near Merizo	Lat 13°16'38"N., long 144°40'55"E., 120 ft (37 m) upstream from mouth of Siligin Spring tributary, 0.1 mi (0.2 km) upstream from diversion dam, and 1.5 mi (2.4 km) northeast of Merizo School.	-	1954, 1961-74	1- 2-74 2- 5-74 4-23-74	.04 .04 .04
16820700	Geus River below Siligin Spring tributary, near Merizo	Lat 13°16'35"N., long 144°40'53"E., 100 ft (30 m) upstream from diversion dam, 300 ft (91 m) downstream from Siligin Spring tributary, and 1.4 mi (2.3 km) northeast of Merizo School.	.68 (1.76)	1962-74	4-23-74	.42
		Caroline Islands, Palau Islands				
16890620	Ngechutrong River, Babelthuap	Lat 7°36'08"N., long 134°35'25"E., 300 ft (91 m) upstream from Adeiddo River and 0.9 mi (1.4 km) northwest of Mount Megilon.	.24 (.62)	1974	8- 1-74 8-28-74 9-26-74	1.8 1.9 5.8
16890650	Galkatan River, Babelthuap	Lat 7°35'45"N., long 134°34'49"E., 0.9 mi (1.4 km) upstream from Adeiddo River and 1.5 mi (2.4 km) west of Mount Megilon.	1.50 (3.88)	1974	8- 1-74 8-31-74 9-26-74	12 7.8 8.6
16890700	Almiokan River, Babelthuap	Lat 7°31'12"N., long 134°33'51"E., 0.5 mi (0.8 km) upstream from unnamed tributary and 4.6 mi (7.4 km) northeast of Ngatpang village.	7.05 (18.26)	1973-74	10-17-73 11- 7-73 12-17-73 3- 2-74 4-12-74 5- 9-74 6-14-74 8-14-74 9-28-74	64 24 22 23 37 37 29 63 25
16890800	Ngatpang River, Babelthuap	Lat 7°27'40"N., long 134°32'15"E., 0.2 mi (0.3 km) upstream from unnamed tributary and 0.4 mi (0.6 km) southeast of Ngatpang village.	.35 (.91)	1973-74	10-17-73 11- 7-73 12-17-73 1-26-74 3- 2-74 4-12-74 5- 9-74 6-15-74 8-14-74 9-28-74	1.9 1.3 .63 1.6 .66 1.5 1.1 1.3 2.2 24
16891320	Kumekumeyel River, Babelthuap	Lat 7°23'01"N., long 134°33'34"E., 100 ft (30 m) upstream from confluence with Gaden River, 1.1 mi (1.8 km) west of Mount Kabekobekushi, and 1.9 mi (3.1 km) north of Airai.	1.55 (4.02)	1970-74	10-10-73 10-31-73 5- 3-74 6-19-74 9-24-74	15 6.7 6.8 4.1 5.0

Discharge measurements made at low-flow partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Measurements	
					Date	Discharge (ft³/s)
		Caroline Islands, Palau Islands--Continued				
16891500	Geligal Marsh outlet, Babelthuap	Lat 7°36'07"N., long 134°38'08"E., 0.7 mi (1.1 km) northeast of Mount Gulitel and 1.6 mi (2.6 km) southwest of Uliman village.	0.34 (.88)	1971-74	9-30-74	0.43
16891700	Unnamed west coast stream, Arakabesan	Lat 7°21'14"N., long 134°27'10"E., 0.1 mi (0.2 km) upstream from mouth and 0.15 mi (0.24 km) north of village of Arakabesan.	.03 (.08)	1970-74	10- 3-73	.29
					10-23-73	.08
					11- 8-73	.08
					12-19-73	.16
					1-23-74	.29
					2-26-74	.06
					4-11-74	.06
					5- 7-74	.06
					5-29-74	.06
					6-28-74	.07
					7-17-74	.11
					8- 2-74	.09
16891750	Unnamed south coast stream, Arakabesan	Lat 7°20'41"N., long 134°27'29"E., 0.1 mi (0.2 km) upstream from mouth and 0.6 mi (1.0 km) southeast of village of Arakabesan.	.03 (.08)	1970-74	10-23-73	.12
					11- 8-73	.26
					12-19-73	.11
					1-27-74	.26
					2-27-74	.06
					4-11-74	.13
					5- 7-74	.07
					5-29-74	.08
					6-28-74	.09
					7-17-74	.12
					8- 2-74	.17
					9- 5-74	.05
16891770	Unnamed west coast stream, Malakal	Lat 7°19'44"N., long 134°27'25"E., 200 ft (61 m) upstream from mouth and 1.5 mi (2.4 km) southwest of Madalai.	.01 (.03)	1971-74	10- 3-73	.18
					10-26-73	.03
					11-15-73	.04
					3- 2-74	.01
					3- 5-74	.02
					4- 9-74	.01
					5- 8-74	< .01
					7-19-74	.04
					8- 2-74	.01
16891780	Unnamed north coast stream, Malakal	Lat 7°19'51"N., long 134°27'33"E., 0.2 mi (0.3 km) upstream from mouth and 1.3 mi (2.1 km) southwest of Madalai.	.02 (.05)	1971-74	10- 3-73	.13
					10-26-73	.03
					11-15-73	.06
					3- 5-74	.02
					4- 9-74	.02
					5- 8-74	.01
					5-31-74	.01
					6-28-74	.01
					7-19-74	.07
					8- 2-74	.02
					9- 5-74	.02
		Caroline Islands, Yap Islands				
16892500	Tamaney Stream, Yap	Lat 9°29'45"N., long 138°05'34"E., at abandoned German dam, 0.5 mi (0.8 km) northwest of Inuf, and 2.3 mi (3.7 km) southwest of Colonia.	.21 (.54)	1968-74	2-19-74	.18
					3-11-74	.20
					4-21-74	1.9
					5-24-74	1.6
					6-14-74	.25
					7-14-74	.26
					9-13-74	.27
16892600	Ripu Stream, Yap	Lat 9°30'05"N., long 138°06'02"E., 1,000 ft (305 m) upstream from mouth and 1.6 mi (2.6 km) southwest of Colonia.	.24 (.62)	1968-74	2-17-74	.39
					3-11-74	.20
					4-21-74	1.8
					5-23-74	1.7
					6-14-74	.19
					7-14-74	.20
					9-13-74	.21
16892700	Thalomar Stream, Yap	Lat 9°30'27"N., long 138°06'05"E., 5 ft (1.5 m) upstream from confluence with Dinay Stream and 1.4 mi (2.2 km) southwest of Colonia.	.14 (.36)	1965, 1968-74	2-17-74	.27
					3-11-74	.23
					4-21-74	2.6

< Less than.

Discharge measurements made at low-flow partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Measurements	
					Date	Discharge (ft³/s)
		Caroline Islands, Yap Islands--Continued				
16893200	Mukong Stream, Gagil-Tomil	Lat 9°32'06"N., long 138°09'59"E., 0.2 mi (0.3 km) upstream from mouth and 1.6 mi (2.6 km) southwest of Gatjapar.	0.36 (.93)	1972-74	12- 4-73	1.1
					1-16-74	2.8
					2- 4-74	1.2
					2-14-74	1.5
					3- 7-74	.34
					4-19-74	1.3
					5- 7-74	.65
					5-17-74	1.4
					6- 5-74	8.7
					7-10-74	3.0
					8-16-74	2.2
					9-12-74	.98
16893310	Bileiy Stream, Gagil-Tomil	Lat 9°32'15"N., long 138°11'11"E., 0.3 mi (0.5 km) downstream from Bileiy Spring, 0.4 mi (0.6 km) upstream from mouth, and 0.4 mi (0.6 km) south of Gatjapar.	.15 (.39)	1968-74	3- 7-74	.13
					4-19-74	.16
					5- 7-74	.16
					5-17-74	.24
					6- 5-74	.78
					7-10-74	.46
					8-16-74	1.2
					9-12-74	.27
		Caroline Islands, Truk Islands				
16895100	Afeibung Stream, Tol	Lat 7°20'55"N., long 151°37'22"E., 0.3 mi (0.5 km) upstream from mouth and 0.6 mi (1.0 km) northwest of Mount Tumuital.	.08 (.21)	1968-71, 1973-74	5-25-74	.48
					6- 6-74	.42
					6-24-74	.41
		Caroline Islands, Island of Ponape				
16898000	Lui River tributary No. 2	Lat 6°55'20"N., long 158°12'55"E., 0.3 mi (0.5 km) upstream from mouth and 1.5 mi (2.4 km) southeast of Rekisau.	.04 (.10)	1970-74	3-21-74	.41
					9-24-74	.65
16898100	Lui River tributary	Lat 6°57'04"N., long 158°13'15"E., at mouth and 1.4 mi (2.2 km) southwest of Tolenot Peak.	.36 (.93)	1970-74	3-21-74	.97
		Caroline Islands, Island of Kusaie				
16899780	Tafeyat River	Lat 5°19'20"N., long 163°01'45"E., 100 ft (30 m) downstream from former Japanese dam, 1.0 mi (1.6 km) upstream from mouth, and 1.4 mi (2.2 km) east of Mount Crozer.	.47 (1.22)	1974	2-22-74	.96
					4-24-74	3.2
16899830	Innem River	Lat 5°20'25"N., long 163°01'43"E., at concrete road bridge 0.3 mi (0.5 km) upstream from mouth, and 1.9 mi (3.1 km) northeast of Mount Crozer.	2.51 (6.50)	1971-74	10-17-73	6.6
					11-28-73	6.7
					12-11-73	8.8
					3-25-74	7.7
					4- 3-74	6.5
					8-19-74	8.0
16899850	Pakusrik River	Lat 5°21'40"N., long 163°01'45"E., 80 ft (24 m) downstream from new diversion dam, 0.5 mi (0.8 km) upstream from mouth, and 0.9 mi (1.4 km) east of Mount Buache.	.40 (1.04)	1974	2-22-74	.73
					8-19-74	1.3
16899900	Yekula River	Lat 5°22'34"N., long 163°01'16"E., 0.2 mi (0.3 km) upstream from mouth and 1.3 mi (2.1 km) northeast of Mount Buache.	.37 (.96)	1971-74	12-11-73	.58
		Samoa Islands, Island of Tutuila				
16902500	Vaisa Stream at Onenoa	Lat 14°15'27"S., long 170°34'44"W., 30 ft (9 m) downstream from unnamed tributary, 0.1 mi (0.2 km) southeast of Onenoa, and 0.1 mi (0.2 km) upstream from mouth.	.12 (.31)	1964-65, 1968-69, 1972, 1974	5-23-69	c .29
					7-15-74	.13
16903000	Afimuao Stream at Onenoa	Lat 14°15'34"S., long 170°34'53"W., 200 ft (61 m) downstream from unnamed tributary, 0.2 mi (0.3 km) southwest of Onenoa, and 0.2 mi (0.3 km) upstream from mouth.	.06 (.16)	1959-61, 1963-65, 1968-69, 1974	5-23-69	c .11
					7-15-74	.04
16905000	Lepa Stream at Aoa	Lat 14°16'21"S., long 170°35'17"W., 0.5 mi (0.8 km) upstream from mouth and 0.6 mi (1.0 km) southwest of Aoa.	.09 (.23)	1959-61, 1963-65, 1967-71, 1974	5-21-69	c .13
					3-11-74	.11

c Not published previously.

Discharge measurements made at low-flow partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Measurements	
					Date	Discharge (ft³/s)
		Samoa Islands, Island of Tutuila--Continued				
16907000	Panota Stream at Masausi	Lat 14°15'54"S., long 170°36'09"W., 0.1 mi (0.2 km) southeast of Masausi and 0.2 mi (0.3 km) upstream from mouth.	0.06 (.16)	1959-60, 1962-64, 1968, 1970-71, 1974	3-15-74	0.08
16908000	Vaipito Stream at Masausi	Lat 14°16'05"S., long 170°36'18"W., 0.2 mi (0.3 km) south of Masausi and 0.3 mi (0.5 km) upstream from mouth.	.08 (.21)	1959-60, 1962-64, 1967-70, 1974	5-23-69 3-15-74	c .22 .12
16909500	Talaloa Stream at Masefau	Lat 14°15'51"S., long 170°38'07"W., 50 ft (15 m) downstream from right-bank tributary, 0.5 mi (0.8 km) southwest of Masefau, and 0.5 mi (0.8 km) upstream from mouth.	.47 (1.22)	1959-60, 1962-64, 1967-71, 1974	5-23-69 3-15-74	c .88 .14
16910000	Tagau Stream at Masefau	Lat 14°15'47"S., long 170°38'20"W., 0.4 mi (0.6 km) upstream from mouth and 0.6 mi (1.0 km) southwest of Masefau.	.01 (.03)	1959-60, 1962-64, 1968, 1974	3-15-74	.10
16911000	Pago Stream tributary at Afono	Lat 14°16'07"S., long 170°38'56"W., 200 ft (61 m) upstream from mouth and 0.3 mi (0.5 km) southeast of Afono.	.10 (.26)	1959-60, 1962-64, 1971, 1974	6-18-74	.13
16916000	Leua Stream at Fagasa	Lat 14°17'24"S., long 170°43'00"W., 0.2 mi (0.3 km) northeast of Fagasa and 0.2 mi (0.3 km) upstream from mouth.	.14 (.36)	1959-61, 1963-65, 1968-71, 1974	5-21-69 3-12-74	c .31 .12
16917000	Leele Stream at Fagasa	Lat 14°17'32"S., long 170°43'01"W., 0.1 mi (0.2 km) southeast of Fagasa and 0.2 mi (0.3 km) upstream from mouth.	.19 (.49)	1959-61, 1963-65, 1968, 1971, 1974	3-12-74	.43
16919000	Leaveave Stream near Aasu	Lat 14°18'28"S., long 170°45'06"W., 0.6 mi (1.0 km) upstream from mouth and 0.9 mi (1.4 km) southeast of Aasu.	.60 (1.55)	1959-60, 1962-63, 1968, 1974	8-14-74	.55
16919200	Leaveave Stream tributary No. 2 near Aasu	Lat 14°18'24"S., long 170°45'03"W., 50 ft (15 m) upstream from mouth and 0.8 mi (1.3 km) southeast of Aasu.	.16 (.41)	1960, 1962-63, 1968, 1974	8-14-74	.13
16919400	Leaveave Stream tributary No. 1 near Aasu	Lat 14°18'21"S., long 170°45'01"W., 50 ft (15 m) upstream from mouth and 0.8 mi (1.3 km) southeast of Aasu.	.15 (.39)	1960, 1962-63, 1968, 1974	8-14-74	.07
16919800	Aasu Stream at Aoloaufou	Lat 14°18'54"S., long 170°46'00"W., 0.3 mi (0.5 km) north of Aoloaufou and 1.3 mi (2.1 km) southeast of Aoloautuai.	.24 (.62)	1960-65, 1968, 1974	7-16-74	.07
16920000	Aasu Stream near Aasu	Lat 14°18'16"S., long 170°45'29"W., 300 ft (91 m) downstream from 100 ft (30 m) waterfall, 0.5 mi (0.8 km) south of Aasu, and 0.5 mi (0.8 km) upstream from mouth.	.82 (2.12)	1959-63, 1968, 1974	8-14-74	.79
16922000	Vaisa Stream at Aoloautuai	Lat 14°18'15"S., long 170°47'00"W., 200 ft (61 m) downstream from unnamed tributary, 0.3 mi (0.5 km) upstream from Vailolo Stream, and 0.3 mi (0.5 km) southwest of Aoloautuai.	.78 (2.02)	1959-60, 1962-63, 1965, 1968-69, 1974	5-21-69 8-14-74	c .55 .19
16923000	Vailolo Stream at Aoloautuai	Lat 14°18'22"S., long 170°46'45"W., 100 ft (30 m) downstream from unnamed tributary, 0.4 mi (0.6 km) upstream from mouth, and 0.4 mi (0.6 km) south of Aoloautuai.	.18 (.47)	1959-60, 1962-63, 1968-69, 1974	5-21-69 8-14-74	c .53 .61
16926000	Vaitele Stream at Poloa	Lat 14°19'18"S., long 170°49'36"W., 750 ft (229 m) upstream from unnamed tributary on right and 0.4 mi (0.6 km) east of Poloa.	.11 (.28)	1959-61, 1963-64, 1969-70, 1974	5-26-69 7-31-74 8-23-74	c .42 .08 .06

c Not published previously.

Discharge measurements made at low-flow partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi^2 (km^2)	Period of record	Measurements	
					Data	Discharge (ft^3/s)
		Samoa Islands, Island of Tutuila--Continued				
16927000	Puna Stream at Amanave	Lat 14°19'39"S., long 170°49'48"W., 0.2 mi (0.3 km) upstream from Maululu Stream and 0.2 mi (0.3 km) north of Amanave.	0.03 (.08)	1959-61, 1963-65, 1968-69, 1974	5-26-69 4-25-74	a 0.09 .06
16928000	Afutele Stream at Agugulu	Lat 14°20'05"S., long 170°49'06"W., 30 ft (9 m) downstream from right-bank tributary at Agugulu and 0.1 mi (0.2 km) upstream from mouth.	.17 (.44)	1959-61, 1963-65, 1968-71, 1974	5-26-69 4-25-74	a .35 .15
16929000	Vaialae Stream at Utumea	Lat 14°19'56"S., long 170°48'50"W., 0.1 mi (0.2 km) north of Utumea and 0.1 mi (0.2 km) upstream from mouth.	.15 (.39)	1959-61, 1963-65, 1968-71, 1974	5-26-69 4-25-74	a .97 .15
16930000	Soonapule Stream at Seetaga	Lat 14°19'42"S., long 170°48'36"W., 50 ft (15 m) upstream from Utanuatele Stream and 0.1 mi (0.2 km) north of Seetaga.	.16 (.41)	1959-61, 1963-64, 1968-71, 1974	5-20-69 4-25-74	a 1.8 .14
16930200	Utanuatele Stream at Seetaga	Lat 14°19'41"S., long 170°48'35"W., 200 ft upstream from mouth and 0.2 mi (0.3 km) north of Seetaga.	.21 (.54)	1960-61, 1963-64, 1968-71, 1974	5-20-69 4-25-74	a 1.1 .06
16932000	Asili Stream near Asili	Lat 14°19'46"S., long 170°47'42"W., 0.4 mi (0.6 km) north of Asili and 0.5 mi (0.8 km) upstream from mouth.	.55 (1.42)	1959-61, 1963-65, 1968, 1970, 1974	4-25-74	.89
16932500	Asili Stream at Asili	Lat 14°20'04"S., long 170°47'40"W., 100 ft (30 m) upstream from highway bridge at Asili and 0.1 mi (0.2 km) upstream from mouth.	.66 (1.71)	1958-59, 1960-61, 1963-65, 1967-69, 1974	5-20-69 5-26-69 4-25-74	a 5.9 a 2.8 1.1
16934000	Leafu Stream near Leone	Lat 14°19'47"S., long 170°46'55"W., 30 ft (9 m) upstream from reservoir, 0.9 mi (1.4 km) upstream from mouth, and 1.0 mi (1.6 km) north of Leone.	.69 (1.79)	1959-64, 1968-69, 1971-74	5-24-69 7-17-74 8-22-74	a 3.6 1.7 .49
16935000	Fuafua Stream at Malaeloa	Lat 14°19'58"S., long 170°46'12"W., 40 ft (12 m) downstream from unnamed tributary, 0.8 mi (1.3 km) north of Malaeloa, and 2.1 mi (3.4 km) upstream from mouth.	.29 (.75)	1959-61, 1963-65, 1971, 1973-74	7-17-74	.21
16936000	Leaveave Stream at Mapusagafou	Lat 14°19'12"S., long 170°45'00"W., 0.1 mi (0.2 km) upstream from Puna Stream and 0.7 mi (1.1 km) north of Mapusagafou.	.15 (.39)	1959-65, 1968, 1971, 1974	7-17-74	.16
16937000	Vaitele Stream at Lepine	Lat 14°18'51"S., long 170°43'35"W., 0.7 mi (1.1 km) north of Lepine and 1.1 mi (1.8 km) upstream from mouth.	.18 (.47)	1959-61, 1963-65, 1967-69, 1971, 1974	5-22-69 7-17-74	a .86 .39
16938000	Vaitele Stream tributary at Lepine	Lat 14°18'57"S., long 170°43'21"W., 0.2 mi (0.3 km) upstream from mouth and 0.7 mi (1.1 km) northeast of Lepine.	.09 (.23)	1959-61, 1963-65, 1967-69, 1974	5-22-69 7-17-74	c .53 .11
16939000	Taumata Stream near Mapusaga	Lat 14°18'23"S., long 170°44'00"W., 100 ft (30 km) upstream from unnamed tributary, 1.6 mi (2.6 km) north of Mapusaga, and 2.2 mi (3.5 km) upstream from mouth.	.02 (.05)	1959-61, 1963-65, 1968-69, 1974	5-27-69 9- 4-74	a .09 .03
16941000	Mapusagatuai Stream at Mapusaga	Lat 14°19'38"S., long 170°44'48"W., 0.3 mi (0.5 km) west of Mapusaga and 1.2 mi (1.9 km) upstream from mouth.	.08 (.21)	1959-61, 1963-65, 1968-70, 1974	5-26-69 7-17-74	c .25 .15

c Not published previously.

Discharge measurements made at low-flow partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi^2 (km^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Samoa Islands, Island of Tutuila--Continued				
16942000	Sauino Stream near Nuuuli	Lat 14°18'53"S., long 170°43'03"W., 0.6 mi (1.0 km) upstream from mouth and 1.3 mi (2.1 km) west of Nuuuli.	0.09 (.23)	1959-61, 1963-65, 1968-69, 1971, 1974	5-22-69 7-22-74	c 0.42 .14
16943000	Mataalii Stream near Nuuuli	Lat 14°18'42"S., long 170°42'51"W., 0.6 mi (1.0 km) upstream from mouth and 1.1 mi (1.8 km) northwest of Nuuuli.	.14 (.36)	1959-61, 1963-65, 1968-69, 1974	5-27-69 7-22-74	c .45 .14
16944000	Papa Stream near Nuuuli	Lat 14°18'31"S., long 170°42'29"W., 0.3 mi (0.5 km) upstream from Tauese Stream and 0.9 mi (1.4 km) northwest of Nuuuli.	.57 (1.48)	1959-61, 1963-64, 1967-68, 1974	8-19-74	.18
16945000	Amaile Stream at Nuuuli	Lat 14°18'43"S., long 170°41'48"W., 0.3 mi (0.5 km) upstream from mouth and 0.5 mi (0.8 km) north of Nuuuli.	.19 (.49)	1959-61, 1963-64, 1968-69, 1974	5-26-69 7-22-74	c .37 .07
16946000	Avau Stream at Faganeanea	Lat 14°18'34"S., long 170°41'35"W., 0.2 mi (0.3 km) upstream from mouth and 0.4 mi (0.6 km) southwest of Faganeanea.	.09 (.23)	1959-61, 1963-65, 1967-69, 1974	5-22-69 7-22-74 9-23-74	c .25 .12 .08
16947000	Afu Stream at Faganeanea	Lat 14°18'16"S., long 170°41'25"W., 0.2 mi (0.3 km) northwest of Faganeanea and 0.3 mi (0.5 km) upstream from mouth.	.22 (.57)	1959-61, 1963-65, 1967-69, 1971, 1974	5-22-69 7-22-74 9-23-74	c .20 .07 .03
16949800	Utumoa Stream near Pago Pago	Lat 14°17'35"S., long 170°42'20"W., 0.6 mi (1.0 km) upstream from mouth and 1.1 mi (1.8 km) south of Pago Pago.	.07 (.18)	1960-61, 1963-65, 1967-71, 1974	5-21-69 5-27-69 3-13-74	c .64 c .45 .24
16950500	Utumoa Stream at Pago Pago	Lat 14°17'21"S., long 170°42'21"W., 150 ft (46 m) downstream from pipeline diversion, 0.3 mi (0.5 km) upstream from mouth, and 0.8 mi (1.3 km) south of Pago Pago.	.17 (.44)	1957-58≠, 1960-65, 1967-68, 1974	3-13-74	.07
16951000	Vaipito Stream at Pago Pago	Lat 14°16'57"S., long 170°42'16"W., 800 ft (244 m) upstream from Pago Stream and 0.3 mi (0.5 km) southwest of highway junction in Pago Pago.	.75 (1.94)	1966-67, 1969-70, 1974	3-12-74	.12
16952500	Lalolamauta Stream at Aua	Lat 14°16'25"S., long 170°39'31"W., 300 ft (91 m) upstream from Amano Stream and 0.4 mi (0.6 km) east of Aua.	.14 (.36)	1959-61, 1963-65, 1968-70, 1974	5-22-69 3-13-74	c .22 .12
16953000	Matagimalie Stream at Aua	Lat 14°16'19"S., long 170°39'50"W., 0.2 mi (0.3 km) north of Aua and 0.2 mi (0.3 km) upstream from mouth.	.03 (.08)	1959-61, 1963-65, 1968-69, 1971, 1974	5-21-69 5-22-69 3-13-74	c .09 c .20 .12
16955000	Anasosopo Stream at Anasosopo	Lat 14°17'14"S., long 170°39'44"W., 400 ft (122 m) upstream from highway bridge at Anasosopo and 0.1 mi (0.2 km) upstream from mouth.	.05 (.13)	1959-61, 1963-65, 1968, 1971, 1974	3-14-74	.06
16955500	Vaisina Stream at Lauliifou	Lat 14°17'34"S., long 170°39'25"W., 600 ft (183 km) upstream from highway bridge and 0.1 mi (0.2 km) north of Lauliifou.	.06 (.16)	1959-61, 1963-65, 1968-69, 1974	5-21-69 3-14-74	c .25 .03
16956000	Vaitele Stream at Laulituai	Lat 14°17'05"S., long 170°39'07"W., 200 ft (61 km) upstream from left bank tributary, 0.5 mi (0.8 km) north of Laulituai and 0.7 mi (1.1 km) upstream from mouth.	.19 (.49)	1959-61, 1963-65, 1968, 1970, 1974	3-12-74	.57

≠ Operated as a continuous-record gaging station.
c Not published previously.

Discharge measurements made at low-flow partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Measurements	
					Date	Discharge (ft³/s)
		Samoa Islands, Island of Tutuila--Continued				
16956500	Maga Stream at Lauliituai	Lat 14°17'12"S., long 170°39'09"W., 0.1 mi (0.2 km) upstream from mouth and 0.4 mi (0.6 km) north of Lauliituai.	0.05 (.13)	1959-61, 1963-65, 1968, 1974	3-14-74	0.03
16957000	Lesea Stream at Lauliituai	Lat 14°17'19"S., long 170°39'00"W., 0.1 mi (0.2 km) upstream from mouth and 0.3 mi (0.5 km) northeast of Lauliituai.	.02 (.05)	1959-61, 1963-65, 1968, 1974	3-12-74	.28
16958000	Visa Stream at Alega	Lat 14°17'21"S., long 170°38'37"W., 0.2 mi (0.3 km) upstream from mouth and 0.5 mi (0.8 km) southwest of Alega.	.10 (.26)	1959-61, 1963-65, 1967-69, 1971, 1974	5-27-69 3-12-74	c .23 .10
16958500	Visa Stream tributary at Aumi	Lat 14°17'24"S., long 170°38'35"W., 200 ft (61 m) upstream from mouth and 0.3 mi (0.5 km) northeast of Aumi.	.02 (.05)	1959-61, 1963-65, 1967-69, 1971, 1974	5-27-69 3-12-74	c .24 .12
16959000	Visa Stream at Aumi	Lat 14°17'27"S., long 170°38'36"W., 100 ft (30 m) upstream from highway bridge and 0.2 mi (0.3 km) east of Aumi.	.16 (.41)	1957-58≠, 1963-64, 1968-71, 1974	5-20-69 5-27-69 3-12-74	c .49 c .23 .34
16960500	Alega Stream tributary at Alega	Lat 14°16'57"S., long 170°38'16"W., 300 ft (91 m) upstream from mouth and 0.2 mi (0.3 km) north of Alega.	.04 (.10)	1961, 1963-65, 1967-69, 1974	5-20-69 8-13-74 9-16-74	c .31 .12 .10
16961000	Muliolevai Stream at Auto	Lat 14°16'37"S., long 170°37'54"W., 400 ft (122 m) downstream from unnamed tributary, 0.5 mi (0.8 km) northwest of Auto, and 0.5 (0.8 km) upstream from mouth.	.22 (.57)	1959-61, 1963-65, 1968-69, 1974	5-23-69 8-19-74 8-19-74	c .57 .22 .21
16962000	Laloi Stream at Amouli	Lat 14°16'43"S., long 170°35'16"W., 0.2 mi (0.3 km) upstream from Fusiloa Stream and 0.3 mi (0.5 km) west of Amouli.	.09 (.23)	1959-61, 1963-65, 1969, 1971, 1974	5-21-69 3-11-74	c .14 .15
16963000	Televai Stream at Amouli	Lat 14°16'25"S., long 170°34'55"W., 50 ft (15 m) downstream from right-bank tributary, 0.1 mi (0.2 km) upstream from Tuavaa Stream, and 0.3 mi (0.5 km) north of Amouli.	.10 (.26)	1959-61, 1963-65, 1968-71, 1974	5-21-69 3-11-74	c .11 .22
16964000	Leafu Stream at Auasi	Lat 14°16'28"S., long 170°34'26"W., 0.1 mi (0.2 km) north of Auasi and 0.2 mi (0.3 km) upstream from mouth.	.12 (.31)	1959-61, 1963-65, 1968-71	5-23-69	c .26
16965000	Vaialili Stream	Lat 14°16'15"S., long 170°34'08"W., 0.2 mi (0.3 km) upstream from Vaifusi Stream and 0.5 mi (0.8 km) southwest of Alao.	.10 (.26)	1959-61, 1963-65, 1968, 1970-71, 1974	7-15-74	.04
16966000	Vaifusi Stream at Alao	Lat 14°16'08"S., long 170°34'05"W., 400 ft (122 m) upstream from mouth and 0.3 mi (0.5 km) west of Alao.	.02 (.05)	1959-61, 1963-65, 1968, 1970, 1974	7-15-74	0

≠ Operated as a continuous-record gaging station.
c Not published previously.

Crest-stage partial-record stations

Prior to 1973, crest-stage partial-record station records for the State of Hawaii were published in an annual progress report entitled "An Investigation of Floods in Hawaii." The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements or peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1974

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft³/s)
		Hawaii, Island of Kauai					
**16031000	Waimea River near Waimea	Lat 21°59'02", long 159°39'46", on right bank 1.2 mi (1.9 km) upstream from Makaweli River and 1.8 mi (2.9 km) north of Waimea.	57.8 (149.7)	1910-18≠, 1944-68≠, 1970-72≠, 1973-74	4-19-74	19.05	29,100
16038000	Waimea River at Waimea	Lat 21°57'23", long 159°39'59", 150 ft (46 m) upstream from highway bridge at Waimea and 0.2 mi (0.3 km) upstream from mouth.	86.5 (224.0)	1944-74d	12- 1-73	5.97	-
16052000	Hanapepe River at Hanapepe	Lat 21°54'47", long 159°35'33", 400 ft (122 m) upstream from bridge on Highway 50 and 0.5 mi (0.8 km) upstream from mouth.	26.6 (68.9)	1950-74d	4-19-74	5.70	-
**16052500	Lawai Stream near Koloa	Lat 21°54'11", long 159°30'21", on right bank at private road bridge, 0.9 mi (1.4 km) upstream from mouth and 2.4 mi (3.9 km) southwest of Koloa.	6.62 (17.15)	1962-63, 1964-72≠, 1973-74	4-19-74	10.24	4,350
**16055000	Huleia Stream near Lihue	Lat 21°57'20", long 159°25'23", at highway bridge, 3.7 mi (6.0 km) southwest of Lihue, and 4.5 mi (7.2 km) upstream from mouth.	17.6 (45.6)	1912-15≠, 1962-67, 1968-70≠, 1971-74	4-19-74	14.76	8,440
16071800	Wailua River near Kapaa	Lat 22°03'00", long 159°20'26", at State Park 600 ft (183 m) upstream from highway bridge, 850 ft (259 m) upstream from mouth, and 2.5 mi (4.0 km) southwest of Kapaa.	52.6 (136.2)	1962-74d	11-11-73	5.82	-
16073500	Konohiki Stream near Kapaa	Lat 22°04'01", long 159°20'21", at culvert on private road, 1.8 mi (2.9 km) upstream from mouth and 2.4 mi (3.9 km) southwest of Kapaa High School.	3.38 (8.75)	1964-67, 1970-74	5-14-74	7.07	121
16081200	Akulikuli Stream near Kapaa	Lat 22°06'25", long 159°22'07", at Kahuna road crossing, 800 ft (244 m) upstream from mouth and 3.5 mi (5.6 km) northwest of Kapaa armory.	.40 (1.04)	1964-74	5-14-74	3.85	<100
16084500	Kapaa Stream at old highway crossing, near Kealia	Lat 22°06'28", long 159°19'52", at abutment of old highway bridge, 100 ft (30 m) upstream from road crossing, 1.4 mi (2.2 km) northwest of Kealia and 2.1 mi (3.4 km) upstream from mouth.	14.0 (36.3)	1962-74	12- 1-73	10.35	3,990
16085000	Homaikawaa Stream near Kealia	Lat 22°07'23", long 159°18'12", at culvert on Highway 56, 1.6 mi (2.6 km) southeast of Anahola School and 1.6 mi (2.6 km) north of Kealia.	.85 (2.20)	1964-74	12- 1-73	4.43	/
16097900	Puukumu Stream near Kilauea	Lat 22°13'02", long 159°25'18" at culvert on Highway 56, 0.8 mi (1.3 km) northwest of Kilauea School and 0.9 mi (1.4 km) upstream from mouth.	.91 (2.36)	1964-68, 1971-74	4-22-74	4.14	84
16104200	Hanalei River at Highway 56 Bridge near Hanalei	Lat 22°12'50", long 159°28'43", at highway bridge, 1.6 mi (2.6 km) northeast of Hanalei and 2.4 mi (3.9 km) upstream from mouth.	21.0 (54.4)	1963-74d	4-19-74	10.34	-

** Also a water-quality partial-record station.
/ Discharge not determined.
≠ Operated as a continuous-record gaging station.
< Less than.
d Gage height only.

Annual maximum discharge at crest-stage partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft³/s)
		Hawaii, Island of Kauai--Continued					
16130000	Nahomalu Valley near Mana	Lat 22°02'41", long 159°45'17", on left bank 1.1 mi (1.8 km) northeast of Mana and 5.3 mi (8.5 km) northwest of Kekaha School.	3.81 (9.87)	1962-63, 1964-71≠, 1972-74	12- 1-74	5.39	1,100
		Hawaii, Island of Oahu					
16210500	Kaukonahua Stream at Waialua	Lat 21°33'56", long 158°07'26", 0.2 mi (0.3 km) upstream from Highway 99, 0.4 mi (0.6 km) southeast of Waialua High School and 1.3 mi (2.1 km) southwest of Weed Circle.	38.7 (100.2)	1963, 1968-74	4-19-74	26.06	13,400
16211200	Poamoho Stream at Waialua	Lat 21°34'00", long 158°06'40", at culvert crossing of Kaheaka Road, 0.2 mi (0.3 km) upstream from Highway 83 and 1.1 mi (1.8 km) east of Waialua High School.	10.9 (28.2)	1967-74	4-19-74	24.00	7,340
16211300	Makaleha Stream near Waialua	Lat 21°33'49", long 158°09'21", 1.0 mi (1.6 km) southwest of Dillingham Ranch and 1.9 mi (3.1 km) southwest of sugar mill at Waialua.	4.15 (10.75)	1958-63, 1964-65≠, 1966-74	4-19-74	5.40	420
16211400	Manini Gulch at Kaena	Lat 21°34'50", long 158°15'12", 180 ft (55 m) upstream from Highway 99, 1.7 mi (2.7 km) west of Camp Erdman and 2.0 mi (3.2 km) east of Kaena Point.	1.08 (2.80)	1974	3-12-74 or 3-18-74	10.43	/
16211500	Makua Stream at Makua	Lat 21°31'59", long 158°13'49", on left bank, 20 ft (6 m) upstream from old concrete highway ford, 140 ft (43 m) downstream from Farrington Highway box culvert, 0.1 mi (0.2 km) north of Makua cemetery, and 4.5 mi (7.2 km) southeast of Kaena Point lighthouse.	4.28 (11.09)	1958-74	-	-	/
16211700	Makaha Stream at Makaha	Lat 21°28'47", long 158°12'31", 0.9 mi (1.4 km) upstream from Farrington Highway, and 1.1 mi (1.8 km) north of junction of Farrington Highway and Makaha Valley Road.	5.25 (13.60)	1966-74	4-19-74	10.46	1,010
16211800	Kaupuni Stream at altitude 374 ft (114 m), near Waianae	Lat 21°28'20", long 158°09'26", at abandoned diversion dam, 2.6 mi (4.2 km) northeast of Waianae cemetery and 2.8 mi (4.5 km) northeast of junction of Waianae Valley Road and Farrington Highway.	3.58 (9.27)	1961-72≠ 1973-74	4-19-74	6.45	/
16212200	Mailiilii Stream near Waianae	Lat 21°27'34", long 158°08'05", at bridge at Lualualei Naval Reservation and 3.4 mi (5.5 km) east of cemetery near Waianae.	1.51 (3.91)	1958-74	4-19-74	2.62	852
16212300	Nanakuli Stream at Nanakuli	Lat 21°23'08", long 158°08'11", 0.7 mi (1.1 km) upstream from Highway 90 and 0.6 mi (1.0 km) northeast of Nanakuli Post Office.	3.98 (10.31)	1968-74	1- 1-74	19.60	570
16212450	Kaloi Gulch tributary near Honouliuli	Lat 21°22'41", long 158°03'45", at culvert on private road, 1.8 mi (2.9 km) west of Honouliuli and 2.8 mi (4.5 km) northwest of Ewa Post Office.	1.70 (4.40)	1968-74	1- 1-74	3.74	171
16212500	Honouliuli Stream near Waipahu	Lat 21°22'40", long 158°02'10", at bridge on Farrington Highway and 1.8 mi (2.9 km) west of Waipahu Post Office.	11.0 (28.5)	1956-74	1- 1-74	2.46	368
16212601	Waikele Stream at Wheeler Field	Lat 21°28'24", long 158°03'08", at culvert 0.3 mi (0.5 km) west of east-west runway at Wheeler Field, and 1.9 mi (3.1 km) southwest of Wahiawa Post Office.	6.35 (16.45)	1958, 1960-74	9-19-74	6.28	321

/ Discharge not determined.
≠ Operated as a continuous-record gaging station.

Annual maximum discharge at crest-stage partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft³/s)
		Hawaii, Island of Oahu--Continued					
16212700	Waikakalaua Stream near Wahiawa	Lat 21°27'50", long 158°01'38", 0.2 mi (0.3 km) downstream from Kamehameha Highway and 2.4 mi (3.9 km) south of Wahiawa Post Office.	6.96 (18.03)	1958-74	4-19-74	14.66	3,130
16212750	Huliwai Gulch near Kunia Camp	Lat 21°26'43", long 158°03'47", 200 ft (61 m) upstream from Highway 75 and 1.2 mi (1.9 km) south of Kunia Camp.	.84 (2.18)	1974	9-19-74	10.78	/
16223000	Waimalu Stream near Aiea	Lat 21°23'48", long 157°56'56", 1,300 ft (400 m) upstream from bridge on Moanalua Road and 1.2 mi (1.9 km) northwest of Aiea High School (revised)	a5.97 (15.46)	1952-62≠ 1963-70≠ 1973-74	7- 9-73 4-19-74	2.13 5.97	544 2,390
16228200	Moanalua Stream near Aiea	Lat 21°22'37", long 157°53'03", on right bank 1.1 mi (1.8 km) northeast of Tripler Hospital and 2.9 mi (4.7 km) east of Aiea sugar refinery.	3.34 (8.65)	1969-74	4-19-74	5.97	2,220
16228600	Moanalua Stream at Tripler Hospital	Lat 21°21'52°, long 157°54'05", on right bank 0.5 mi (0.8 km) west of Tripler Hospital and 1.6 mi (2.6 km) northeast of Aliamanu School.	4.44 (11.50)	1971-74	4-19-74	19.05	5,280
16228900	Kalihi Stream near Kaneohe	Lat 21°22'35", long 157°49'32", on right bank 800 ft (244 m) downstream from Likelike Highway, and 2.8 mi (4.5 km) southwest of Castle High School in Kaneohe.	.60 (1.55)	1967-71≠ 1972-74	9- 4-74	2.94	282
16235400	Waolani Stream at Honolulu	Lat 21°20'00", long 157°51'04", at Wyllie Street bridge and 1.8 mi (2.9 km) northeast of Honolulu Post Office.	1.28 (3.32)	1958-74	4-19-74	5.20	1,920
16237500	Pauoa Stream at Honolulu	Lat 21°19'18", long 157°51'03", at Lusitana Street bridge and 1.1 mi (1.8 km) northeast of Honolulu Post Office.	1.43 (3.70)	1958-74	11-12-73	1.44	595
**16247100	Manoa-Palolo Drainage Canal at Moiliili	Lat 21°17'24", long 157°49'17", on left bank at Kaimuki High School, 0.3 mi (0.5 km) downstream from confluence of Manoa and Palolo Streams and 0.6 mi (1.0 km) upstream from point of discharge into Ala Wai Canal.	9.35 (24.22)	1968-74	3-12-74 /	8.22	3,860
16247500	Wailupe Gulch at Aina Haina	Lat 21°17'46", long 157°45'29", at Ani Street bridge and 1.0 mi (1.6 km) upstream from Kalanianaole Highway in Aina Haina.	2.35 (6.09)	1958-74	11-29-73	1.52	436
16247900	Kuliouou Valley at Kuliouou	Lat 21°17'50", long 157°43'35", at Kuliouou, 300 ft (91 m) downstream of single-lane wooden bridge and 0.6 mi (1.0 km) upstream from Highway 72.	1.18 (3.06)	1958-59, 1970-74	3-12-74	28.51	575
16248800	inoaole Stream at Waimanalo	Lat 21°20'31", long 157°42'40", 30 ft (9 m) upstream from culvert on Hihimanu Street and 0.8 mi (1.3 km) northwest of Waimanalo Post Office.	1.21 (3.13)	1958-74	3-12-74	1.60	29
**16249000	Waimanalo Stream at Waimanalo	Lat 21°21'12", long 157°43'52", on right bank 40 ft (12 m) upstream from Highway 72 and 2.3 mi (3.7 km) northwest of Waimanalo Post Office.	2.16 (5.59)	1967-70≠ 1971-74	3-12-74	5.05	725
16249100	Kaelepulu Stream tributary at Kailua	Lat 21°21'44", long 157°44'22", 30 ft (9 m) upstream from Kalanianaole Highway, 1.6 mi (2.6 km) northwest of Waimanalo School and 2.4 mi (3.9 km) south of Kailua Post Office.	.16 (.41)	1963-74	2-.5-74	2.39	66

** Also a water-quality partial-record station.
/ Discharge not determined.
≠ Operated as a continuous-record gaging station.
a Revised.

Annual maximum discharge at crest-stage partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft³/s)
		Hawaii, Island of Oahu--Continued					
**16260500	Maunawili Stream at Highway 61, near Kailua	Lat 21°22'51", long 157°45'48", on right bank at downstream side of bridge on Highway 61, 0.6 mi (1.0 km) west of Maunawili School and 1.6 mi (2.6 km) southwest of Kailua Post Office.	5.34 (13.83)	1958-67, 1968-71, 1972-74	2- 5-74	8.71	1,400
16264800	Kawainui Canal at Kailua	Lat 21°24'15", long 157°45'28", at head of canal and 1.2 mi (1.9 km) northwest of Kailua Post Office.	11.0 (28.5)	1957-60, 1963-64, 1967-74	2- 2-74	4.76	/
16265000	Kawa Stream at Kaneohe	Lat 21°24'32", long 157°47'36", 50 ft (15 m) upstream from bridge on Kaneohe Bay Drive at Kaneohe, 0.2 mi (0.3 km) northeast of Castle High School, and 0.6 mi (1.0 km) upstream from mouth.	1.19 (3.08)	1965, 1968-74	1-27-74	6.26	548
16270900	Luluku Stream at altitude 220 ft (67 m), near Kaneohe	Lat 21°23'42", long 157°48'46", on left bank 0.5 mi (0.8 km) upstream from mouth, 1.4 mi (2.2 km) southwest of Castle High School, and 1.9 mi (3.1 km) south of Kaneohe Post Office.	.44 (1.14)	1967-71, 1972-74	5-14-74	4.06	159
*16274499	Keaahala Stream at Kamehameha Highway, at Kaneohe	Lat 21°25'12", long 157°48'15", 35 ft (11 m) upstream from bridge on Kamehameha Highway in Kaneohe.	.62 (1.61)	1959-74	2- 5-74	4.91	598
16279500	Heeia Stream at Kaneohe	Lat 21°25'17", long 157°49'01", 60 ft (18 m) downstream from culvert on Kahekili Highway, 0.7 mi (1.1 km) west of Kaneohe Post Office and 0.8 mi (1.3 km) southwest of Heeia.	1.80 (4.66)	1965-66, 1968-74	12- 1-73	4.16	224
*16283480	Ahuimanu Stream near Kahaluu	Lat 21°27'04", long 157°50'13", at bridge on Ahuimanu Road and 0.8 mi (1.3 km) south of Kahaluu.	2.31 (5.98)	1963-74	12- 7-73	8.66	1,930
16284500	Waihee Stream at Kahaluu	Lat 21°27'31", long 157°50'26", on left bank 20 ft (6 m) upstream from Ahaolelo Road, 300 ft (91 m) upstream from mouth and 0.3 mi (0.5 km) southwest of Kahaluu.	2.26 (5.85)	1967-74	12- 7-73	7.80	1,200
16304500	Kaluanui Stream at Hauula	Lat 21°35'57", long 157°54'24", on left downstream wingwall of concrete bridge, 1.2 mi (1.9 km) southeast of cemetery in Hauula and 1.4 mi (2.2 km) northeast of Sacred Falls (revised).	2.12 (5.49)	1958-74	7-17-74	5.89	e2,000
16310501	Malaekahana Stream at altitude 30 ft (9 m), near Kahuku	Lat 21°39'47", long 157°57'11", at abandoned plantation railroad bridge, 1.1 mi (1.8 km) southwest of junction of plantation road and Highway 83, and 1.2 mi (1.9 km) south of Kahuku Hospital (revised).	4.05 (10.49)	1959-74	4-19-74	7.02	618
16311000	Oio Stream near Kahuku	Lat 21°41'32", long 157°59'48", 0.6 mi (1.0 km) southwest of junction of Plantation Road and Highway 83 and 2.7 mi (4.3 km) west of Kahuku Hospital (revised).	2.13 (5.52)	1958-74	4-19-74	6.56	230
16317800	Kaunala Gulch near Sunset Beach	Lat 21°40'59", long 158°02'12", on downstream left bank wingwall of road bridge on Highway 83 near Sunset Beach and 2.9 mi (4.7 km) northeast of Waimea.	1.98 (5.13)	1973-74	3-18-74	12.88	/
16318000	Paumalu Gulch at Sunset Beach	Lat 21°40'19", long 158°02'28", 0.4 mi (0.6 km) upstream from Highway 83 at Sunset Beach and 2.2 mi (3.5 km) northeast of Waimea.	2.59 (6.71)	1968-74	4-19-74	4.97	982

* Also a low-flow partial-record station.
** Also a water-quality partial-record station.
/ Discharge not determined.
\# Operated as a continuous-record gaging station.
e Estimated.

Annual maximum discharge at crest-stage partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft³/s)
		Hawaii, Island of Oahu--Continued					
16331000	Waimea Gulch near Kawailoa Camp	Lat 21°37'29", long 158°04'58", at culvert on Ashley Road, 0.1 mi (0.2 km) upstream from Highway 83 and 1.1 mi (1.8 km) north of Kawailoa Camp.	2.23 (5.78)	1968-74	4-19-74	7.53	621
16340000	Anahulu River near Haleiwa	Lat 21°35'28", long 158°04'45", 1.7 mi (2.7 km) southeast of junction of Emerson Road and Kamehameha Highway and 2.5 mi (4.0 km) east of Waialua School at Haleiwa.	13.5 (35.0)	1958-74	4-19-74	15.8	15,900
16350000	Opaeula Stream near Haleiwa	Lat 21°35'09", long 158°06'01", 0.6 mi (1.0 km) upstream from Kamehameha Highway and 2.1 mi (3.4 km) northeast of Waialua.	5.96 (15.44)	1956-74	4-19-74	20.7	7,600
		Hawaii, Island of Molokai					
16411300	Kakaako Gulch at Highway 46, near Mauna Loa	Lat 21°08'49", long 157°11'36", at Highway 46, 1.6 mi (2.6 km) northeast of Mauna Loa, and 1.8 mi (2.9 km) upstream from Kamakahi Gulch.	.55 (1.42)	1964-74	1-11-74	2.44	52
16411320	Kakaako Gulch above Kamakahi Gulch, near Mauna Loa	Lat 21°10'11", long 157°11'56", 0.1 mi (0.2 km) upstream from Kamakahi Gulch, 1.7 mi (2.7 km) downstream from Highway 46, and 2.5 mi (4.0 km) northeast of Mauna Loa.	1.40 (3.63)	1964-74	1-11-74	2.15	177
16411400	Kakaako Gulch near Mauna Loa	Lat 21°10'39", long 157°12'31", on left bank 1.0 mi (2.0 km) downstream from Kamakahi Gulch and 3.0 mi (4.8 km) north of Mauna Loa School.	5.34 (13.83)	1963-72≠ 1973-74	2- 3-74	3.62	867
16411600	Kaunala Gulch near Mauna Loa	Lat 21°07'01", long 157°15'43", at Sand Haul Road, 3.2 mi (5.2 km) east of Laau Point lighthouse, and 3.3 mi (5.3 km) southwest of Mauna Loa.	.28 (.73)	1964-74	1-11-74	3.31	114
16411640	Halena Gulch near Mauna Loa	Lat 21°05'53", long 157°13'47", 2.7 mi (4.3 km) southwest of Mauna Loa and 5.5 mi (8.8 km) east of Laau Point.	2.07 (5.36)	1965-74	1-11-74	8.2	2,920
16411800	Kaluapeelua Gulch at Hoolehua	Lat 21°09'55", long 157°04'22", 0.4 mi (0.6 km) south of Hoolehua and 2.1 mi (3.4 km) west of Kualapuu.	1.46 (3.78)	1964-74	12- 8-73	3.30	86
16411900	Kaluapeelua Gulch tributary near Molokai Airport	Lat 21°08'57", long 157°07'12", 1.7 mi (2.7 km) southwest of Molokai Airport and 5.1 mi (8.2 km) west of Kualapuu.	1.56 (4.04)	1964-74	12- 8-73	6.66	211
16413500	Manawainui Gulch near Kualapuu	Lat 21°07'42", long 157°03'25", at bridge on Highway 46, 0.5 mi (0.8 km) south of Holomua School and 2.3 mi (3.7 km) southwest of Kualapuu.	10.4 (26.9)	1965-74	1- 6-74	6.10	290
16414100	Unnamed gulch at Kaunakakai	Lat 21°05'14", long 157°00'45", at bridge on Highway 45, 0.6 mi (1.0 km) southeast of Kaunakakai and 0.8 mi (1.3 km) northwest of Kamiloloa.	1.19 (3.08)	1965-74	-	-	No flow
16415400	Wawaia Gulch at Kamalo	Lat 21°03'25", long 156°52'20", at Highway 45, 0.3 mi (0.5 km) upstream from mouth, and 0.5 mi (0.8 km) northeast of Kamalo.	2.12 (5.49)	1964-74	1- 6-74	1.92	753
16419000	Pohakupili Gulch near Halawa	Lat 21°07'59", long 156°44'15", at Highway 45, 0.5 mi (0.8 km) upstream from mouth and 1.9 mi (3.1 km) south of Halawa.	.48 (1.24)	1964-74	1- 6-74	5.92	82

≠ Operated as a continuous-record gaging station.

Annual maximum discharge at crest-stage partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi^2 (km^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Hawaii, Island of Maui					
16500100	Kepuni Gulch near Kahikinui House	Lat 20°37'21", long 156°15'16", on right bank 120 ft (37 m) upstream from bridge on Highway 31, 400 ft (122 m) upstream from Kamole Gulch, 1.1 mi (1.8 km) east of Kahikinui House, and 8.5 mi (1.4 km) west of Kaupo.	1.91 (4.95)	1963-72≠ 1973-74	1- 7-74	4.74	228
16500300	Hawelewele Gulch near Kaupo	Lat 20°38'01", long 156°11'08", 700 ft (213 m) upstream from Piilani Highway 31 and 3.9 mi (6.3 km) west of Kaupo.	11.3 (29.3)	1967-74	1- 7-74	10.09	8,280
16500800	Kukuiula Gulch near Kipahulu	Lat 20°39'15", long 156°04'42", at Highway 31, 1.3 mi (2.1 km) west of Kipahulu and 3.2 mi (5.2 km) east of Kaupo.	.76 (1.97)	1963-68≠, 1969-74	5-15-74	5.79	2,650
*16502000	Hahalawe Gulch near Kipahulu	Lat 20°40'54", long 156°02'50", on left bank at old ditch intake, 0.7 mi (1.1 km) upstream from mouth, and 1.8 mi (2.9 km) northeast of Kipahulu Church.	.43 (1.11)	1927-69≠, 1970-74	5-15-74	4.70	1,390
16502400	Pukuilua Gulch near Hana	Lat 20°42'00", long 156°00'14", at Highway 31, 0.4 mi (0.6 km) southwest of Puuiki, and 4.0 mi (6.4 km) south of Hana.	.48 (1.24)	1963-74	5-15-74	5.36	325
16502800	Moomoonui Gulch at Hana	Lat 20°44'37", long 155°59'18", at Highway 31 just downstream from Moomooiki Gulch and 1.0 mi (1.6 km) south of Hana.	.90 (2.33)	1963-74	5-15-74	14.20	1,700
16502900	Kawaipapa Gulch at Hana	Lat 20°46'08", long 156°00'04", 1,000 ft (305 m) upstream from Highway 36 and 0.3 mi (0.5 km) northwest of Hana Hospital.	5.83 (15.10)	1965-74	5-15-74	6.86	3,080
16603300	Unnamed gulch at Maliko Bay	Lat 20°56'26", long 156°21'04", at Hana Highway, 0.5 mi (0.8 km) west of Maliko Bay, and 1.3 mi (2.1 km) north of Hamakuapoko.	.43 (1.11)	1963-74	-	-	No flow
16603700	Kalialinui Gulch tributary near Pukalani	Lat 20°49'02", long 156°19'44", at Lower Kula Road and 1.4 mi (2.3 km) south of Pukalani.	1.17 (3.03)	1967-74	12-29-73	3.50	88
16603800	Kaluapulani Gulch tributary near Pukalani	Lat 20°48'52", long 156°18'32", at Haleakala Highway, 1.5 mi (2.4 km) west of Olinda Prison Camp, and 2.3 mi (3.7 km) southeast of Pukalani.	.45 (1.17)	1963-74	1-31-74	4.32	144
16603850	Kalialinui Gulch near Kahului	Lat 20°52'47", long 156°26'06", 600 ft (183 m) upstream from Hansen Road, 0.5 mi (0.8 km) northeast of Puunene Hospital, and 2.5 mi (4.0 km) southeast of Kahului Post Office.	17.9 (46.4)	1967-74	1-31-74	5.14	257
**16607000	Iao Stream at Wailuku	Lat 20°53'38", long 156°30'27", 560 ft (171 m) upstream from Market Street bridge at Wailuku and 1.9 mi (3.1 km) upstream from mouth.	8.24 (21.4)	1951≠, 1952-74	11-12-73	6.57	4,720
16616500	Unnamed gulch at Maluhia Camp	Lat 20°57'26", long 156°31'41", at Kahekili Highway, 0.6 mi (1.0 km) east of Maluhia Camp and 1.8 mi (2.9 km) northwest of Waihee.	.12 (.31)	1964-74	-	-	No flow
16619700	Poelua Gulch near Kahakuloa	Lat 21°00'58", long 156°34'58", at Highway 30 (bypass), 1.3 mi (2.1 km) southeast of Nakalele Point lighthouse, and 2.2 mi (3.5 km) northwest of Kahakuloa.	1.18 (3.06)	1965-74	3-19-74	6.94	194

* Also a low-flow partial-record station.
** Also a water-quality partial-record station.
≠ Operated as a continuous-record gaging station.

Annual maximum discharge at crest-stage partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area, mi^2 (km^2)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Hawaii, Island of Maui--Continued					
16623400	Honokeana Gulch near Honokahua	Lat 20°59'39", long 156°40'13", at Honoapiilani Highway, 1.1 mi (1.8 km) southwest of Honokahua and 1.1 mi (1.8 km) south of Hawea Point.	0.59 (1.53)	1964-74	3-19-74	6.47	247
16630200	Honokowai Stream at Honokowai	Lat 20°56'58", long 156°41'07", 0.5 mi (0.8 km) southeast of Honokowai and 1.1 mi (1.8 km) northwest of Puukolii.	5.59 (14.48)	1962-63, 1965-74	1-31-74	5.66	924
16643300	Kauaula Stream near mouth, near Lahaina	Lat 20°52'09", long 156°39'43", 0.7 mi (1.1 km) upstream from Honoapiilani Highway (bypass) and 1.3 mi (2.1 km) southeast of Lahaina lighthouse.	4.12 (10.67)	1960, 1962, 1964-74	11-12-73	3.95	198
**16646200	Olowalu Stream at Olowalu	Lat 20°49'23", long 156°37'15", on downstream side of center pier of plantation road bridge, 0.6 mi (1.0 km) northeast of Olowalu, and 5.5 mi (8.8 km) southeast of Lahaina.	4.08 (10.57)	1962-72≠, 1973-74	11-12-73	3.94	551
16647500	Malalowaiaole Gulch near Maalaea	Lat 20°46'56", long 156°31'32", at Honoapiilani Highway, 200 ft (61 m) upstream from mouth, 0.2 mi (0.3 km) north of McGregor Point, and 1.2 mi (1.9 km) southwest of Maalaea.	.64 (1.66)	1964-74	11-12-73	3.89	20
16650500	Waikapu Stream near Kihei	Lat 20°49'02", long 156°29'00", at railroad bridge beside Lower Maalaea Road, 2.5 mi (4.0 km) northeast of Maalaea, and 2.5 mi (4.0 km) northwest of Kihei.	6.97 (18.05)	1963-74	11-12-73	5.41	893
16658500	Waiakoa Gulch tributary near Waiakoa	Lat 20°44'56", long 156°19'22", at Upper Kula Road, 1.0 mi (1.6 km) southeast of Waiakoa and 1.0 mi (1.6 km) northeast of junction of Lower and Upper Kula Roads.	.98 (2.54)	1964-74	12-29-73	1.39	17
16659000	Waiakoa Gulch at Kihei	Lat 20°47'14", long 156°27'41", 0.3 mi (0.5 km) northeast of Kihei and 0.4 mi (0.6 km) upstream from mouth.	10.1 (26.2)	1963-74	12- 2-73	-	e5
16660000	Kulanihakoi Gulch near Kihei	Lat 20°46'06", long 156°27'03", on right bank 0.5 mi (0.8 km) northeast of Lihue Cemetery, 0.8 mi (1.3 km) upstream from mouth and 1.3 mi (2.1 km) southeast of Kihei.	14.4 (37.3)	1963-70≠, 1971-74	12- 2-73	-	e25
16663500	Kamaole Gulch at Kamaole	Lat 20°43'36", long 156°27'02", at Kihei Road, 350 ft (107 m) upstream from mouth, and 0.2 mi (0.3 km) south of Kamaole.	4.28 (11.09)	1972-74	12- 2-73	-	e1.0
16664000	Liilioholo Gulch at Kamaole	Lat 20°43'04", long 156°26'55", on upstream side of Kihei Road, 300 ft (91 m) upstream from mouth, and 0.8 mi (1.3 km) south of Kamaole.	4.12 (10.67)	1972-74	12- 2-73	-	e3
		Hawaii, Island of Hawaii					
16701300	Waiakea Stream at Hilo	Lat 19°42'38", long 155°05'02", 0.3 mi (0.5 km) upstream from Kinoole Street bridge and 1.3 mi (2.1 km) southeast of Hilo Post Office.	35.8 (92.7)	1968-74	4-19-74	5.13	561
16701400	Palai Stream at Hilo	Lat 19°40'56", long 155°04'04", at Highway 11, 300 ft (91 m) south of Palai Street intersection and 3.5 mi (5.6 km) southeast of Hilo Post Office.	5.08 (13.16)	1965-74	4-19-74	4.74	424
16717400	Kalaoa Mauka Stream near Hilo	Lat 19°48'07", long 155°06'03", at culvert on Highway 19, 1.0 mi (1.6 km) north of Papaikou and 5.1 mi (8.2 km) north of Hilo Post Office.	.24 (.62)	1963-74	11-19-73	4.65	77

** Also a water-quality partial-record station.
≠ Operated as a continuous-record gaging station.
e Estimated.

Annual maximum discharge at crest-stage partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft³/s)
		Hawaii, Island of Hawaii--Continued					
16717600	Alia Stream near Hilo	Lat 19°50'38", long 155°06'21", on left bank 10 ft (3.0 m) downstream from culvert on Highway 19 at Pepeekeo, 2.0 mi (3.2 km) south of Honomu, and 8.0 mi (12.9 km) north of Hilo.	0.58 (1.50)	1962-72≠ 1973-74	11-12-73	4.01	353
16717650	Kapehu Stream near Pepeekeo	Lat 19°51'52", long 155°06'11", at culvert on Highway 19, 1.0 mi (1.6 km) southeast of Honomu, 2.2 mi (3.5 km) north of Pepeekeo, and 9.4 mi (15.1 km) north of Hilo.	1.09 (2.82)	1963-74	11-12-73	6.75	556
16717850	Keehia Gulch near Ookala	Lat 20°01'08", long 155°18'45", at culvert on Highway 19, 1.7 mi (2.7 km) west of Ookala, and 4.1 mi (6.6 km) southeast of Paauilo.	.62 (1.61)	1963-64	11-12-73	8.34	427
16717920	Ahualoa Gulch at Honokaa	Lat 20°05'12", long 155°29'17", at Highway 24, 1.1 mi (1.8 km) northwest of Honokaa Hospital, and 1.5 mi (2.4 km) upstream from mouth.	2.27 (5.88)	1963-74	11-12-73	7.25	89
16717950	Honokaia Gulch tributary near Honokaa	Lat 20°02'58", long 155°32'19", at culvert, 4.8 mi (7.7 km) southwest of Honokaa Hospital, and 5.5 mi (8.8 km) southeast of Kukuihaele.	2.42 (6.27)	1963-74	-	-	No flow
16752600	Hapahapai Gulch at Kapaau	Lat 20°14'00", long 155°48'00", at Highway 27, 300 ft (91 m) east of Kapaau Post Office.	1.52 (3.94)	1963-74	11-19-74	3.34	6.9
16755800	Luahine Gulch near Waimea	Lat 20°03'11", long 155°44'35", at culvert 5.1 mi (8.2 km) northwest of Waimea and 5.7 mi (9.2 km) east of Kawaihae.	.32 (.83)	1963-74	1- 7-74	3.16	118
16756500	Keanuiomano Stream near Kamuela	Lat 20°01'48", long 155°42'05", on left bank 150 ft (46 m) upstream from Highway 25 at Waiaka and 2.0 mi (3.2 km) west of Kamuela.	4.30 (11.14)	1964-72≠ 1973-74	1- 7-74	6.15	1,070
16759040	Paiakuli Reservoir tributary near Waimea	Lat 20°02'16", long 155°38'08", at Highway 19, 2.1 mi (3.4 km) west of Puukapu Reservoir, and 2.6 mi (4.2 km) northeast of Waimea.	.27 (.70)	1963-74	4-16-74	5.78	377
16759060	Kamakoa Gulch near Waimea	Lat 19°57'32", long 155°41'02", at bridge, 1.4 mi (2.2 km) north of Saddle Road Junction and 4.5 mi (7.2 km) south of Waimea.	50.6 (131.1)	1963-74	11-28-73	6.62	1,150
16759080	Popoo Gulch near Waikii	Lat 19°52'11", long 155°43'51", at bridge on Highway 19, 2.0 mi (3.2 km) north of Keamuku and 5.2 mi (8.4 km) west of Waikii.	33.1 (85.7)	1963-74	11-28-73	9.20	3,720
16759180	Keopu Stream near Kailua	Lat 19°38'54", long155°58'15", at county road bridge, 1.9 mi (3.1 km) east of Kailua, and 2.3 mi (3.7 km) northwest of Holualoa Post Office.	2.61 (6.76)	1962, 1965-74	4-14-74	5.89	197
16759300	Waiaha Stream at Luawai, near Holualoa	Lat 19°38'12", long 155°55'45", on right bank at Luawai, 1.8 mi (2.9 km) northeast of Holualoa School, and 4.2 mi (6.8 km) southeast of H Honokohau School.	8.74 (22.64)	1961-74	4-14-74	4.07	301
16762000	Alapai Gulch at Naalehu	Lat 19°04'00", long 155°35'19", at debris catchment outlet of Naalehu Watershed Protection Project and 0.2 mi (0.3 km) upstream from Highway 11 at Naalehu.	2.87 (7.43)	1963-74	11-20-73	6.24	964
16770000	Hionamoa Gulch at Pahala	Lat 19°11'45", long 155°29'11", at bridge, 0.6 mi (1.0 km) southwest of Pahala, and 4.1 mi (6.6 km) north of Punaluu.	9.41 (24.37)	1963-74	11-20-73	15.07	6,170

≠ Operated as a continuous-record gaging station.

Discharge measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations are given in the following table.

Discharge measurements made at miscellaneous sites during water year 1974

Stream	Tributary to	Location	Drainage area mi^2 (km^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
Hawaii, Island of Oahu						
Left-bank tributary	Moanalua Stream	Lat 21°21'16", long 157°53'42", 0.1 mi (0.2 km) east of Board of Water Supply pumping station and 0.2 mi (0.3 km) north of Moanalua School.	0.46 (1.19)		4-19-74	ƒ 1,510
Manaiki Stream	Moanalua Stream	Lat 21°21'13", long 157°53'32", 0.2 mi (0.3 km) northeast of Moanalua School and 0.6 mi (1.0 km) northwest of Shafter School.	2.03 (5.26)		4-19-74	ƒ 2,120
Kahauiki Stream at Fort Shafter	Moanalua Stream	Lat 21°21'03", long 157°53'13", 0.4 mi (0.6 km) north of Shafter School and 1.0 mi (1.6 km) west of Kaewai School.	1.20 (3.11)		4-19-74	ƒ 3,420
Left-bank tributary	Kahauiki Stream	Lat 21°20'45", long 157°53'14", 0.1 mi (0.2 km) northeast of Shafter School and 0.9 mi (1.4 km) west of Dole School.	.39 (1.01)		4-19-74	ƒ 1,120
Hawaii, Island of Maui						
Iao Stream	Pacific Ocean	Lat 20°53'01", long 156°32'54", at Iao Needle Park, 0.7 mi (1.1 km) upstream from Kepaniwai Park, and 2.7 mi (4.3 km) southwest of Wailuku Federal Building.	-		10-30-73	20
Waihee ditch	-	Lat 20°52'58", long 156°30'48", 500 ft (152 m) downstream from pump outlet, 0.3 mi (0.5 km) southeast of Wailuku steel water tank and 0.6 mi (1.0 km) southwest of Wailuku Federal Building.	-		9-19-74	19
Samoa Islands, Island of Tutuila						
Laufuti Stream	Pacific Ocean	Lat 14°15'16"S., long 169°26'40"W., 50 ft (15 m) downstream from spring and 200 ft (61 m) upstream from mouth.		1972	2-13-74	.88

ƒ Flood measurement.

PART 2. WATER QUALITY RECORDS

WATER QUALITY RECORDS

HAWAII, ISLAND OF OAHU

16212800 KIPAPA STREAM NEAR WAHIAWA

LOCATION.--Lat 21°28'13", long 157°57'40", on left bank 1,700 ft (518 m) downstream from forest-reserve boundary, 4.9 mi (7.9 km) southeast of Wahiawa Post Office, and 6.3 mi (10.1 km) northeast of Waipahu.

DRAINAGE AREA.--4.29 mi^2 (11.11 km^2).

PERIOD OF RECORD.--Chemical analyses: Water years 1970-74 (partial-record station).
Sediment records: Water years 1970-71 (partial-record station), February 1973 to September 1974.

EXTREMES.--1973-74:
Sediment concentrations: Maximum daily 905 mg/l Apr. 19; minimum daily, 1 mg/l Apr. 1-3, May 5-7.
Sediment discharge: Maximum daily, 4,110 tons (3,730 tonnes) Apr. 19; minimum daily, 0 tons (0 tonnes) on many days.

Period of record:
Sediment concentrations: Maximum daily, 905 mg/l Apr. 19, 1974; minimum daily, 1 mg/l on several days during each year.
Sediment discharge: Maximum daily, 4,110 tons (3,730 tonnes) Apr. 19, 1974; minimum daily, 0 tons (o tonnes) on many days during each year.

REMARKS.--Chemical analyses and particle-size distribution for this station on pages 256-257 and 270.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3.1	25	.21	10	80	2.2	61	121	50
2	1.8	12	.06	10	40	1.1	33	60	5.3
3	.78	6	.01	2.7	15	.11	9.8	6	.16
4	.46	3	0	1.9	8	.04	6.3	4	.07
5	.34	2	0	1.6	5	.02	4.5	3	.04
6	.27	2	0	1.5	5	.02	3.6	2	.02
7	.30	5	0	1.2	4	.01	24	102	70
8	5.3	20	.29	.98	4	.01	33	95	29
9	1.2	10	.03	11	56	3.4	4.3	8	.09
10	.46	5	.01	2.3	15	.09	4.5	8	.10
11	.30	4	0	100	149	96	5.9	8	.13
12	1.2	12	.04	222	183	190	5.0	8	.11
13	46	76	60	44	25	3.0	3.2	5	.04
14	129	122	60	42	61	32	2.2	4	.02
15	12	15	.49	31	40	3.3	1.8	3	.01
16	34	40	3.7	11	7	.21	1.6	3	.01
17	7.3	10	.20	6.8	5	.09	1.5	2	.01
18	77	61	28	5.3	4	.06	1.3	2	.01
19	38	30	3.1	4.3	3	.03	1.2	2	.01
20	39	25	2.6	17	25	1.1	1.1	2	.01
21	15	15	.61	8.7	10	.23	1.1	2	.01
22	28	20	1.5	5.1	5	.07	.98	2	.01
23	9.8	10	.26	3.4	5	.05	1.4	5	.02
24	5.5	5	.07	27	47	4.4	1.4	4	.02
25	4.3	3	.03	23	40	2.5	.90	3	.01
26	3.2	3	.03	9.7	8	.21	.84	3	.01
27	2.7	2	.01	19	30	1.5	.84	3	.01
28	2.2	2	.01	33	110	13	1.1	5	.01
29	3.4	4	.04	9.1	10	.25	.98	5	.01
30	16	30	1.3	6.8	15	.28	46	166	53
31	3.1	15	.13	--	--	--	17	15	.69
TOTAL	491.01	--	162.73	671.38	--	355.28	281.34	--	208.94

16212800 KIPAPA STREAM NEAR WAHIAWA--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	57	86	34	71	171	58	1.7	6	.03
2	19	22	1.1	17	20	.92	100	399	503
3	7.6	6	.12	8.1	7	.15	6.8	20	.37
4	4.1	4	.04	51	436	262	4.1	10	.11
5	3.0	4	.03	11	50	1.5	27	86	9.1
6	36	7	.68	5.8	15	.23	57	102	24
7	22	18	1.1	16	73	9.3	15	15	.61
8	7.6	7	.14	16	60	2.6	29	42	9.7
9	6.1	3	.05	14	40	1.5	12	20	.65
10	3.4	2	.02	11	30	.89	4.9	6	.08
11	35	125	83	8.4	20	.45	3.6	6	.06
12	38	53	13	5.0	10	.14	79	82	42
13	12	10	.32	27	83	16	12	12	.39
14	28	15	1.1	29	50	3.9	6.0	5	.08
15	18	8	.39	10	20	.54	4.1	4	.04
16	12	5	.16	19	40	2.1	3.1	3	.03
17	6.3	3	.05	12	30	.97	2.7	2	.01
18	4.1	2	.02	6.3	15	.26	151	169	174
19	3.0	2	.02	4.5	10	.12	79	107	45
20	2.5	2	.01	3.6	9	.09	21	15	.85
21	2.0	2	.01	3.0	8	.06	9.8	8	.21
22	1.9	3	.02	3.1	5	.04	6.8	3	.06
23	1.8	4	.02	2.5	3	.02	28	45	3.4
24	63	159	56	2.2	2	.01	5.3	7	.10
25	9.3	12	.30	2.3	3	.02	4.1	4	.04
26	13	15	.53	3.2	4	.03	5.1	3	.04
27	22	25	1.5	6.0	10	.16	2.7	2	.01
28	6.8	10	.18	3.1	7	.06	2.3	2	.01
29	5.1	12	.17	--	--	--	2.2	2	.01
30	7.8	12	.25	--	--	--	1.9	2	.01
31	36	40	3.9	--	--	--	1.6	2	.01
TOTAL	493.4	--	198.23	371.1	--	362.06	688.8	--	814.01

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.4	1	0	7.8	4	.08	5.3	7	.10
2	1.5	1	0	15	10	.41	3.8	5	.05
3	1.4	1	0	7.6	5	.10	4.9	5	.07
4	1.9	3	.02	4.7	3	.04	35	74	13
5	14	13	.49	4.5	1	.01	5.3	10	.14
6	8.8	8	.19	4.7	1	.01	3.7	6	.06
7	4.1	5	.06	3.6	1	.01	2.8	4	.03
8	1.9	3	.02	8.3	8	.18	4.9	6	.08
9	1.6	3	.01	4.5	2	.02	4.5	4	.05
10	1.1	2	.01	3.7	2	.02	20	17	1.8
11	6.1	10	.16	3.1	2	.02	5.8	8	.13
12	3.9	8	.08	3.0	2	.02	2.3	4	.02
13	14	15	.57	6.6	20	.36	1.4	3	.01
14	18	20	.97	180	308	468	10	13	.35
15	9.1	10	.25	47	60	7.6	3.6	5	.05
16	23	42	4.3	20	20	1.1	37	78	24
17	5.4	6	.09	12	10	.32	11	25	.74
18	53	58	17	23	40	2.5	7.4	12	.24
19	739	905	4110	13	10	.35	2.2	5	.03
20	175	79	61	15	10	.41	1.5	4	.02
21	60	30	4.9	11	8	.24	3.6	8	.08
22	35	20	1.9	9.4	6	.15	9.6	12	.31
23	29	25	2.0	7.6	5	.10	8.4	8	.18
24	119	103	55	4.5	3	.04	2.8	4	.03
25	23	4	.25	3.6	2	.02	2.3	4	.02
26	14	2	.08	3.7	4	.04	1.9	4	.02
27	10	2	.05	6.3	12	.20	12	10	.32
28	8.4	2	.05	3.6	4	.04	48	100	22
29	8.1	2	.04	2.7	4	.03	50	83	19
30	6.8	2	.04	2.5	3	.02	13	10	.35
31	--	--	--	15	20	.81	--	--	--
TOTAL	1397.5	--	4259.53	457.0	--	483.25	324.0	--	83.28

16212800 KIPAPA STREAM NEAR WAHIAWA--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	5.3	6	.09	1.1	3	.01	.46	3	0
2	3.4	5	.05	10	18	.49	.66	5	.01
3	2.3	5	.03	9.4	12	.30	6.7	9	.16
4	1.8	4	.02	2.2	5	.03	10	15	.92
5	1.7	4	.02	1.4	5	.02	5.8	14	.22
6	1.8	5	.02	1.7	3	.01	1.4	6	.02
7	17	18	.83	1.1	3	.01	1.1	4	.01
8	5.6	10	.15	.90	3	.01	.55	3	0
9	2.0	6	.03	.90	3	.01	.66	3	.01
10	1.4	5	.02	.98	5	.01	.98	3	.01
11	1.1	4	.01	8.3	18	.40	1.2	3	.01
12	23	25	1.6	25	25	1.7	3.7	8	.08
13	17	18	.83	3.4	7	.06	8.3	10	.22
14	29	54	8.4	1.6	4	.02	1.8	5	.02
15	29	32	2.5	1.4	4	.02	.72	3	.01
16	25	30	2.0	2.3	5	.03	.50	3	0
17	190	401	591	.98	2	.01	1.2	5	.02
18	16	12	.52	5.6	15	.23	32	127	40
19	9.1	8	.20	3.0	5	.04	16	28	1.2
20	5.8	6	.09	10	15	.41	9.5	20	.51
21	5.1	8	.11	5.8	8	.13	6.1	15	.25
22	3.4	5	.05	8.8	15	.36	5.1	10	.14
23	2.5	4	.03	23	40	2.5	2.5	8	.05
24	2.3	4	.02	3.2	10	.09	4.4	10	.12
25	1.9	4	.02	1.6	6	.03	1.6	6	.03
26	3.1	8	.07	1.1	4	.01	.90	4	.01
27	5.3	8	.11	.90	3	.01	.72	3	.01
28	2.4	4	.03	.78	3	.01	.72	3	.01
29	1.7	4	.02	.60	3	0	.66	3	.01
30	1.2	3	.01	.50	3	0	.66	3	.01
31	1.2	3	.01	.46	3	0	--	--	--
TOTAL	417.4	--	608.89	138.00	-	6.96	126.59	--	44.07

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 5857.52
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 7587.23

16213000 WAIKELE STREAM AT WAIPAHU

LOCATION.--Lat 21°23'11", long 158°00'49", on left bank 300 ft (91 m) upstream from bridge on Highway 90 and 0.3 mi (0.5 km) southwest of sugar refinery at Waipahu.

DRAINAGE AREA.--45.7 mi² (118.4 km²).

PERIOD OF RECORD.--Chemical analyses: Water years 1969-73 (partial-record station), July 1972 to September 1974.
Specific conductance: April 1973 to September 1974.
Water temperatures: April 1973 to September 1974.
Sediment records: Water years 1967-72 (partial-record station), July 1972 to September 1974.

EXTREMES.--1973-74:
Specific conductance: Maximum, 574 micromhos/cm Mar. 12; minimum, 30 micromhos/cm Apr. 19.
Water temperatures: Maximum, 29.0°C June 3, 25, 30; minimum, 17.0°C Mar. 19.
Sediment concentrations: Maximum daily, 2,800 mg/l Apr. 19; minimum daily, 6.6 mg/l Dec. 20, 21.
Sediment discharge: Maximum daily, 32,200 tons (29,200 tonnes) Apr. 19; minimum daily, 0.26 ton (0.24 tonnes) Nov. 7, 8.

Period of record:
Specific conductance: Maximum, 598 micromhos/cm July 1, 1973; minimum, 30 micromhos/cm Apr. 19, 1974.
Water temperatures: Maximum, 30.0°C May 6, 1973; minimum, 17.0°C Mar. 19, 1974.
Sediment concentrations: Maximum daily, 2,800 mg/l Apr. 19, 1974; minimum daily, 6.6 mg/l Dec. 20, 21, 1973.
Sediment discharge: Maximum daily, 32,200 tons (29,200 tonnes) Apr. 19, 1974; minimum daily, 0.21 ton (0.19 tonnes) Dec. 7, 1972.

REMARKS.--Particle-size distribution for this station on page 271.

WATER QUALITY DATA, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)
NOV.											
28...	1200	37	--	--	--	--	--	--	--	--	--
DEC.											
19...	0930	7.0	64	11	8.8	58	3.9	79	0	65	20
JAN.											
28...	0915	49	36	8.1	6.0	35	2.4	43	0	35	18
FEB.											
20...	1200	37	--	--	--	--	--	--	--	--	--
MAR.											
26...	1100	28	--	--	--	--	--	--	--	--	--
APR.											
25...	1400	86	24	8.0	4.8	23	2.0	37	--	30	14
MAY											
30...	0815	10	--	--	--	--	--	--	--	--	--
JUNE											
26...	1345	4.6	57	11	8.7	55	3.2	71	--	58	20
JULY											
29...	1030	18	--	--	--	--	--	--	--	--	--
AUG.											
28...	0830	16	--	--	--	--	--	--	--	--	--
SEP.											
25...	1000	29	48	9.9	6.6	42	3.3	60	--	49	19

DATE	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	TOTAL NITROGEN (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)
NOV.											
28...	--	--	2.0	1.7	.27	.17	--	--	--	--	--
DEC.											
19...	69	.3	3.9	3.3	.61	1.7	293	274	.40	64	0
JAN.											
28...	46	.2	2.1	1.5	.59	.67	186	173	.25	45	10
FEB.											
20...	--	--	2.3	2.0	.35	.79	--	--	--	--	--
MAR.											
26...	--	--	2.8	2.2	.63	.88	--	--	--	--	--
APR.											
25...	32	.1	1.5	.77	.73	.56	128	126	.17	40	9
MAY											
30...	--	--	2.9	2.0	.92	.91	--	--	--	--	--
JUNE											
26...	72	.3	3.1	2.4	.70	1.4	281	262	.38	63	5
JULY											
29...	--	--	2.8	2.1	.65	1.1	--	--	--	--	--
AUG.											
28...	--	--	2.6	2.5	.08	1.5	--	--	--	--	--
SEP.											
25...	54	.1	2.7	2.0	.71	1.1	227	213	.31	52	3

16213000 WAIKELE STREAM AT WAIPAHU--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	TOTAL PHYTOPLANKTON (CELLS PER ML)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	INTERMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
NOV.											
28...	200	--	23.0	--	--	380	--	--	3600	620	1300
DEC.											
19...	414	7.5	21.0	--	9	340	3.1	4.6	2600	330	760
JAN.											
28...	277	7.3	20.5	90	50	4800	--	--	7100	910	2400
FEB.											
20...	--	--	22.0	--	--	5100	--	--	1500	1300	862
MAR.											
26...	420	--	22.0	20	10	140	.76	1.5	1300	710	560
APR.											
25...	207	6.8	--	100	80	18000	--	--	--	9200	3500
MAY											
30...	320	7.0	22.0	--	--	670	--	--	--	1800	3200
JUNE											
26...	375	6.9	25.5	--	20	660	--	26	--	240	980
JULY											
29...	395	7.1	23.5	--	--	1100	--	--	--	8830	370
AUG.											
28...	430	7.3	22.8	--	--	840	--	--	--	210	300
SEP.											
25...	340	6.3	23.8	--	40	170	9.2	--	--	1900	1200

DATE	TIME	TOTAL IRON (FE) (UG/L)	DISSOLVED IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DISSOLVED ARSENIC (AS) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
DEC.												
19...	0930	1000	60	80	80	0	0	<10	0	0	0	<50
JAN.												
28...	0915	3400	100	140	80	2	0	<10	0	0	0	<50
MAR.												
26...	1100	0	10	--	130	1	1	--	1	--	0	--
MAY												
30...	0815	4000	70	180	80	1	0	10	1	0	0	<50
JUNE												
26...	1345	770	50	120	110	1	1	<10	0	0	0	<50
SEP.												
25...	1000	2000	100	120	50	1	1	<10	0	0	0	<50

DATE	DISSOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DISSOLVED COPPER (CU) (UG/L)	TOTAL LEAD (PB) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DISSOLVED MERCURY (HG) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
DEC.											
19...	0	20	2	<100	0	.0	.0	4	0	0	3.3
JAN.											
28...	3	10	7	<100	3	.0	.0	6	20	0	5.0
MAR.											
26...	1	--	4	--	5	.0	.0	4	--	10	3.3
MAY											
30...	1	30	10	<100	4	.0	.0	0	50	10	3.6
JUNE											
26...	0	<10	5	<100	3	.1	.0	2	230	0	4.8
SEP.											
25...	0	10	5	<100	2	.1	.0	1	40	0	4.6

16213000 WAIKELE STREAM AT WAIPAHU--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) , WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	383	356	368	360	340	349	345	277	325	369	342	358
2	458	387	404	367	313	350	254	168	186	349	336	343
3	466	414	443	324	308	313	210	170	188	340	331	336
4	470	447	460	369	327	351	259	210	234	383	338	352
5	522	453	477	387	372	382	299	259	280	414	367	392
6	548	470	506	387	385	386	329	299	315	451	414	430
7	494	481	487	392	387	389	349	315	338	473	401	433
8	505	449	466	394	392	393	360	270	297	414	383	400
9	511	466	487	396	392	394	333	266	291	423	399	410
10	470	440	454	396	367	386	333	313	322	425	410	417
11	462	440	451	358	304	340	338	324	329	432	414	423
12	475	449	456	297	208	258	354	338	345	423	336	355
13	507	475	489	205	180	190	365	354	359	354	338	346
14	475	268	307	252	190	213	394	367	379	367	329	357
15	304	270	290	277	257	263	405	394	399	324	306	311
16	315	248	296	302	279	289	412	405	407	340	306	318
17	252	230	236	356	304	322	419	412	416	367	338	353
18	284	190	240	396	354	375	419	416	417	381	367	374
19	203	188	195	401	392	394	419	414	417	394	381	386
20	213	203	206	401	392	397	419	416	417	410	394	398
21	243	213	225	390	304	321	421	419	420	423	410	419
22	272	243	260	342	304	315	425	421	423	416	410	414
23	259	243	247	399	347	375	425	421	424	425	416	420
24	290	254	271	403	252	349	421	412	414	429	304	366
25	340	293	314	250	215	230	429	412	416	322	304	313
26	383	342	367	284	220	248	455	432	442	360	322	335
27	414	385	399	297	279	285	464	458	461	367	342	361
28	438	414	427	306	163	243	468	466	466	340	320	326
29	442	438	441	259	163	195	466	455	461	342	327	333
30	440	356	417	338	259	294	455	290	369	356	327	349
31	351	333	339	---	---	---	340	284	311	358	320	352
MONTH	548	188	369	403	163	320	468	168	363	473	304	370

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	315	236	262	477	425	455	555	546	550	490	475	484
2	259	234	241	425	175	272	565	555	558	470	436	441
3	313	261	289	396	241	322	565	555	560	438	416	422
4	338	313	329	494	401	446	559	550	553	473	419	432
5	333	315	321	494	410	450	557	518	550	516	481	507
6	358	327	344	423	324	388	514	468	485	520	507	512
7	405	358	384	376	324	345	464	440	447	520	509	514
8	403	297	323	462	381	419	483	447	464	524	511	518
9	318	302	310	486	464	479	492	436	470	527	520	523
10	349	279	326	507	486	494	440	427	433	527	514	525
11	385	217	342	557	509	533	436	425	430	529	522	525
12	470	324	367	574	160	362	423	381	392	540	529	534
13	385	266	360	315	175	246	405	318	379	542	518	532
14	473	227	351	399	320	361	324	259	295	520	290	461
15	342	284	334	455	401	429	349	270	319	290	272	279
16	351	272	338	470	458	464	345	252	286	311	268	284
17	405	225	350	466	458	463	365	286	334	347	302	321
18	378	360	368	479	67	313	367	210	335	401	347	372
19	421	381	401	172	80	132	197	30	100	396	376	384
20	455	423	439	252	145	200	210	55	150	378	266	340
21	492	458	474	338	254	295	248	215	236	401	304	327
22	501	492	496	392	342	368	295	252	276	363	329	345
23	509	501	504	396	259	301	358	279	317	---	---	---
24	509	492	499	356	279	313	360	210	242	---	---	---
25	507	496	501	434	358	398	286	230	253	---	---	---
26	518	475	495	466	436	449	347	286	316	---	---	---
27	479	434	467	496	466	480	399	347	373	---	---	---
28	447	340	419	524	499	511	445	401	423	---	---	---
29	---	---	---	542	527	534	473	445	460	---	---	---
30	---	---	---	550	542	546	488	473	481	---	---	---
31	---	---	---	555	548	553	---	---	---	---	---	---
MONTH	518	217	380	574	67	397	565	30	382	---	---	---

16213000 WAIKELE STREAM AT WAIPAHU--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) , WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	414	372	388	481	183	341	486	434	460	392	350	383
2	390	372	379	401	372	384	479	399	436	399	297	340
3	408	390	400	438	401	418	460	394	429	303	255	272
4	414	320	380	458	436	447	470	408	435	306	220	272
5	342	308	319	466	451	458	527	440	476	245	90	200
6	385	342	363	490	462	475	488	447	461	314	165	248
7	405	387	396	516	492	503	458	436	448	370	276	316
8	425	405	416	511	408	447	455	420	445	390	359	360
9	447	427	440	432	394	412	436	417	428	365	316	340
10	447	421	439	445	403	435	465	420	450	356	308	316
11	412	367	377	464	445	454	465	435	450	370	321	340
12	412	378	393	486	438	471	435	212	316	388	330	360
13	451	412	432	425	363	385	340	210	272	368	315	340
14	483	451	467	486	183	352	380	321	340	364	280	316
15	475	436	446	320	275	301	383	355	360	386	348	360
16	445	297	352	295	70	208	377	341	360	383	316	340
17	387	302	335	192	35	110	420	335	383	350	324	340
18	394	345	360	202	50	122	417	375	405	355	180	316
19	387	192	354	324	210	268	388	355	360	175	40	120
20	416	390	400	419	270	331	383	312	340	183	60	120
21	438	416	426	442	351	400	321	274	294	258	100	175
22	449	432	442	408	349	373	350	275	294	340	248	316
23	451	429	445	505	372	425	303	115	225	377	324	340
24	427	392	402	464	421	441	306	140	248	425	355	383
25	416	394	405	464	410	435	335	290	316	373	319	340
26	442	414	428	453	410	429	310	267	294	392	344	360
27	464	438	452	434	390	408	324	285	316	392	355	360
28	464	331	421	440	394	423	321	280	316	435	375	405
29	329	272	308	464	438	448	327	283	316	443	405	428
30	372	254	318	490	429	452	340	288	316	425	403	405
31	---	---	---	490	432	463	382	278	340	---	---	---
MONTH	483	192	396	516	35	388	527	115	365	443	40	317
YEAR	574	30	372									

TEMPERATURE (DEG. C) OF WATER , WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	25.0	22.0	23.0	25.0	22.0	23.5	24.5	23.5	24.0	23.5	22.5	23.0
2	24.5	21.5	23.0	25.0	22.5	23.5	24.0	22.5	23.0	24.5	22.5	23.5
3	25.0	21.5	23.0	25.0	22.0	23.5	26.0	23.0	24.5	---	---	---
4	25.5	22.0	23.5	25.5	23.5	24.0	26.0	23.5	25.0	---	---	---
5	25.0	22.0	23.5	24.5	22.5	23.5	25.0	22.5	23.5	---	---	---
6	24.0	22.0	23.0	24.0	22.0	23.0	24.5	22.0	23.0	24.5	23.5	24.0
7	25.0	22.5	23.5	23.5	22.0	23.0	24.5	22.0	23.0	25.0	20.5	23.0
8	24.0	22.0	22.5	23.5	21.5	22.5	22.5	20.0	21.5	22.5	21.5	22.0
9	25.5	21.5	23.0	24.5	22.0	23.5	22.5	20.5	21.5	26.0	24.0	25.0
10	24.5	21.5	23.0	24.5	22.5	23.5	23.0	20.5	21.5	24.0	22.5	23.0
11	23.5	22.0	22.5	24.5	21.5	23.0	23.0	21.5	22.5	23.5	22.5	23.0
12	24.0	21.5	22.5	22.5	21.0	21.5	24.5	22.5	23.5	23.5	22.0	23.0
13	26.0	21.0	23.0	23.5	20.5	22.0	24.0	22.5	23.0	24.5	23.0	24.0
14	23.5	20.5	21.5	25.0	21.0	22.5	24.0	22.0	23.0	25.0	24.0	24.5
15	24.0	21.0	22.5	23.5	21.5	22.5	24.0	22.0	23.0	26.0	25.0	25.5
16	23.5	22.0	23.0	24.0	22.0	23.0	24.0	22.0	23.0	27.0	25.5	26.0
17	25.0	22.5	23.5	25.0	22.5	23.5	23.5	21.5	22.5	27.0	25.5	26.5
18	23.5	22.0	23.0	25.0	22.5	23.5	23.5	21.0	22.0	27.5	25.5	26.0
19	23.5	21.5	22.0	23.5	22.0	23.0	23.5	20.5	22.0	26.0	24.0	25.0
20	23.0	21.5	22.5	24.0	22.5	23.0	23.5	21.0	22.0	27.0	24.0	25.5
21	24.0	22.0	23.0	24.5	22.5	23.5	24.0	21.0	22.5	25.5	23.5	24.0
22	23.5	22.0	22.5	25.0	23.0	24.0	23.5	21.5	22.5	25.5	22.5	24.0
23	25.0	21.5	23.0	24.5	23.0	23.5	23.0	21.5	22.0	25.0	22.5	24.0
24	24.5	22.5	23.5	24.0	22.5	23.5	23.5	21.5	22.5	23.5	22.0	23.0
25	25.0	22.5	23.5	23.5	21.5	22.5	24.0	22.0	23.0	24.0	21.5	22.5
26	25.5	22.5	24.0	23.0	21.0	22.0	24.0	22.0	23.0	24.5	21.5	23.0
27	25.0	23.0	24.0	24.0	21.5	23.0	24.5	22.0	23.0	24.0	21.5	22.5
28	24.5	22.5	23.5	24.0	22.5	23.5	24.5	22.0	23.0	23.0	20.5	22.0
29	24.5	22.0	23.5	23.5	23.0	23.0	23.5	22.0	22.5	23.0	21.0	22.0
30	24.5	22.5	23.5	24.5	22.0	23.5	22.0	21.0	21.5	23.0	21.5	22.0
31	24.5	22.5	23.5	---	---	---	23.0	20.5	22.0	22.5	21.5	22.0
MONTH	26.0	20.5	23.0	25.5	20.5	23.0	26.0	20.0	22.5	27.5	20.5	23.5

HAWAII, ISLAND OF OAHU

16213000 WAIKELE STREAM AT WAIPAHU--Continued

TEMPERATURE (DEG. C) OF WATER , WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	22.5	19.5	21.0	26.0	21.5	24.5	24.0	21.0	22.5	26.0	22.0	24.0
2	24.5	20.5	22.5	21.5	18.5	20.5	22.5	21.0	21.5	24.5	21.0	22.5
3	23.5	21.0	22.5	25.0	20.5	22.5	22.5	20.5	21.5	26.0	21.0	23.0
4	24.0	20.0	22.0	26.0	23.0	24.5	22.5	20.5	21.0	29.0	22.5	24.5
5	21.5	19.0	20.5	25.0	22.0	23.5	23.0	20.5	21.5	26.0	24.0	24.5
6	23.0	20.0	21.5	24.5	22.0	23.0	23.0	20.0	21.5	26.5	22.5	24.0
7	23.5	21.0	22.0	24.5	22.0	23.0	23.5	20.5	22.0	26.0	22.5	23.5
8	23.0	20.5	22.0	25.0	21.5	23.0	23.0	20.5	21.5	25.5	21.5	23.0
9	22.5	20.5	21.5	23.0	19.5	21.5	23.0	20.5	22.0	25.0	21.0	23.0
10	22.5	20.5	21.5	23.0	20.0	21.5	23.0	21.0	22.0	23.5	20.5	21.5
11	22.5	20.5	21.5	22.5	20.5	21.5	21.5	20.5	21.0	25.5	19.5	22.5
12	22.5	19.5	21.0	21.5	20.5	21.0	23.5	20.0	21.5	26.0	22.5	24.0
13	22.0	19.0	20.5	23.0	20.5	21.5	23.5	21.0	22.0	24.0	20.5	22.5
14	22.5	19.5	21.0	23.5	21.5	22.5	24.0	20.0	21.5	24.5	18.5	22.0
15	23.0	19.5	21.5	23.5	21.0	22.5	23.5	20.5	22.0	23.0	18.0	20.5
16	23.0	20.5	22.0	24.0	21.0	22.5	23.5	20.5	22.0	25.5	19.5	22.5
17	23.5	20.5	21.5	22.5	21.5	22.0	24.0	20.5	22.0	27.0	22.5	24.5
18	23.0	20.0	21.5	20.0	17.5	19.0	22.5	20.0	21.5	28.0	21.5	24.5
19	23.5	20.5	21.5	21.5	17.0	19.0	20.0	17.5	18.5	26.0	22.5	24.0
20	23.0	20.5	21.5	22.5	19.0	20.5	22.5	17.5	20.0	26.0	21.5	23.5
21	23.0	20.5	21.5	23.0	21.5	22.5	23.5	21.0	22.0	27.5	21.0	24.0
22	23.0	20.5	21.5	23.5	21.5	22.5	25.0	20.5	22.5	24.0	21.5	23.0
23	23.5	21.0	22.0	24.0	21.5	22.5	24.0	21.5	22.5	---	---	---
24	23.5	21.0	22.0	23.0	19.5	21.5	23.0	19.0	21.0	---	---	---
25	25.5	21.5	23.5	22.5	19.5	21.0	25.0	21.0	22.5	---	---	---
26	28.5	24.0	25.0	22.5	20.0	21.5	26.0	21.5	23.5	---	---	---
27	26.0	21.5	24.0	23.0	20.5	21.5	25.5	20.5	23.0	---	---	---
28	24.5	20.5	22.0	23.5	20.5	22.0	25.5	21.5	23.5	---	---	---
29	---	---	---	22.0	20.5	21.5	25.0	21.5	23.5	---	---	---
30	---	---	---	23.5	19.5	21.5	25.5	22.0	23.5	---	---	---
31	---	---	---	23.5	21.0	22.5	---	---	---	---	---	---
MONTH	28.5	19.0	22.0	26.0	17.0	22.0	26.0	17.5	22.0	---	---	---

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	26.5	22.5	24.5	28.0	24.0	26.0	26.5	22.5	24.0	22.0	18.0	19.5
2	27.0	24.5	25.5	28.0	23.5	25.5	27.5	23.0	25.0	21.0	18.0	19.5
3	29.0	25.0	26.5	27.5	24.0	25.5	27.5	23.5	25.0	24.0	18.5	21.0
4	27.5	24.0	25.5	27.5	23.5	25.0	27.0	22.5	24.0	24.5	20.5	22.5
5	27.0	23.0	24.5	26.5	22.5	24.0	28.0	21.5	24.0	25.0	22.0	23.0
6	27.0	23.0	24.5	28.0	23.0	25.0	24.5	21.0	22.5	26.5	21.5	24.0
7	25.5	23.0	24.0	25.5	22.5	23.5	24.5	20.5	22.0	27.0	22.5	24.5
8	26.0	22.5	24.0	27.5	21.5	24.0	21.5	21.0	21.0	27.0	23.0	24.5
9	27.5	23.0	25.0	26.5	21.5	24.0	22.5	19.5	21.0	24.0	21.0	22.5
10	25.5	23.5	24.5	26.5	21.0	23.5	22.0	18.5	20.0	27.0	19.5	23.0
11	28.0	22.5	25.0	25.0	20.5	22.5	22.0	19.0	20.5	25.5	22.5	24.0
12	27.0	24.0	25.0	26.5	21.0	23.5	23.0	18.5	21.0	25.5	21.5	23.5
13	28.0	23.0	25.0	26.5	21.5	24.0	23.5	20.0	21.5	27.5	20.5	24.0
14	27.5	22.5	25.0	25.5	21.5	23.5	21.5	19.0	20.5	27.0	23.0	25.0
15	25.0	22.5	23.5	25.0	21.0	22.5	22.5	18.5	20.5	27.0	22.0	25.0
16	26.0	22.0	24.0	25.5	19.5	22.0	23.5	19.0	21.0	24.0	21.0	22.5
17	26.5	22.5	24.5	22.5	19.5	21.0	24.5	19.5	21.5	25.0	20.5	22.5
18	25.5	22.0	24.0	26.0	19.0	22.0	25.5	21.0	23.0	26.5	21.5	24.0
19	27.5	23.0	25.5	26.0	21.5	24.0	24.0	20.0	22.0	26.5	23.5	25.0
20	28.0	23.5	25.0	24.0	21.5	23.0	24.5	20.0	22.0	25.0	22.5	24.0
21	27.5	23.0	25.0	24.0	21.5	22.5	24.5	20.5	22.0	25.5	23.0	24.0
22	27.0	23.0	25.0	28.5	21.0	24.5	23.0	20.0	21.5	25.5	22.5	24.0
23	27.0	23.5	25.5	27.5	24.0	25.5	25.5	19.5	22.0	24.0	22.0	23.0
24	28.0	23.0	25.0	28.0	23.5	25.5	25.0	20.0	22.5	25.5	22.5	24.0
25	29.0	23.0	25.5	28.0	24.0	25.5	24.5	20.5	22.5	26.5	23.0	24.5
26	28.5	24.5	26.0	27.5	23.0	25.0	22.5	18.5	20.5	26.0	23.5	24.5
27	28.0	23.5	25.5	26.0	23.5	24.5	23.5	18.0	20.5	26.0	23.0	24.0
28	25.5	22.5	23.5	26.0	22.5	24.5	21.5	18.5	20.0	25.5	22.5	24.0
29	27.0	22.0	24.5	27.0	22.5	24.5	23.5	17.5	20.0	25.5	23.0	24.0
30	29.0	24.0	26.0	27.5	22.5	24.5	24.0	18.5	21.0	24.5	22.5	24.0
31	---	---	---	28.0	22.0	24.5	25.0	18.5	21.5	---	---	---
MONTH	29.0	22.0	25.0	28.5	19.0	24.0	28.0	17.5	22.0	27.5	18.0	23.5
YEAR	29.0	17.0	23.0									

16213000 WAIKELE STREAM AT WAIPAHU--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	8.2	30	.66	9.6	25	.65	57	108	31
2	7.6	28	.57	20	25	1.4	149	170	75
3	7.0	25	.47	17	20	.92	31	45	3.8
4	6.9	25	.47	14	18	.68	17	30	1.4
5	6.9	25	.47	7.9	15	.32	15	25	1.0
6	9.5	23	.59	7.1	15	.29	13	25	.88
7	9.5	22	.56	6.4	15	.26	12	25	.81
8	5.6	22	.33	6.5	15	.26	81	120	26
9	6.7	22	.40	6.7	15	.27	27	50	3.6
10	5.9	22	.35	22	20	1.2	17	35	1.6
11	5.2	24	.34	146	188	207	14	30	1.1
12	5.2	30	.42	372	402	605	14	28	1.1
13	11	34	1.0	110	100	30	14	25	.95
14	241	294	223	32	35	3.0	25	25	1.7
15	35	55	5.2	91	100	25	14	20	.76
16	28	50	3.8	35	50	4.7	16	20	.86
17	31	45	3.8	21	32	1.8	10	20	.54
18	96	102	40	19	30	1.5	7.9	20	.43
19	80	102	33	12	25	.81	6.7	20	.36
20	61	75	12	23	50	3.1	6.6	20	.36
21	31	32	2.7	25	35	2.4	6.6	20	.36
22	25	35	2.4	17	30	1.4	6.8	20	.37
23	26	30	2.1	16	20	.86	20	50	2.7
24	11	25	.74	54	55	8.0	21	35	2.0
25	9.8	20	.53	62	45	7.5	29	30	2.3
26	12	22	.71	28	30	2.3	28	30	2.3
27	16	25	1.1	21	30	1.7	27	30	2.2
28	16	25	1.1	53	60	8.6	24	30	1.9
29	15	25	1.0	28	40	3.0	22	30	1.8
30	19	30	1.5	17	28	1.3	116	300	94
31	11	25	.74	--	--	--	71	150	29
TOTAL	859.0	--	342.05	1299.2	--	925.22	918.6	--	292.18

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	142	250	96	278	826	1290	31	30	2.5
2	67	80	14	84	90	20	142	708	530
3	47	50	6.3	53	60	8.6	54	110	16
4	35	40	3.8	73	332	134	41	55	6.1
5	31	40	3.3	60	150	24	76	120	25
6	32	40	5.2	48	65	8.4	106	180	52
7	75	120	24	48	50	6.5	60	80	13
8	54	60	8.7	69	50	9.3	42	70	7.9
9	42	50	5.7	62	50	8.4	69	75	14
10	36	40	3.9	50	60	8.1	47	35	4.4
11	45	120	15	60	60	9.7	44	35	4.2
12	142	561	342	49	55	7.3	256	804	1020
13	55	100	15	79	120	26	78	110	23
14	60	80	13	72	150	29	53	50	7.2
15	68	65	12	59	80	13	47	40	5.1
16	56	50	7.6	63	60	10	44	35	4.2
17	44	45	5.3	60	50	8.1	42	30	3.4
18	39	35	3.7	52	40	5.6	337	749	1360
19	35	30	2.8	43	30	3.5	207	320	179
20	33	25	2.2	39	25	2.6	96	100	26
21	36	35	3.4	39	25	2.6	63	50	8.5
22	33	30	2.7	38	25	2.6	55	35	5.2
23	30	25	2.0	32	25	2.2	99	70	19
24	127	403	249	31	25	2.1	58	40	6.3
25	56	85	13	37	25	2.5	50	25	3.4
26	41	45	5.0	37	28	2.8	48	25	3.2
27	59	80	13	31	32	2.7	45	25	3.0
28	51	70	9.6	25	31	2.1	44	20	2.4
29	41	60	6.6	--	--	--	43	20	2.3
30	41	40	4.4	--	--	--	42	20	2.3
31	63	120	20	--	--	--	41	20	2.2
TOTAL	1716	--	918.2	1671	--	1651.7	2460	--	3360.8

16213000 WAIKELE STREAM AT WAIPAHU--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	41	20	2.2	26	30	2.1	29	120	9.4
2	41	20	2.2	24	20	1.3	22	80	4.8
3	41	20	2.2	29	20	1.6	18	80	3.9
4	41	20	2.2	33	20	1.8	50	170	23
5	50	30	4.1	30	15	1.2	29	150	12
6	58	30	4.7	25	12	.81	15	90	3.6
7	62	30	5.0	21	12	.68	12	50	1.6
8	49	20	2.6	20	12	.65	14	50	1.9
9	44	20	2.4	22	12	.71	19	50	2.6
10	42	20	2.3	17	10	.46	21	60	3.4
11	41	20	2.2	19	15	.77	24	70	4.5
12	49	20	2.6	27	12	.87	16	50	2.2
13	52	30	4.2	18	15	.73	19	30	1.5
14	72	50	9.7	41	162	434	17	25	1.1
15	56	30	4.5	311	617	787	14	25	.95
16	75	60	12	72	100	19	51	200	28
17	50	50	6.8	48	30	3.9	27	100	7.3
18	68	70	13	41	40	4.4	26	100	7.0
19	1890	2800	32200	51	30	4.1	25	200	14
20	1020	1040	6470	36	30	2.9	7.5	70	1.4
21	198	80	43	38	30	3.1	6.7	50	.90
22	125	50	17	20	35	1.9	9.1	50	1.2
23	94	30	7.6	17	30	1.4	20	60	3.2
24	341	310	468	14	30	1.1	12	50	1.6
25	94	60	15	15	30	1.2	7.7	40	.83
26	50	60	8.1	17	25	1.1	7.8	30	.63
27	46	60	7.5	10	25	.68	13	30	1.1
28	44	40	4.8	114	526	801	61	200	33
29	37	40	4.0	25	250	17	113	240	73
30	27	40	2.9	15	160	6.5	43	60	7.0
31	--	--	--	20	130	7.0	--	--	--
TOTAL	4898	--	39332.8	1216	--	2110.96	748.8	--	256.61

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	27	35	2.6	15	15	.61	29	10	.78
2	23	25	1.6	14	15	.57	29	20	1.6
3	23	30	1.9	22	20	1.2	27	20	1.5
4	22	30	1.8	24	15	.97	26	30	2.1
5	21	30	1.7	16	15	.65	108	664	635
6	25	40	2.7	13	15	.53	25	180	12
7	34	30	2.8	14	12	.45	24	60	3.9
8	38	30	3.1	14	12	.45	22	40	2.4
9	18	25	1.2	15	12	.49	18	50	2.4
10	16	25	1.1	19	10	.51	15	45	1.8
11	11	25	.74	19	15	.77	14	35	1.3
12	19	40	2.1	36	25	2.4	14	35	1.3
13	32	50	4.3	27	15	1.1	15	40	1.6
14	51	60	8.3	17	12	.55	25	35	2.4
15	39	40	4.2	16	15	.65	22	30	1.8
16	72	120	23	19	15	.77	15	30	1.2
17	439	1370	4280	21	15	.85	17	30	1.4
18	68	150	28	22	20	1.2	40	250	27
19	31	35	2.9	18	20	.97	321	722	1930
20	27	30	2.2	20	20	1.1	261	618	1250
21	29	30	2.3	20	16	.86	132	568	336
22	19	25	1.3	19	16	.82	65	130	23
23	13	25	.88	37	50	5.0	39	90	9.5
24	10	25	.68	31	20	1.7	38	90	9.2
25	8.9	25	.60	23	16	.99	31	80	6.7
26	7.4	20	.40	16	16	.69	24	50	3.2
27	16	20	.86	14	16	.60	21	30	1.7
28	14	20	.76	14	12	.45	29	30	2.3
29	14	20	.76	15	10	.41	28	25	1.9
30	15	20	.81	15	10	.41	22	25	1.5
31	15	20	.81	23	10	.62	--	--	--
TOTAL	1197.3	--	4386.40	608	--	29.34	1496	--	4276.48

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 19087.9
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 57882.74

16227500 MOANALUA STREAM NEAR KANEOHE

LOCATION.--Lat 21°23'29", long 157°51'05", on left bank 3.3 mi (5.3 km) northeast of Tripler Hospital and 3.6 mi (5.8 km) southwest of Kaneohe Post Office.

DRAINAGE AREA.--0.94 mi^2 (2.43 km^2).

PERIOD OF RECORD.--Chemical analyses: Water years 1970-71 (partial-record station).
Sediment records: Water years 1970-71 (partial-record station), October 1971 to September 1974.

EXTREMES.--1973-74:
Sediment concentrations: Maximum daily, 237 mg/l May 14; minimum daily, no flow for many days.
Sediment discharge: Maximum daily, 142 tons (129 tonnes) May 14; minimum daily, 0 tons (0 tonnes) on many days.

Period of record:
Sediment concentrations: Maximum daily, 256 mg/l Apr. 14, 1972; no flow on many days each year.
Sediment discharge: Maximum daily, 142 tons (129 tonnes) May 14, 1974; minimum daily, 0 tons (0 tonnes) on many days each year.

REMARKS.--Miscellaneous samples of chemical analyses for this station on page 267.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	0	0	0	0	0	0	11	72	7.6
2	0	0	0	0	0	0	5.2	15	.21
3	0	0	0	0	0	0	1.5	5	.02
4	0	0	0	0	0	0	.83	3	.01
5	0	0	0	0	0	0	.57	3	0
6	0	0	0	0	0	0	.43	3	0
7	0	0	0	0	0	0	.35	3	0
8	0	0	0	0	0	0	3.9	20	.21
9	0	0	0	0	0	0	.59	5	.01
10	0	0	0	0	0	0	.39	3	0
11	0	0	0	.31	3	0	.33	3	0
12	0	0	0	36	98	26	.51	5	.01
13	.04	2	0	2.3	8	.05	.36	4	0
14	7.1	25	.48	1.1	6	.02	.26	3	0
15	.23	3	0	.89	4	.01	.19	3	0
16	1.1	6	.02	.48	3	0	.14	2	0
17	.51	3	0	.38	3	0	.06	2	0
18	19	69	19	.28	2	0	0	0	0
19	1.7	5	.02	.19	2	0	0	0	0
20	.78	3	.01	.12	2	0	0	0	0
21	.42	2	0	.01	2	0	0	0	0
22	.38	2	0	0	0	0	0	0	0
23	.32	2	0	0	0	0	0	0	0
24	.14	2	0	.14	2	0	0	0	0
25	0	0	0	.21	2	0	0	0	0
26	0	0	0	.13	2	0	0	0	0
27	0	0	0	.09	2	0	0	0	0
28	0	0	0	4.9	30	.40	0	0	0
29	0	0	0	9.6	75	6.8	0	0	0
30	0	0	0	2.6	8	.06	2.5	20	.14
31	0	0	0	--	--	--	3.0	15	.12
TOTAL	31.72	--	19.53	59.73	--	33.34	32.11	--	8.33

16227500 MOANALUA STREAM NEAR KANEOHE--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	5.2	25	.35	12	40	1.3	.13	2	0
2	1.4	6	.02	2.7	8	.06	.79	5	.01
3	.59	4	.01	1.4	6	.02	.24	2	0
4	.35	3	0	.96	4	.01	.16	2	0
5	.24	3	0	.76	3	.01	.47	4	.01
6	1.3	10	.04	.62	3	.01	1.0	5	.01
7	5.8	25	.39	1.2	10	.03	.59	3	0
8	1.5	8	.03	.82	4	.01	.41	3	0
9	.80	5	.01	.66	4	.01	.36	2	0
10	.47	5	.01	1.9	15	.08	.26	2	0
11	7.9	52	6.8	.86	4	.01	.21	2	0
12	6.7	89	3.3	.57	3	0	2.3	20	.12
13	2.6	15	.11	.64	3	.01	.83	5	.01
14	3.0	15	.12	1.6	12	.05	.39	3	0
15	3.3	15	.13	4.8	25	.32	.26	3	0
16	2.8	12	.09	1.5	8	.03	.20	3	0
17	1.3	8	.03	1.0	6	.02	.14	3	0
18	.83	5	.01	.75	5	.01	6.4	35	.60
19	.62	5	.01	.62	4	.01	5.0	20	.27
20	.49	4	.01	.53	4	.01	2.2	8	.05
21	.55	4	.01	.45	4	0	1.4	8	.03
22	.43	3	0	.39	3	0	.77	5	.01
23	.37	3	0	.34	3	0	2.7	15	.11
24	1.6	15	.06	.29	2	0	.74	8	.02
25	1.1	8	.02	.24	2	0	.46	4	0
26	1.3	10	.04	.23	2	0	.36	4	0
27	3.5	15	.14	.24	2	0	.29	2	0
28	1.4	8	.03	.17	2	0	.24	2	0
29	2.4	20	.13	--	--	--	.20	2	0
30	1.3	8	.03	--	--	--	.15	2	0
31	5.0	20	.27	--	--	--	.11	2	0
TOTAL	66.14	--	12.20	38.24	--	2.01	29.76	--	1.25

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.08	2	0	.72	3	.01	1.3	5	.02
2	.03	2	0	1.0	6	.02	.79	3	.01
3	0	0	0	.80	3	.01	.55	3	0
4	.02	2	0	.60	2	0	2.2	10	.06
5	0	0	0	.51	2	0	.95	5	.01
6	.04	2	0	.45	2	0	.55	3	0
7	.08	2	0	.40	2	0	.40	3	0
8	.07	2	0	.38	2	0	.40	3	0
9	.01	2	0	.35	2	0	.34	3	0
10	0	0	0	.29	2	0	.62	4	.01
11	0	0	0	.26	2	0	.46	3	0
12	3.9	28	.77	.22	2	0	.30	2	0
13	1.1	8	.02	.24	2	0	.23	2	0
14	.90	4	.01	53	237	142	.32	2	0
15	.56	3	0	15	38	6.4	.22	2	0
16	.36	3	0	2.1	5	.03	.16	2	0
17	.36	3	0	1.5	3	.01	.13	2	0
18	16	73	12	1.4	3	.01	.08	2	0
19	81	151	77	1.2	3	.01	.01	2	0
20	21	10	.57	3.7	10	.10	0	0	0
21	4.1	6	.07	1.8	5	.02	0	0	0
22	4.6	12	.29	.98	3	.01	0	0	0
23	4.6	10	.12	.72	2	0	.06	3	0
24	10	15	.41	.58	2	0	.03	3	0
25	2.6	5	.04	.50	2	0	0	0	0
26	1.5	3	.01	.45	2	0	0	0	0
27	1.1	3	.01	.41	2	0	0	0	0
28	.92	3	.01	.36	2	0	.90	5	.01
29	.81	3	.01	4.1	16	1.6	5.7	20	.31
30	.70	3	.01	3.2	12	.10	.81	4	.01
31	--	--	--	5.0	15	.20	--	--	--
TOTAL	156.44	--	91.35	102.22	--	150.53	17.51	--	.44

16227500 MOANALUA STREAM NEAR KANEOHE--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.33	4	0	0	0	0	0	0	0
2	.20	2	0	0	0	0	0	0	0
3	.12	2	0	0	0	0	.05	2	0
4	.02	2	0	0	0	0	18	124	45
5	0	0	0	0	0	0	1.6	15	.06
6	0	0	0	0	0	0	.31	3	0
7	0	0	0	0	0	0	.05	2	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	.52	5	.01
10	0	0	0	0	0	0	.63	4	.01
11	0	0	0	0	0	0	.17	3	0
12	0	0	0	.01	2	0	0	0	0
13	0	0	0	0	0	0	.23	4	0
14	0	0	0	0	0	0	.02	2	0
15	.68	5	.01	0	0	0	0	0	0
16	1.8	10	.05	0	0	0	0	0	0
17	5.3	15	.21	0	0	0	1.1	12	.04
18	.98	5	.01	0	0	0	1.3	10	.04
19	.44	3	0	0	0	0	6.5	20	.35
20	.27	2	0	0	0	0	1.4	10	.04
21	.18	2	0	0	0	0	1.8	8	.04
22	.09	2	0	0	0	0	.73	4	.01
23	.02	2	0	0	0	0	.33	2	0
24	0	0	0	0	0	0	.20	2	0
25	0	0	0	0	0	0	.09	2	0
26	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	--	--	--
TOTAL	10.43	--	.28	.01	--	0	35.03	--	45.60

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 579.34
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 364.86

16270500 KAMOOALII STREAM BELOW KUOU STREAM, NEAR KANEOHE

LOCATION.--Lat 21°23'42", long 157°48'26", on right bank 100 ft (30 m) downstream from Kuou Stream, 1.1 mi (1.8 km) southwest of Castle High School, and 1.9 mi (3.1 km) south of Kaneohe Post Office.

DRAINAGE AREA.--3.21 mi^2 (8.31 km^2).

PERIOD OF RECORD.--Chemical analyses: Water years 1969-71, 1973 (partial-record station).
Sediment records: Water years 1967-71 (partial-record station), January 1972 to September 1974.

EXTREMES.--1973-74:
Sediment concentrations: Maximum daily, 420 mg/l May 14; minimum daily, 2 mg/l on many days in October, Dec. 5, 6 and Sept. 7, 8, 13-15.
Sediment discharge: Maximum daily, 512 tons (464 tonnes) May 14; minimum daily, 0.02 ton (0.018 tonnes) on many days in October.

Period of record:
Sediment concentrations: Maximum daily, 420 mg/l May 14, 1974; minimum daily, 0 mg/l on several days in October 1972.
Sediment discharge: Maximum daily, 512 tons (464 tonnes), May 14, 1974; minimum daily, 0 tons (0 tonnes) on several days in October 1972.

REMARKS.--Particle-size distribution for this station on page 272.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3.7	2	.02	3.7	3	.03	25	60	4.1
2	3.9	2	.02	3.7	3	.03	16	15	.65
3	3.4	2	.02	3.7	3	.03	10	5	.14
4	3.2	2	.02	3.7	3	.03	9.2	3	.07
5	3.4	2	.02	3.4	3	.03	8.5	2	.05
6	3.2	2	.02	3.4	5	.05	8.2	2	.04
7	3.4	2	.02	3.4	4	.04	17	15	.69
8	3.4	2	.02	4.9	3	.04	21	60	3.4
9	3.2	2	.02	4.4	3	.04	8.8	8	.19
10	3.1	2	.02	15	70	2.8	8.5	5	.11
11	3.4	2	.02	12	20	.65	8.5	5	.11
12	3.1	2	.02	21	35	2.0	8.8	5	.12
13	4.9	2	.03	7.4	8	.16	7.9	5	.11
14	8.8	3	.07	7.1	6	.12	7.6	5	.10
15	4.2	3	.03	6.2	5	.08	7.6	5	.10
16	4.7	3	.04	5.2	5	.07	7.6	8	.16
17	4.9	3	.04	4.9	5	.07	7.4	8	.16
18	16	30	1.3	4.9	5	.07	7.1	7	.13
19	5.4	4	.06	4.7	5	.06	7.1	7	.13
20	4.9	2	.03	5.4	5	.07	7.4	8	.16
21	4.4	2	.02	4.7	4	.05	7.1	8	.15
22	4.9	2	.03	4.2	4	.05	7.1	6	.12
23	4.2	2	.02	4.5	4	.05	7.1	10	.19
24	3.9	2	.02	4.7	4	.05	7.1	6	.12
25	3.9	2	.02	4.4	6	.07	6.8	6	.11
26	3.7	2	.02	4.7	6	.08	6.8	6	.11
27	3.7	2	.02	4.2	6	.07	6.8	5	.09
28	3.7	2	.02	22	50	3.0	7.1	10	.19
29	3.7	2	.02	32	60	5.2	7.1	12	.23
30	3.9	3	.03	12	10	.32	25	90	6.1
31	3.9	3	.03	--	--	--	10	25	.68
TOTAL	138.1	--	2.09	225.5	--	15.41	307.2	--	18.81

16270500 KAMOOALII STREAM BELOW KUOU STREAM, NEAR KANEOHE--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	15	20	.81	40	150	16	8.8	7	.17
2	8.6	9	.21	15	12	.49	11	12	.36
3	8.0	9	.19	13	12	.42	9.2	8	.20
4	7.6	9	.18	12	12	.39	8.8	6	.14
5	7.6	10	.21	14	10	.38	11	15	.45
6	21	50	2.8	12	8	.26	9.2	8	.20
7	22	25	1.5	19	15	.77	8.8	8	.19
8	12	12	.39	14	10	.38	9.2	7	.17
9	11	6	.18	13	10	.35	8.5	7	.16
10	9.8	4	.11	16	12	.52	8.2	7	.15
11	33	60	5.3	12	10	.32	8.2	6	.13
12	20	50	2.7	12	10	.32	28	130	9.8
13	22	40	2.4	12	10	.32	9.8	10	.26
14	17	20	.92	12	10	.32	9.5	7	.18
15	21	25	1.4	11	10	.30	8.2	7	.15
16	15	12	.49	11	10	.30	8.2	7	.15
17	12	8	.26	11	8	.24	8.2	7	.15
18	13	10	.35	11	5	.15	11	20	.59
19	12	6	.19	10	5	.14	9.8	10	.26
20	11	10	.30	10	5	.14	9.2	10	.25
21	11	10	.30	10	5	.14	9.2	8	.20
22	11	15	.45	9.8	5	.13	9.5	6	.15
23	11	10	.30	9.8	5	.13	16	8	.35
24	12	15	.49	9.2	5	.12	9.2	6	.15
25	11	10	.30	9.2	5	.12	8.8	6	.14
26	12	15	.49	8.8	8	.19	8.8	8	.19
27	43	379	169	8.8	8	.19	8.5	8	.18
28	14	20	.76	8.8	7	.17	8.5	7	.16
29	23	30	1.9	--	--	--	8.5	8	.18
30	12	12	.39	--	--	--	8.2	8	.18
31	13	15	.53	--	--	--	8.2	7	.15
TOTAL	471.6	--	195.80	354.4	--	23.70	306.2	--	16.14

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	8.2	6	.13	10	8	.22	11	10	.30
2	8.2	6	.13	11	8	.24	10	8	.22
3	8.2	6	.13	9.8	8	.21	10	6	.16
4	8.5	6	.14	9.2	8	.20	11	15	.45
5	8.5	6	.14	8.8	8	.19	10	10	.27
6	8.5	6	.14	8.5	8	.18	9.8	10	.26
7	8.8	6	.14	8.8	8	.19	9.5	10	.26
8	8.5	6	.14	8.8	8	.19	10	10	.27
9	8.5	6	.14	9.2	8	.20	9.8	10	.26
10	7.9	6	.13	8.5	7	.16	10	8	.22
11	9.8	10	.26	8.5	7	.16	9.5	10	.26
12	13	20	.70	8.5	12	.28	9.2	10	.25
13	8.5	12	.28	8.2	15	.33	9.2	10	.25
14	10	10	.27	91	420	512	9.8	10	.26
15	8.5	8	.18	48	178	54	8.8	10	.24
16	8.2	8	.18	14	12	.45	8.5	10	.23
17	8.5	8	.18	12	4	.13	13	10	.35
18	13	20	.70	11	4	.12	8.8	10	.24
19	34	100	9.2	12	4	.13	8.5	10	.23
20	19	50	2.6	14	15	.57	8.2	8	.18
21	12	15	.49	12	12	.39	8.2	8	.18
22	18	30	1.5	11	6	.18	8.2	8	.18
23	12	20	.65	11	6	.18	8.8	8	.19
24	12	20	.65	11	5	.15	8.2	7	.15
25	11	15	.45	11	5	.15	8.2	7	.15
26	10	12	.32	9.5	5	.13	8.2	7	.15
27	9.8	12	.32	9.5	5	.13	8.5	7	.16
28	9.5	12	.31	9.2	5	.12	9.2	10	.25
29	10	12	.32	12	25	.81	11	15	.45
30	9.5	10	.26	13	20	.70	8.2	8	.18
31	--	--	--	20	30	1.6	--	--	--
TOTAL	330.1	--	21.18	449.0	--	574.69	281.3	--	7.20

HAWAII, ISLAND OF OAHU

16270500 KAMOOALII STREAM BELOW KUOU STREAM, NEAR KANEOHE--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	8.2	8	.18	6.8	4	.07	7.1	6	.12
2	8.2	6	.13	7.6	4	.08	9.8	15	.40
3	8.2	6	.13	7.6	4	.08	8.5	12	.28
4	8.2	6	.13	7.1	4	.08	43	114	69
5	7.9	6	.13	6.8	4	.07	12	15	.49
6	8.2	6	.13	6.8	4	.07	9.8	3	.08
7	8.2	6	.13	7.1	4	.08	8.5	2	.05
8	7.9	5	.11	6.8	4	.07	7.6	2	.04
9	7.6	5	.10	6.8	4	.07	22	20	1.2
10	7.6	5	.10	7.1	4	.08	11	12	.36
11	7.6	5	.10	6.8	4	.07	9.2	5	.12
12	8.2	5	.11	7.6	4	.08	8.5	5	.11
13	7.6	5	.10	7.6	4	.08	9.8	2	.05
14	7.9	5	.11	7.1	6	.12	9.2	2	.05
15	9.2	7	.17	7.6	8	.16	8.5	2	.05
16	9.2	10	.25	9.5	20	.51	9.2	3	.07
17	10	15	.41	7.6	5	.10	14	15	.57
18	8.2	6	.13	8.2	4	.09	25	50	3.4
19	8.2	5	.11	7.6	4	.08	9.8	8	.21
20	7.9	4	.09	7.1	5	.10	7.6	4	.08
21	7.9	4	.09	6.6	5	.09	12	25	.81
22	7.9	4	.09	7.6	5	.10	8.0	15	.32
23	7.6	4	.08	6.6	5	.09	7.2	8	.16
24	7.6	4	.08	7.1	5	.10	6.8	5	.09
25	7.9	4	.09	6.6	6	.11	6.5	5	.09
26	8.2	4	.09	6.3	6	.10	6.5	5	.09
27	7.6	4	.08	6.3	6	.10	7.0	5	.09
28	7.6	4	.08	5.9	6	.10	6.5	5	.09
29	7.4	4	.08	5.9	6	.10	6.0	5	.08
30	7.1	4	.08	5.7	6	.09	5.7	5	.08
31	7.1	4	.08	5.7	6	.09	--	--	--
TOTAL	248.1	--	3.77	217.5	--	3.21	322.3	--	78.63

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 3651.3
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 960.63

16717000 HONOLII STREAM NEAR PAPAIKOU
(Hydrologic bench-mark station)

LOCATION.--Lat 19°46'00", long 155°09'16", at gaging station 0.7 mi (1.1 km) downstream from Pohakupaa Stream, 4.1 mi (6.6 km) west of Papaikou, and 4.8 mi (7.7 km) northwest of Hilo Post Office.

DRAINAGE AREA.--11.6 mi^2 (30.0 km^2).

PERIOD OF RECORD.--Chemical analyses: September 1969 to September 1974.
Sediment records: Water years 1969-74 (partial-record station).

WATER QUALITY DATA, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)
NOV.										
06...	1045	21	13	4.0	2.0	2.9	1.3	25	0	21
DEC.										
13...	0930	32	10	2.9	1.6	2.4	.3	18	0	15
FEB.										
19...	1314	23	11	3.4	2.0	2.7	.2	19	0	16
19...	1330	24	--	--	--	--	--	--	--	--
APR.										
26...	1150	42	9.9	2.7	1.6	2.5	.9	16	--	13
26...	1230	42	--	--	--	--	--	--	--	--
JUNE										
10...	1115	25	13	3.8	2.0	2.6	.1	23	--	19
JULY										
24...	1110	20	14	4.8	2.8	3.4	.3	29	--	24
AUG.										
28...	1015	14	17	5.8	4.6	3.5	.3	35	--	29
SEP.										
30...	1015	5.5	32	8.9	4.4	4.5	.5	54	--	44

DATE	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	HARDNESS (CA,MG) (MG/L)
NOV.										
06...	2.1	2.9	.1	--	.02	--	.01	41	.06	18
DEC.										
13...	2.3	2.6	.0	--	.04	.01	.01	31	.04	14
FEB.										
19...	2.5	3.0	.0	--	.00	--	.01	34	.05	17
19...	--	--	--	--	--	--	--	--	--	--
APR.										
26...	2.6	2.2	.3	--	--	--	--	31	.04	13
26...	--	--	--	--	--	--	--	--	--	--
JUNE										
10...	2.4	2.7	.0	--	--	--	--	38	.06	18
JULY										
24...	3.0	2.8	.0	.03	--	.01	--	45	.07	24
AUG.										
28...	2.4	4.3	.0	.02	--	.04	--	55	.07	33
SEP.										
30...	2.1	3.0	.0	.09	--	--	--	82	.10	40

DATE	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
NOV.										
06...	0	54	6.8	18.0	20	2	9.2	40	--	--
DEC.										
13...	0	39	7.3	17.0	--	--	8.5	58	--	--
FEB.										
19...	1	43	7.0	19.0	30	1	8.9	--	--	--
19...	--	--	--	19.0	--	--	--	18	--	--
APR.										
26...	0	37	6.3	19.0	--	1	9.0	--	--	--
26...	--	--	--	19.0	--	--	--	12	--	--
JUNE										
10...	0	25	7.3	18.0	--	1	8.1	10	0	--
JULY										
24...	0	57	6.8	19.0	--	1	8.5	63	7	21
AUG.										
28...	5	68	6.3	20.0	--	1	8.9	3	1	0
SEP.										
30...	0	94	6.9	19.0	--	2	9.4	29	0	0

16717000 HONOLII STREAM NEAR PAPAIKOU--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)	DIS-SOLVED URANIUM (U) (UG/L)	TOTAL FILT-RABLE RESIDUE (MG/L)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)
NOV. 06...	1045	<.4	<.4	1.7	<.4	1.4	<.4	.01	.01	41	1

DATE	TIME	TOTAL IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL CAD-MIUM (CD) (UG/L)	TOTAL COBALT (CO) (UG/L)
APR. 26...	1150	190	0	0	0	<10	<50

DATE	TOTAL COPPER (CU) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL SELE-NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)
APR. 26...	<10	100	.5	<10	0	30

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS

WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
NOV. 06...	1045	21	18.0	0	.00
DEC. 13...	0930	32	17.0	1	.09
FEB. 19...	1330	24	19.0	0	.00
APR. 26...	1230	42	19.0	2	.23
JUNE 10...	1115	25	18.0	1	.07
JULY 24...	1110	20	19.0	2	.11
AUG. 28...	1015	14	20.0	1	.04
SEP. 30...	1015	5.5	19.0	0	.00

HAWAII, ISLAND OF KAUAI

16010000 KAWAIKOI STREAM NEAR WAIMEA
(LAT 22 08 09 LONG 159 37 22)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 18, 1973	1200	41.3	18.0
Dec. 14, 1973	1300	16.4	15.5
Jan. 23, 1974	1335	14.6	15.5
Mar. 1, 1974	1425	7.89	15.0
May 2, 1974	1335	14.5	17.5
June 13, 1974	1050	7.49	19.0
July 11, 1974	1045	6.02	20.0
Sept. 9, 1974	1245	3.57	20.5

16014000 KOKEE DITCH NEAR WAIMEA
(LAT 22 06 42 LONG 159 40 43)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 18, 1973	1430	46.7	18.0
Dec. 14, 1973	1420	40.6	17.0
Mar. 1, 1974	1630	25.3	15.0
May 2, 1974	1450	40.8	18.0
June 13, 1974	1430	17.4	20.5
July 11, 1974	1400	12.1	20.0
Sept. 9, 1974	1435	7.68	20.5

16019000 WAIALAE STREAM AT ALTITUDE 3,820 FT (1,164 M), NEAR WAIMEA
(LAT 22 05 20 LONG 159 34 18)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Dec. 13, 1973	1050	10.8	14.0
Feb. 15, 1974	0930	6.18	12.5
May 6, 1974	0950	4.40	16.5
Aug. 13, 1974	0910	9.00	16.0

16036000 MAKAWELI RIVER NEAR WAIMEA
(LAT 21 58 31 LONG 159 38 55)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 16, 1973	1240	14.5	22.5
Nov. 13, 1973	1145	40.0	19.0
Dec. 11, 1973	1100	190	17.5
Jan. 21, 1974	1605	132	20.5
Feb. 20, 1974	1045	31.4	18.5
Apr. 16, 1974	0855	383	20.5
June 11, 1974	1355	29.0	22.2
July 10, 1974	1035	23.6	22.0
Sept. 4, 1974	1010	57.2	22.0

16049000 HANAPEPE RIVER BELOW MANUAHI STREAM, NEAR ELEELE
(LAT 21 57 29 LONG 159 33 13)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 15, 1973	1115	21.0	24.0
Nov. 14, 1973	1200	28.7	19.5
Dec. 12, 1973	1115	40.8	20.0
Jan. 21, 1974	1325	105	19.5
Feb. 20, 1974	1500	30.7	19.5
Apr. 16, 1974	1245	235	20.5
June 11, 1974	1020	36.3	22.0
July 10, 1974	1310	29.7	22.5
Aug. 12, 1974	1230	321	22.5
Sept. 4, 1974	1320	25.5	22.5

16060000 SOUTH FORK WAILUA RIVER NEAR LIHUE
(LAT 22 02 24 LONG 159 22 58)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 25, 1973	1335	25.4	23.5
Dec. 19, 1973	1335	22.4	19.5
Jan. 24, 1974	1455	351	19.0
Feb. 25, 1974	1420	19.3	24.0
Mar. 29, 1974	1535	114	23.0
Apr. 25, 1974	1245	245	20.5
May 23, 1974	1510	44.8	24.0
June 21, 1974	1450	14.5	26.0
July 24, 1974	0930	30.3	24.5
Aug. 21, 1974	1420	5.21	26.0

16061000 NORTH WAILUA DITCH NEAR LIHUE
(LAT 22 03 56 LONG 159 28 14)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 23, 1973	1300	16.7	19.5
Nov. 19, 1973	1315	16.2	18.5
Dec. 19, 1973	1130	16.1	17.0
Jan. 22, 1974	1245	14.8	18.0
Feb. 14, 1974	1300	14.6	18.5
Mar. 20, 1974	1230	15.1	19.0
Apr. 24, 1974	1505	15.7	19.0
May 20, 1974	1300	16.8	19.5
June 20, 1974	1255	14.9	21.0
July 25, 1974	1435	15.6	21.0
Aug. 16, 1974	1025	15.9	19.0

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16061200 NORTH WAILUA DITCH BELOW WAIKOKO STREAM NEAR LIHUE
(LAT 22 03 34 LONG 159 28 00)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 23, 1973	1100	24.7	19.0
Nov. 19, 1973	1100	22.5	18.5
Dec. 19, 1973	1015	19.2	15.5
Jan. 22, 1974	1100	24.1	17.5
Feb. 14, 1974	1100	23.6	18.5
Mar. 20, 1974	1100	25.5	18.5
Apr. 23, 1974	1015	27.2	18.5
May 20, 1974	1100	24.3	19.5
June 20, 1974	1120	22.0	20.0
July 22, 1974	1125	20.7	20.5
Aug. 19, 1974	0950	21.0	21.0
Sept.20, 1974	1000	22.2	20.5

16062000 STABLE STORM DITCH NEAR LIHUE
(LAT 22 04 09 LONG 159 26 46)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 23, 1973	0910	.18	19.5
Nov. 19, 1973	0910	.02	21.5
Jan. 22, 1974	0910	.11	18.5
Feb. 14, 1974	0910	.09	18.5
Mar. 20, 1974	0910	.04	19.0
Apr. 26, 1974	1005	1.05	20.5
June 20, 1974	0935	.38	20.5
July 25, 1974	1215	.11	23.5

16063000 NORTH FORK WAILUA RIVER AT ALTITUDE 650 FT (198 M), NEAR LIHUE
(LAT 22 04 02 LONG 159 26 21)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 26, 1973	1030	59.9	20.0
Dec. 3, 1973	1000	152	17.0
Dec. 26, 1973	1045	27.2	18.5
Jan. 28, 1974	1015	64.7	18.5
Feb. 25, 1974	1045	31.5	20.0
Mar. 28, 1974	1015	34.0	19.5
Apr. 26, 1974	0800	61.3	19.0
May 24, 1974	1000	53.8	24.0
June 21, 1974	1015	92.1	21.0
July 25, 1974	1020	48.5	20.5
Aug. 22, 1974	1100	9.89	25.0

16068000 EAST BRANCH OF NORTH FORK WAILUA RIVER NEAR LIHUE
(LAT 22 04 19 LONG 159 25 05)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 25, 1973	1030	36.4	20.5
Nov. 26, 1973	1340	96.6	20.0
Dec. 21, 1973	0945	33.5	18.0
Jan. 25, 1974	0945	47.2	18.5
Feb. 22, 1974	0910	28.6	19.5
Mar. 25, 1974	1320	31.4	19.5
Apr. 25, 1974	0945	79.7	20.0
May 24, 1974	1030	42.8	20.5
June 24, 1974	1010	39.0	21.5
July 24, 1974	1135	93.6	22.0
Aug. 26, 1974	1150	22.1	24.0
Sept.24, 1974	0940	40.6	22.0

16069000 WAILUA DITCH NEAR KAPAA
(LAT 22 04 34 LONG 159 24 04)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 23, 1973	1500	14.9	24.0
Nov. 19, 1973	1500	9.37	22.5
Dec. 18, 1973	1210	16.3	21.5
Jan. 22, 1974	1430	1.74	22.5
Feb. 14, 1974	1500	1.38	22.5
Mar. 20, 1974	1445	5.86	24.0
Mar. 25, 1974	1035	20.4	22.5
Apr. 23, 1974	0930	5.84	23.5
May 20, 1974	1500	9.09	25.0
June 20, 1974	1425	43.0	25.0
June 27, 1974	1235	24.6	26.0
July 22, 1974	1425	14.5	26.0
Aug. 15, 1974	1445	35.0	26.5
Aug. 19, 1974	1135	9.89	27.0
Sept.20, 1974	1245	8.26	25.5

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16071000 NORTH FORK WAILUA RIVER NEAR KAPAA
(LAT 22 03 08 LONG 159 22 22)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 11, 1973	1410	68.9	25.0
Nov. 15, 1973	1300	95.3	21.5
Dec. 10, 1973	1300	490	18.0
Jan. 18, 1974	1230	131	18.5
Feb. 28, 1974	1145	28.0	20.0
Apr. 30, 1974	1350	37.9	25.0
June 12, 1974	1245	63.9	23.5
July 5, 1974	0940	117	21.0
Sept. 5, 1974	1105	58.0	22.5

16071500 LEFT BRANCH OPAEKAA STREAM NEAR KAPAA
(LAT 22 04 43 LONG 159 23 55)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 11, 1973	1240	.87	26.0
Nov. 12, 1973	1000	9.70	20.5
Nov. 20, 1973	0955	19.6	20.5
Dec. 1, 1973	1320	140	20.5
Dec. 7, 1973	1420	13.5	20.5
Jan. 16, 1974	1445	1.54	20.0
Feb. 28, 1974	1410	1.49	22.0
Mar. 5, 1974	1220	3.97	21.0
Apr. 19, 1974	1305	22.7	20.5
June 12, 1974	0955	2.32	21.5
July 5, 1974	1120	2.53	21.5
Aug. 29, 1974	1355	1.60	25.5

16077000 MAKALEHA DITCH NEAR KEALIA
(LAT 22 07 06 LONG 159 22 04)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 23, 1973	1355	17.1	24.0
Nov. 21, 1973	1405	5.00	21.0
Dec. 19, 1973	1250	.12	19.5
Jan. 22, 1974	1400	.21	19.5
Feb. 14, 1974	1345	13.6	21.5
Mar. 20, 1974	1405	.44	19.0
Apr. 22, 1974	1335	1.43	21.0
May 20, 1974	1350	16.0	24.0
June 19, 1974	1310	11.0	23.5
July 22, 1974	1335	10.3	21.0
Aug. 19, 1974	1420	9.11	24.0
Sept.20, 1974	1255	15.0	21.5

16079000 KAPAHI DITCH NEAR KEALIA
(LAT 22 06 09 LONG 159 22 28)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 23, 1973	1545	10.9	23.0
Nov. 21, 1973	1520	.72	20.0
Dec. 19, 1974	1420	.83	19.5
Jan. 22, 1974	1525	1.00	19.0
Feb. 14, 1974	1515	6.63	23.0
Mar. 20, 1974	1520	.64	19.0
May 20, 1974	1535	.58	23.0
June 19, 1974	1430	.06	23.0
July 22, 1974	1500	.51	22.0
Aug. 19, 1974	0905	.66	23.0

16080000 KAPAA STREAM AT KAPAHI DITCH INTAKE NEAR KAPAA
(LAT 22 06 15 LONG 159 22 29)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 26, 1973	1515	1.52	22.0
Dec. 21, 1973	1445	11.1	18.0
Jan. 25, 1974	1035	22.2	19.5
Mar. 27, 1974	0940	10.5	18.0
June 24, 1974	1315	14.3	23.5

16087000 ANAHOLA DITCH WASTEWAY NEAR KEALIA
(LAT 22 08 16 LONG 159 22 28)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 23, 1973	1010	.17	23.0
Nov. 21, 1973	1025	20.5	20.0
Dec. 19, 1973	1020	5.13	19.0
Jan. 22, 1974	1040	2.78	19.0
Feb. 14, 1974	1015	4.70	20.0
Mar. 20, 1974	1035	8.21	18.5
Apr. 22, 1974	1120	20.8	19.5
June 19, 1974	1010	.07	23.0
July 22, 1974	1010	.17	21.0
Aug. 16, 1974	1420	.08	23.0

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16088000 ANAHOLA DITCH ABOVE KANEHA RESERVOIR, NEAR KEALIA
(LAT 22 08 10 LONG 159 22 28)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 23, 1973	0920	12.7	23.0
Nov. 21, 1973	0945	1.62	20.0
Dec. 19, 1973	0920	.44	18.0
Jan. 22, 1974	0930	.48	19.5
Feb. 14, 1974	0930	.89	22.0
Mar. 20, 1974	0955	.21	18.0
May 20, 1974	1000	12.0	24.0
June 19, 1974	0900	11.6	22.5
July 22, 1974	0850	5.29	21.0
Aug. 19, 1974	1125	2.55	23.5
Sept.20, 1974	1040	16.1	21.5

16089000 ANAHOLA STREAM NEAR KEALIA
(LAT 22 09 05 LONG 159 21 17)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 30, 1973	1115	1.92	23.0
Nov. 28, 1973	0950	82.7	20.5
Dec. 27, 1973	0950	9.30	19.5
Jan. 25, 1974	1150	7.62	19.5
Feb. 26, 1974	1205	6.92	22.0
Mar. 27, 1974	1335	9.08	19.0
Apr. 29, 1974	1155	13.0	20.0
May 23, 1974	1145	13.9	24.0
June 24, 1974	1135	6.47	23.5
July 23, 1974	1005	10.6	24.0
Aug. 22, 1974	1405	5.70	25.5

16091000 LOWER ANAHOLA DITCH NEAR KEALIA
(LAT 22 08 14 LONG 159 19 31)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 23, 1973	1215	11.7	23.5
Nov. 21, 1973	1150	7.29	20.0
Dec. 19, 1973	1140	.14	19.5
Feb. 14, 1974	1200	8.31	22.0
Mar. 20, 1974	1205	.33	19.0
Apr. 22, 1974	1000	2.97	21.0
May 20, 1974	1215	11.9	23.5
June 19, 1974	1145	9.77	23.0
July 22, 1974	1150	5.94	21.0
Aug. 19, 1974	1255	5.29	23.5
Sept.20, 1974	0925	7.60	22.5

16093200 ANAHOLA STREAM AT ANAHOLA
(LAT 22 08 42 LONG 159 18 59)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 30, 1973	0955	5.96	23.0
Nov. 12, 1973	1450	83.3	21.0
Jan. 16, 1974	1100	9.07	20.5
Jan. 25, 1974	1400	16.5	20.0
Feb. 26, 1974	1025	9.50	21.0
Mar. 27, 1974	1050	17.2	19.0
Apr. 5, 1974	1415	223	21.0
Apr. 29, 1974	1015	31.1	20.0
May 23, 1974	1015	20.1	24.5
June 24, 1974	0915	9.79	24.0
July 23, 1974	1340	15.0	24.0
Aug. 29, 1974	0950	5.99	25.5

16097500 HALAULANI STREAM AT ALTITUDE 400 FT (122 M), NEAR KILAUEA
(LAT 22 10 54 LONG 159 25 17)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 10, 1973	1405	3.93	26.0
Nov. 15, 1973	1325	7.08	22.0
Dec. 5, 1973	1425	9.98	19.0
Jan. 15, 1974	1450	4.58	19.0
Feb. 27, 1974	1655	4.62	20.0
Apr. 18, 1974	0750	19.4	20.5
June 4, 1974	1035	27.8	21.0
July 3, 1974	0920	8.83	20.0
Aug. 28, 1974	1310	4.97	25.0

16100000 HANALEI TUNNEL OUTLET NEAR LIHUE
(LAT 22 05 02 LONG 159 27 50)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 29, 1973	1030	41.0	20.0
Nov. 27, 1973	1035	42.1	17.5
Dec. 21, 1973	1035	13.0	16.0
Jan. 24, 1974	1050	21.3	17.0
Feb. 25, 1974	1105	15.3	19.0
Mar. 21, 1974	1100	10.9	18.5
Apr. 24, 1974	1010	5.24	19.5
May 23, 1974	1100	4.49	26.0
June 25, 1974	1120	35.8	19.5
July 25, 1974	1030	28.8	22.0
Aug. 21, 1974	1110	27.0	20.0
Sept.27, 1974	1230	25.3	19.0

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)

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16103000 HANALEI RIVER NEAR HANALEI
(LAT 22 11 31 LONG 159 27 57)

Oct. 10, 1973	1125	35.9	26.5
Nov. 14, 1973	1145	136	21.0
Dec. 5, 1973	1100	187	18.5
Jan. 15, 1974	1115	111	19.0
Feb. 27, 1974	1100	240	20.0
Apr. 17, 1974	1150	413	20.5
May 14, 1974	1150	6,060	20.5
June 3, 1974	1105	255	20.5
July 9, 1974	1215	132	21.0
Aug. 28, 1974	1050	77.8	25.0

16108000 WAINIHA RIVER NEAR HANALEI
LAT 22 08 20 LONG 159 33 38)

Feb. 15, 1974	1205	65.2	18.0
May 6, 1974	1300	60.0	19.5
Aug. 13, 1974	1200	76.4	22.0

HAWAII, ISLAND OF OAHU

16200000 NORTH FORK KAUKONAHUA STREAM ABOVE RIGHT BRANCH NEAR WAHIAWA
(LAT 21 31 09 LONG 157 56 53)

Oct. 17, 1973	1225	7.09	21.0
Dec. 7, 1973	1235	4.04	19.0
Jan. 25, 1974	1220	6.63	18.0
Mar. 25, 1974	1515	4.95	21.5
May 13, 1974	1300	52.2	20.0
June 25, 1974	1325	5.58	22.5
Aug. 9, 1974	1240	12.6	22.0
Sept.23, 1974	1625	2.19	25.0

16208000 SOUTH FORK KAUKONAHUA STREAM AT EAST PUMP RESERVOIR, NEAR WAHIAWA
(LAT 21 29 32 LONG 157 59 54)

Nov. 4, 1973	1520	3.30	23.0
Dec. 17, 1973	1130	4.18	18.5
Jan. 31, 1974	1705	23.0	19.5
Apr. 2, 1974	1610	5.40	24.5
May 10, 1974	1705	13.1	23.0
July 2, 1974	1445	14.5	23.0
Aug. 7, 1974	1625	9.19	24.0
Sept.23, 1974	1110	6.40	23.5

16210900 POAMOHO TUNNEL NEAR WAHIAWA
(LAT 21 31 12 LONG 157 58 51)

July 2, 1974	1025	3.34	21.0
Aug. 16, 1974	1545	2.08	23.5

16211600 MAKAHA STREAM NEAR MAKAHA
(LAT 21 30 16 LONG 158 10 59)

Oct. 12, 1973	1130	.03	20.0
Dec. 12, 1973	1450	1.16	19.5
Feb. 8, 1974	1520	2.07	19.5
Apr. 1, 1974	1340	.70	20.0
May 16, 1974	1630	20.6	20.0
May 16, 1974	1715	13.2	20.0
July 5, 1974	1300	.31	21.0
Aug. 12, 1974	1500	.13	22.0

16212800 KIPAPA STREAM NEAR WAHIAWA
(LAT 21 28 13 LONG 157 57 40)

Nov. 1, 1973	1250	1.94	22.0
Dec. 4, 1973	1430	5.48	21.5
Mar. 20, 1974	1235	18.3	20.0
May 24, 1974	1635	3.87	24.5
June 5, 1974	1320	5.01	22.0
June 20, 1974	1115	1.63	23.0
June 21, 1974	1330	3.36	22.5
Aug. 14, 1974	1400	1.34	25.5
Sept.13, 1974	1655	6.62	26.0

16213000 WAIKELE STREAM AT WAIPAHU
(LAT 21 23 11 LONG 158 00 49)

Dec. 10, 1973	1100	16.5	20.5
Feb. 6, 1974	1400	43.2	22.5
Mar. 26, 1974	1140	47.0	22.0
May 22, 1974	1300	16.4	24.5
July 3, 1974	0905	22.1	23.0
Aug. 15, 1974	1100	15.9	23.5

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)

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16216000 WAIAWA STREAM NEAR PEARL CITY
(LAT 21 23 57 LONG 157 58 51)

Nov. 21, 1973	0945	10.6	23.0
Jan. 18, 1974	1330	21.6	23.5
Mar. 7, 1974	1120	41.5	21.5
May 7, 1974	1430	6.26-	24.5
June 11, 1974	1325	13.4	26.0
Aug. 2, 1974	1010	4.64	24.0
Sept.18, 1974	1300	13.1	26.0

16224500 KALAUAO STREAM AT MOANALUA ROAD, AT AIEA
(LAT 21 23 07 LONG 157 56 22)

Nov. 2, 1973	1230	3.32	24.0
Jan. 17, 1974	0955	5.24	22.5
Mar. 7, 1974	1335	2.63	22.5
Mar. 28, 1974	1430	.31	26.0
July 31, 1974	1325	.09	27.0

16226000 NORTH HALAWA STREAM NEAR AIEA
(LAT 21 23 46 LONG 157 53 37)

Oct. 30, 1973	1115	1.84	21.0
Nov. 23, 1973	1000	.33	22.0
Jan. 16, 1974	1035	22.6	22.0
Mar. 14, 1974	1150	2.32	20.0
May 1, 1974	1050	1.58	21.0
June 19, 1974	1110	.11	23.5
July 31, 1974	1030	.12	23.0
Sept.18, 1974	1013	2.82	22.0

16227500 MOANALUA STREAM NEAR KANEOHE
(LAT 21 23 29 LONG 157 51 05)

Nov. 29, 1973	1630	6.99	21.0

16227700 MOANALUA STREAM TRIBUTARY NEAR KANEOHE
(LAT 21 23 27 LONG 157 50 53)

Nov. 29, 1973	1545	2.38	21.0
Mar. 12, 1974	1130	5.52	20.0

16228000 MOANALUA STREAM NEAR HONOLULU
(LAT 21 22 53 LONG 157 52 22)

Jan. 10, 1974	1115	1.06	20.5
Apr. 24, 1974	1115	29.8	21.5

16229000 KALIHI STREAM NEAR HONOLULU
(LAT 21 22 00 LONG 157 50 49)

Nov. 26, 1973	1320	30.5	23.0
Dec. 26, 1973	1035	2.13	19.5
Feb. 25, 1974	1355	2.52	20.5
June 25, 1974	1000	2.23	20.5
Sept.12, 1974	1055	1.34	21.5
Sept.25, 1974	0925	1.21	22.5

16229300 KALIHI STREAM AT KALIHI
(LAT 21 20 29 LONG 157 52 36)

Nov. 26, 1973	1100	3.82	23.0
Jan. 28, 1974	1500	7.20	21.5
Feb. 25, 1974	1115	3.74	21.0
Mar. 12, 1974	1325	130	21.5
June 20, 1974	1505	2.56	26.5
June 25, 1974	1200	3.39	27.0
July 25, 1974	0955	3.52	23.0
Sept.12, 1974	0940	1.83	24.0

16232000 NUUANU STREAM BELOW RESERVOIR 2 WASTEWAY NEAR HONOLULU
(LAT 21 20 57 LONG 157 49 40)

Nov. 20, 1973	1330	1.88	22.5
Jan. 16, 1974	1400	4.82	22.5
Mar. 6, 1974	1405	16.1	20.5
May 2, 1974	1425	7.66	22.0
June 18, 1974	1000	4.50	22.0
July 30, 1974	1055	3.75	21.5

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16238500 WAIHI STREAM AT HONOLULU
(LAT 21 19 55 LONG 157 48 12)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 20, 1973	1105	1.39	22.5
Jan. 15, 1974	1035	2.89	22.5
Mar. 6, 1974	1220	15.7	20.5
May 2, 1974	1310	7.72	20.5
June 4, 1974	1540	11.8	20.5
July 30, 1974	1345	1.11	22.0
Sept.16, 1974	1105	.34	22.0

16240500 WAIAKEAKUA STREAM AT HONOLULU
(LAT 21 19 53 LONG 157 48 12)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 20, 1973	0913	2.16	21.5
Jan. 15, 1974	0850	3.30	22.0
Mar. 6, 1974	0845	4.67	20.5
May 2, 1974	1100	6.36	20.0
June 4, 1974	1355	31.6	20.5
June 4, 1974	1355	21.1	20.5
June 6, 1974	1055	4.22	21.0
July 30, 1974	1535	3.03	21.5
Sept.16, 1974	0945	2.34	21.0

16244000 PUKELE STREAM NEAR HONOLULU
(LAT 21 18 36 LONG 157 47 27)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 19, 1973	1055	.58	21.5
Jan. 14, 1974	1310	1.47	22.5
Mar. 5, 1974	0950	12.5	21.5
May 3, 1974	1107	1.39	21.5
June 20, 1974	1250	1.05	22.5
Aug. 2, 1974	1505	.85	23.0
Sept.16, 1974	1340	.31	22.0

16247000 PALOLO STREAM NEAR HONOLULU
(LAT 21 17 35 LONG 157 48 25)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 19, 1973	1300	1.13	27.0
Jan. 15, 1974	1250	3.00	26.0
Mar. 5, 1974	1310	13.3	22.5
May 3, 1974	1400	1.81	29.0
June 20, 1974	0910	1.50	25.0
Aug. 2, 1974	1345	3.50	31.0
Sept.16, 1974	1320	.53	29.0

16254000 MAKAWAO STREAM NEAR KAILUA
(LAT 21 21 49 LONG 157 46 02)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 13, 1973	1515	1.29	22.0
Jan. 9, 1974	1500	8.94	21.0
Feb. 20, 1974	1445	4.48	20.5
Apr. 17, 1974	1330	3.28	21.5
May 29, 1974	1020	2.60	21.5
July 17, 1974	1350	1.88	23.0
Aug. 28, 1974	1350	1.42	23.5

16270500 KAMOOALII STREAM BELOW KUOU
STREAM, NEAR KANEOHE
(LAT 21 23 42 LONG 157 48 26)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 23, 1973	1015	4.48	22.0
Nov. 29, 1973	1005	28.2	22.0
Jan. 2, 1974	1330	8.46	21.5
Apr. 9, 1974	1140	8.80	23.0
May 29, 1974	1120	11.7	22.0
Aug. 30, 1973	0950	5.69	22.0
Sept. 25, 1974	1440	6.50	25.0

16273900 KAMOOALII STREAM AT KANEOHE
(LAT 21 24 51 LONG 157 48 13)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 29, 1973	1105	48.3	22.5
Jan. 2, 1974	1315	13.0	24.0
Feb. 28, 1974	1300	13.4	21.5
Apr. 9, 1974	1520	11.2	24.5
May 29, 1974	1420	45.2	22.0
July 11, 1974	1545	10.0	24.5
Sept.23, 1974	1320	10.2	28.0

16275000 HAIKU STREAM NEAR HEEIA
(LAT 21 24 46 LONG 157 49 33)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 14, 1973	1440	1.60	21.5
Jan. 3, 1974	1455	1.82	20.5
Feb. 26, 1974	1455	1.55	20.0
Apr. 10, 1974	0905	1.32	20.5
May 23, 1974	1525	1.66	22.0
July 10, 1974	1440	1.40	21.5
Sept. 9, 1974	1405	1.42	21.0

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16283600 SOUTH FORK WAIHEE
STREAM NEAR HEEIA
(LAT 21 26 47 LONG 157 52 12)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 9, 1973	1420	1.26	20.0
Nov. 15, 1973	1530	1.33	20.0
Jan. 11, 1974	1410	1.46	18.5
Feb. 15, 1974	1425	1.46	18.5
Apr. 12, 1974	1315	1.47	19.0
May 21, 1974	1440	1.90	20.0
July 24, 1974	1330	1.78	19.5
Sept. 6, 1974	1255	1.99	20.0

16283700 NORTH FORK WAIHEE
STREAM NEAR HEEIA
(LAT 21 26 48 LONG 157 52 18)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 9, 1973	1215	1.46	19.5
Nov. 15, 1973	1340	1.58	19.5
Jan. 11, 1974	1220	1.67	18.5
Feb. 15, 1974	1255	1.59	18.5
Apr. 12, 1974	1135	1.71	19.0
May 21, 1974	1215	1.86	19.0
July 24, 1974	1140	1.89	18.5
Sept. 6, 1974	1105	2.08	19.5

16284000 WAIHEE STREAM NEAR HEEIA
(LAT 21 27 01 LONG 157 51 38)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 21, 1973	1440	2.94	21.0
Jan. 11, 1974	1620	3.80	19.5
Feb. 15, 1974	1005	4.71	19.5
May 30, 1974	1545	5.85	21.0
July 10, 1974	1110	4.37	20.5
Sept. 6, 1974	1450	4.41	21.5

16294900 WAIKANE STREAM AT ALTITUDE
75 FT (23 M), AT WAIKANE
(LAT 21 30 00 LONG 157 51 54)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 21, 1973	1130	7.48	22.0
Jan. 7, 1974	1510	10.5	20.5
Feb. 21, 1974	1115	4.22	20.0
Apr. 10, 1974	1455	3.13	21.5
May 23, 1974	1130	4.77	22.5
July 11, 1974	1235	2.97	21.5
Sept. 9, 1974	1020	2.66	23.0

16296500 KAHANA STREAM AT ALTITUDE
30 FT (9.1 M), NEAR KAHANA
(LAT 21 32 37 LONG 157 53 07)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 16, 1973	1215	26.7	22.0
Jan. 3, 1974	1210	25.0	20.5
Feb. 22, 1974	1320	18.2	20.5
Apr. 16, 1974	1235	26.2	22.0
May 20, 1974	1530	48.0	22.0
Sept.13, 1974	1440	22.0	23.0
Sept.30, 1974	1460	17.8	23.5

16302000 PUNALUU DITCH NEAR PUNALUU
(LAT 21 33 41 LONG 157 54 10)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 11, 1973	1035	3.54	20.5
Nov. 20, 1973	1100	3.37	21.0
Jan. 4, 1974	1345	.13	20.0
Feb. 27, 1974	1355	4.32	20.0
Apr. 11, 1974	1320	9.33	20.5
May 22, 1974	1425	3.07	21.5

16303000 PUNALUU STREAM NEAR PUNALUU
(LAT 21 33 33 LONG 157 54 06)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 11, 1973	1415	8.98	20.5
Nov. 20, 1973	1400	19.7	21.0
Jan. 4, 1974	1150	20.7	20.0
Feb. 27, 1974	1200	15.5	20.0
May 22, 1974	1205	21.0	21.5
July 18, 1974	1315	32.6	21.5
Sept.10, 1974	1310	16.8	22.0

16304200 KALUANUI STREAM NEAR PUNALUU
(LAT 21 35 22 LONG 157 54 38)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 3, 1973	1140	.69	23.0
Nov. 29, 1973	1350	5.42	22.5
Jan. 7, 1974	1115	23.2	18.5
Feb. 22, 1974	1030	.61	22.0
Apr. 16, 1974	1310	2.02	22.0
May 20, 1974	1140	19.5	21.5
July 23, 1974	1040	1.25	21.5
Sept.13, 1974	1005	.94	23.0

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16325000 KAMANANUI STREAM AT PUPUKEA MILITARY ROAD, NEAR MAUNAWAI
(LAT 21 37 25 LONG 158 01 04)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Oct. 16, 1973	1400	39.3	22.0
Dec. 5, 1973	1110	3.77	20.5
Jan. 30, 1974	1100	8.38	19.0
Mar. 22, 1974	1025	5.08	21.5
May 14, 1974	1550	49.1	20.5
July 1, 1974	1135	3.62	23.0
Aug. 8, 1974	1405	2.26	25.0
Sept.24, 1974	1150	.85	25.5

16330000 KAMANANUI STREAM AT MAUNAWAI
(LAT 21 38 20 LONG 158 03 27)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Oct. 11, 1973	1250	.59	24.5
Dec. 5, 1973	1400	4.73	22.0
Jan. 30, 1974	1545	14.1	19.5
Mar. 21, 1974	1420	10.2	22.5
May 20, 1974	1620	18.0	23.5
Sept.24, 1974	1510	.84	27.0

16343000 HELEMANO STREAM AT HALEIWA
(LAT 21 34 40 LONG 158 06 12)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Oct. 16, 1973	1140	1.11	22.0
Dec. 6, 1973	1430	.28	22.0
Jan. 29, 1974	1610	2.63	20.0
Mar. 21, 1974	1640	7.49	23.5
May 23, 1974	1500	12.5	24.5
July 1, 1974	1610	5.74	27.5
Aug. 6, 1974	1535	.09	24.0
Sept.30, 1974	1515	.04	24.5

16345000 OPAEULA STREAM NEAR WAHIAWA
(LAT 21 33 55 LONG 158 00 10)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Oct. 11, 1973	1030	1.04	23.0
Dec. 3, 1973	1430	7.22	21.0
Jan. 29, 1974	1040	3.81	18.0
May 23, 1974	0950	9.21	21.0
June 27, 1974	1345	15.1	25.0

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16400000 HALAWA STREAM NEAR HALAWA
(LAT 21 09 31 LONG 156 45 53)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Nov. 8, 1973	1045	6.20	21.5
Dec. 10, 1973	1345	35.4	17.5
Mar. 20, 1974	1030	22.0	19.5
May 15, 1974	1140	61.0	20.5
July 10, 1974	1000	5.50	22.0
Sept. 5, 1974	1025	7.71	22.5

16403900 KAWAINUI STREAM NEAR PELEKUNU
(LAT 21 07 59 LONG 156 52 38)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Nov. 13, 1973	1050	12.1	19.5
Jan. 22, 1974	1005	5.98	18.5
Mar. 26, 1974	1040	8.14	19.0
May 20, 1974	1215	18.7	20.0
July 16, 1974	1045	13.6	20.0
Sept.10, 1974	1015	1.41	21.5

16404000 PELEKUNU STREAM NEAR PELEKUNU
(LAT 21 08 11 LONG 156 52 43)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Nov. 13, 1973	1520	23.6	20.0
Jan. 22, 1974	1425	13.2	19.5
Mar. 28, 1974	0905	12.5	17.5
May 20, 1974	1510	31.5	21.0
July 16, 1974	1430	27.5	21.0
Sept.12, 1974	0835	3.08	21.5

16404200 PILIPILILAU STREAM NEAR PELEKUNU
(LAT 21 08 08 LONG 156 53 09)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Nov. 14, 1973	1205	.83	19.5
Jan. 23, 1974	1205	2.41	19.5
Mar. 27, 1974	1105	1.54	20.0
May 21, 1974	1005	1.16	20.5
July 17, 1974	1035	2.17	20.0
Sept.11, 1974	0930	.67	21.0

16405100 MOLOKAI TUNNEL AT EAST PORTAL
(LAT 21 08 38 LONG 156 55 16)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Nov. 7, 1973	1500	.91	19.5
Dec. 13, 1973	1515	.37	19.5

HAWAII, ISLAND OF MOLOKAI

16405300 MOLOKAI TUNNEL AT WEST PORTAL
(LAT 21 07 27 LONG 156 59 50)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Nov. 6, 1973	1450	2.63	18.5
Dec. 12, 1973	1105	4.35	18.0
Jan. 21, 1974	1245	2.57	18.5
Jan. 25, 1974	1635	2.30	18.5
Mar. 19, 1974	1510	2.26	18.0
May 14, 1974	1410	2.38	18.0
July 9, 1974	1405	2.32	18.5
Sept. 4, 1974	1525	2.32	18.5

164055 WAIKOLU STREAM AT ALTITUDE 900 FT (274 M), NEAR KALAUPAPA
(LAT 21 08 43 LONG 156 55 18)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Dec. 13, 1973	1325	2.59	19.0
Jan. 25, 1974	1425	4.04	18.5
Mar. 19, 1974	1315	4.04	18.5
July 9, 1974	1040	1.86	20.0
Sept. 4, 1974	1025	2.13	20.0

16408000 WAIKOLU STREAM BELOW PIPELINE CROSSING NEAR KALAUPAPA
(LAT 21 09 45 LONG 156 55 54)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Nov. 7, 1973	1105	4.39	20.0
Dec. 13, 1973	0955	8.05	19.5
Jan. 25, 1974	1100	10.4	19.5
Mar. 19, 1974	1045	13.9	19.5
May 14, 1974	1010	8.64	20.0
July 9, 1974	1050	6.02	21.0
Sept. 4, 1974	1120	6.30	21.0

16419500 PAPIO GULCH AT HALAWA
(LAT 21 08 55 LONG 156 44 16)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Dec. 10, 1973	1625	1.40	20.0
Jan. 27, 1974	1540	.59	20.0
Mar. 20, 1974	1350	.34	20.5
May 15, 1974	1515	36.7	20.5
Sept. 5, 1974	1625	.07	21.0

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16501000 PALIKEA STREAM BELOW DIVERSION, NEAR KIPAHULU
(LAT 20 41 03 LONG 156 04 10)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Oct. 4, 1973	1215	1.10	21.5
Nov. 20, 1973	1050	338	18.0
Jan. 9, 1974	1120	9.38	19.0
Mar. 6, 1974	1025	977	15.5
Apr. 24, 1974	1110	12.3	18.0
June 12, 1974	1110	.55	21.0

16508000 HANAWI STREAM NEAR NAHIKU
(LAT 20 48 37 LONG 156 07 00)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Oct. 3, 1973	1405	2.15	20.0
Nov. 19, 1973	1410	2.65	19.0
Jan. 8, 1974	1320	2.55	19.5
Mar. 5, 1974	1530	61.0	17.0
Apr. 25, 1974	1030	10.2	18.5
Aug. 9, 1974	0940	4.87	20.0

16512000 KOOLAU DITCH AT NAHIKU WEIR, NEAR NAHIKU
(LAT 20 48 56 LONG 156 07 15)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Oct. 3, 1973	1220	9.88	20.5
Mar. 5, 1974	1450	78.7	18.0
Apr. 23, 1974	1605	78.8	19.0
June 11, 1974	1345	24.3	19.5

16518000 WEST WAILUAIKI STREAM NEAR KEANAE
(LAT 20 49 16 LONG 156 08 37)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Oct. 3, 1973	0935	1.99	20.5
Nov. 19, 1973	1120	5.36	18.5
Jan. 8, 1974	1015	3.13	19.0
Mar. 5, 1974	1055	39.5	17.0
Apr. 23, 1974	1430	44.1	18.0
June 11, 1974	1225	5.17	20.5
Aug. 6, 1974	1130	3.87	21.0

16523000 KOOLAU DITCH NEAR KEANAE
(LAT 20 49 53 LONG 156 10 30)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (°C)
Oct. 5, 1973	1025	25.0	19.5
Nov. 21, 1973	0945	79.7	18.5
Jan. 10, 1974	1025	24.8	18.5
Mar. 7, 1974	0950	190	17.0
Apr. 23, 1974	1110	226	18.0
June 11, 1974	1015	65.3	19.5

HAWAII, ISLAND OF MAUI

16531000 KULA DIVERSION FROM HAIPUAENA STREAM NEAR OLINDA
(LAT 20 28 24 LONG 156 13 27)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 15, 1973	1055	.80	15.5
Dec. 3, 1973	1055	1.16	13.5
Mar. 8, 1974	1015	.87	12.0
Apr. 26, 1974	1030	.38	12.5
July 30, 1974	1200	.12	15.5

16538000 SPRECKELS DITCH AT HAIPUAENA WEIR, NEAR HUELO
(LAT 20 51 15 LONG 156 11 25)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Jan. 3, 1974	1205	3.82	19.5
Apr. 17, 1974	1240	94.3	19.0
June 5, 1974	1315	23.2	22.5
Aug. 12, 1974	1200	26.6	21.5

16541000 KOOLAU DITCH AT HAIPUAENA, NEAR HUELO
(LAT 20 51 17 LONG 156 11 19)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 9, 1973	1005	24.0	19.5
Nov. 23, 1973	1125	159	19.0
Feb. 28, 1974	1030	38.5	18.5
July 2, 1974	1135	38.6	20.5

16541500 MANUEL LUIS DITCH AT PŪOHOKAMOA GULCH NEAR HUELO
(LAT 20 51 48 LONG 156 10 49)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 23, 1973	1440	.74	21.0
Jan. 3, 1974	1400	.18	20.5
Feb. 28, 1974	1410	.49	20.5
Apr. 17, 1974	1450	4.13	21.0
Aug. 12, 1974	1510	.66	23.5

16570000 NAILIILIHAELE STREAM NEAR HUELO
(LAT 20 52 28 LONG 156 13 06)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 10, 1973	1110	3.10	20.5
Jan. 10, 1974	1330	5.18	19.5
Mar. 7, 1974	1420	33.0	18.5
June 13, 1974	1255	7.63	21.5

16587000 HONOPOU STREAM NEAR HUELO
(LAT 20 53 20 LONG 156 15 19)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 11, 1973	1240	.72	21.5
Nov. 30, 1973	0925	4.77	19.0
Jan. 4, 1974	0925	1.18	19.5
Mar. 1, 1974	0925	1.67	18.0
Apr. 18, 1974	1010	12.4	19.5
June 25, 1974	0930	.97	21.0
Aug. 13, 1974	1330	.67	23.0
Sept.25, 1974	0845	.18	21.5

16588000 WAILOA DITCH AT HONOPOU NEAR HUELO
(LAT 20 53 20 LONG 156 15 19)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Apr. 18, 1974	1305	204	19.0
June 14, 1974	1115	91.5	20.5
Aug. 13, 1974	1130	103	21.0

16589000 NEW HAMAKUA DITCH AT HONOPOU NEAR HUELO
(LAT 20 53 28 LONG 156 15 22)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 11, 1973	1525	153	20.5
Apr. 18, 1974	1450	31.8	19.0

16592000 LOWRIE AT HONOPOU GULCH, NEAR HUELO
(LAT 20 54 57 LONG 156 15 08)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 12, 1973	1250	5.83	24.5
Jan. 7, 1974	1130	9.32	20.0
Apr. 22, 1974	1415	79.0	19.5
July 3, 1974	1040	5.48	24.0
Aug. 14, 1974	1530	5.83	24.5

16594000 HAIKU DITCH AT HONOPOU GULCH NEAR KAILUA
(LAT 20 55 07 LONG 156 14 58)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 26, 1973	1345	75.4	20.5
Mar. 4, 1974	1010	2.40	21.5
Apr. 22, 1974	1135	94.7	19.5
Apr. 23, 1974	0900	96.4	19.0
Apr. 25, 1974	1545	8.27	22.5
May 28, 1974	0855	2.29	22.0
June 14, 1974	1535	1.82	24.0
July 1, 1974	1445	1.16	24.5

HAWAII, ISLAND OF MAUI

16599500 OPANA TUNNEL AT KAILIILI
(LAT 20 51 04 LONG 156 16 17)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 15, 1973	1435	.31	19.0
Dec. 3, 1973	1400	4.61	18.5
Mar. 8, 1974	1400	4.62	17.5
Apr. 26, 1974	1400	6.24	20.0
June 17, 1974	1450	.87	19.5

16620000 HONOKOHAU STREAM NEAR HONOKOHAU
(LAT 20 57 48 LONG 156 35 22)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 16, 1973	1135	17.4	20.0
Dec. 4, 1973	1200	16.1	19.5
Mar. 11, 1974	1140	13.2	19.5
June 19, 1974	1305	13.0	20.0
Aug. 15, 1974	1200	12.6	21.5

16638500 KAHOMA STREAM AT LAHAINA
(LAT 20 53 10 LONG 156 40 36)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Jan. 15, 1974	1205	14.0	22.0
Jan. 15, 1974	1445	7.42	22.0

HAWAII, ISLAND OF HAWAII

16700000 WAIAKEA STREAM NEAR MOUNTAIN VIEW
(LAT 19 38 30 LONG 155 10 28)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 26, 1973	0905	4.99	16.0
Nov. 27, 1973	0925	40.6	17.0
Dec. 26, 1973	0830	4.86	16.0
Jan. 28, 1974	0913	5.12	16.0
Feb. 25, 1974	0925	7.88	18.0
Mar. 25, 1974	1005	11.4	16.0
May 28, 1974	0955	14.7	18.0
June 25, 1974	1015	5.23	17.0
Aug. 26, 1974	1415	1.58	17.0
Sept.25, 1974	0900	.23	17.0

16701750 WAILUKU RIVER NEAR HUMUULA
(LAT 19 42 55 LONG 155 18 36)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Dec. 7, 1973	1235	3.36	13.0
Mar. 11, 1974	1220	3.44	14.0
Apr. 30, 1974	1120	1.22	17.0
June 4, 1974	1120	.50	16.0
July 8, 1974	1150	.02	15.0

16701800 WAILUKU RIVER NEAR KAUMANA
(LAT 19 43 15 LONG 155 16 08)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 18, 1973	1055	1.00	18.0
Dec. 4, 1973	1455	54.2	16.0
Jan. 16, 1974	1135	.47	16.5
Feb. 14, 1974	1055	7.59	14.0
Mar. 29, 1974	1140	3.08	17.5
Apr. 23, 1974	1030	83.2	17.0
June 25, 1974	0830	2.39	16.0
July 22, 1974	1040	.75	18.0
Sept.11, 1974	1025	.22	20.0

16704000 WAILUKU RIVER AT PIIHONUA
(LAT 19 42 58 LONG 155 09 13)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 17, 1973	1135	73.2	18.0
Jan. 15, 1974	1225	7.40	20.0
Feb. 28, 1974	1155	46.5	18.0
Apr. 2, 1974	1130	51.5	20.0
June 11, 1974	1030	74.5	17.0
July 31, 1974	1450	26.0	21.0
Sept.17, 1974	1240	2.40	23.0

16717000 HONOLII STREAM NEAR PAPAIKOU
(LAT 19 46 00 LONG 155 09 16)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 18, 1973	0930	29.5	17.0
Nov. 6, 1973	1040	20.3	18.0
Dec. 13, 1973	0935	31.3	17.0
Feb. 19, 1974	1345	22.8	19.0
Apr. 26, 1974	1300	41.8	19.0
June 10, 1974	1135	24.9	18.0
July 24, 1974	1135	19.8	19.0
Aug. 28, 1974	1120	13.8	20.0
Sept.30, 1974	1125	5.57	19.0

HAWAII, ISLAND OF HAWAII

16717800 POHAKUPUKA STREAM NEAR PAPAALOA
(LAT 19 57 20 LONG 155 11 20)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 16, 1973	1110	1.98	22.0
Nov. 9, 1973	1040	2.74	21.0
Dec. 14, 1973	1240	8.95	16.0
Feb. 1, 1974	1235	3.51	18.0
Mar. 20, 1974	1110	23.6	19.0
May 13, 1974	1435	9.06	16.0
June 12, 1974	1455	5.36	17.0
July 3, 1974	1120	2.10	21.0
Aug. 7, 1974	1045	2.06	20.0
Sept.12, 1974	1145	.76	20.0

16720000 KAWAINUI STREAM NEAR KAMUELA
(LAT 20 05 18 LONG 155 40 58)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 24, 1973	1135	4.41	15.0
Nov. 26, 1973	1210	12.6	13.0
Jan. 8, 1974	1235	25.2	13.0
Mar. 13, 1974	1130	5.93	14.0
Apr. 26, 1974	1250	1.38	17.0
June 13, 1974	1105	2.74	14.0
Aug. 15, 1974	1100	2.39	14.0

16720300 KAWAIKI STREAM NEAR KAMUELA
(LAT 20 05 13 LONG 155 40 59)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 24, 1973	1105	1.17	15.0
Nov. 26, 1973	1120	2.45	13.0
Jan. 8, 1974	1135	5.80	14.0
Mar. 13, 1973	1050	1.95	14.0
Apr. 26, 1974	1205	.55	16.0
June 13, 1974	1035	.95	14.0
Aug. 15, 1974	1020	.87	15.0

16720500 UPPER HAMAKUA DITCH BELOW
KAWAIKI STREAM, NEAR KAMUELA
(LAT 20 05 15 LONG 155 40 42)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 24, 1973	1020	4.46	15.0
Nov. 26, 1973	1030	4.43	13.0
Jan. 8, 1974	1045	10.8	13.0
Mar. 13, 1974	1000	1.08	14.0
Apr. 26, 1974	1125	1.41	16.0
June 13, 1974	0940	3.42	14.0
Aug. 15, 1974	0935	3.15	14.0

16724800 UPPER HAMAKUA DITCH ABOVE
ALAKAHI STREAM, NEAR KAMUELA
(LAT 20 04 31 LONG 155 40 26)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 24, 1973	0915	3.26	15.0
Nov. 26, 1973	1000	3.19	15.0
Jan. 8, 1974	0950	17.2	13.0
Jan. 11, 1974	1100	2.02	15.0
Mar. 13, 1974	0920	.15	14.0
Apr. 26, 1974	1030	.94	15.0
June 13, 1974	0855	2.41	14.0
Aug. 15, 1974	0855	2.00	14.0

16725000 ALAKAHI STREAM NEAR KAMUELA
(LAT 20 04 27 LONG 155 40 25)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 24, 1973	0845	3.54	15.0
Nov. 26, 1973	1040	5.03	14.5
Jan. 8, 1974	0925	24.9	13.0
Jan. 11, 1974	1035	3.66	15.0
Mar. 13, 1974	0845	1.38	14.0
Apr. 26, 1974	0955	2.27	15.0
June 13, 1974	0825	3.45	14.0
Aug. 15, 1974	0825	5.92	14.0

16756000 KOHAKOHAU STREAM NEAR KAMUELA
(LAT 20 02 38 LONG 155 41 10)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 26, 1973	1145	2.82	15.0
Jan. 11, 1974	1155	.55	15.0
Apr. 19, 1974	1418	8.06	16.5
May 23, 1974	1145	.45	15.5
July 12, 1974	0940	2.69	16.5
Sept. 5, 1974	1020	1.40	19.0

16758000 WAIKOLOA STREAM AT MARINE
DAM, NEAR KAMUELA
(LAT 20 02 48 LONG 155 39 58)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 12, 1973	1010	2.84	16.0
Nov. 26, 1973	1335	4.67	15.5
Jan. 11, 1974	1255	4.14	14.0
Mar. 13, 1974	1400	2.60	14.0
May 10, 1974	1130	24.0	15.0
May 23, 1974	1240	4.45	15.0
June 13, 1974	1245	3.81	15.0
Aug. 15, 1974	1255	3.29	15.0

HAWAII, ISLAND OF HAWAII

16759000 HAUANI GULCH NEAR KAMUELA
(LAT 20 02 28 LONG 155 39 05)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 25, 1973	1100	.16	16.0
Nov. 29, 1973	1110	.74	16.0
Jan. 25, 1974	1105	.27	15.0
Mar. 15, 1974	1115	.06	18.0
May 10, 1974	1030	3.14	15.0
May 23, 1974	1355	.41	16.0
July 12, 1974	1155	.18	18.0
Sept. 5, 1974	1230	.22	18.0

16759200 RIGHT BRANCH WAIAHA STREAM
NEAR HOLUALOA
(LAT 19 38 41 LONG 155 54 55)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Mar. 14, 1974	1250	.01	17.0
May 21, 1974	1315	.02	18.5
July 11, 1974	1150	.06	16.0
Sept. 4, 1974	0855	.86	18.0

16759800 KIILAE STREAM NEAR HONAUNAU
(LAT 19 24 52 LONG 155 50 56)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Mar. 14, 1974	1030	.15	17.0
May 21, 1974	1025	.07	17.0
July 11, 1974	0920	.05	16.0
Sept. 4, 1974	1245	.06	19.0

16764000 HILEA GULCH TRIBUTARY NEAR HONUAPO
(LAT 19 10 27 LONG 155 35 58)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 3, 1973	1200	1.16	17.0
Nov. 7, 1973	1130	.17	16.5
Nov. 21, 1973	1135	6.90	16.0
Dec. 19, 1973	1105	.19	16.0
Jan. 23, 1974	1230	.13	15.0
Mar. 13, 1974	1155	3.60	17.0
May 8, 1974	1150	.62	15.0
June 4, 1974	1055	4.22	16.0
July 10, 1974	1210	.59	16.0
Sept. 3, 1974	1135	1.38	18.0

16765000 HILEA GULCH TRIBUTARY NO. 2
NEAR HONUAPO
(LAT 19 10 17 LONG 155 36 05)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 3, 1973	1230	.01	18.0
Nov. 21, 1973	1105	2.21	15.5
June 4, 1974	1245	1.23	16.0
Sept. 3, 1974	1215	.02	18.0

16767000 NINOLE GULCH NEAR PUNALUU
(LAT 19 10 44 LONG 155 33 46)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 21, 1973	1305	.15	21.0
June 4, 1974	1335	.01	17.0

MARIANA ISLANDS, ISLAND OF SAIPAN

16801000 SOUTH FORK TALOFOFO RIVER
(LAT 15 12 58 N. LONG 145 46 31 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 12, 1973	0950	.25	26.0
Nov. 9, 1973	0830	.38	25.0
Nov. 23, 1973	1150	.26	25.0
Dec. 7, 1973	1010	.13	26.0
Dec. 21, 1973	1000	.12	26.0
Jan. 4, 1974	1435	.09	27.0
Jan. 14, 1974	1525	.16	24.0
Jan. 18, 1974	1005	.13	24.0
Feb. 1, 1974	0955	.09	25.0
Mar. 1, 1974	1440	.04	25.0
Mar. 21, 1974	1035	.10	23.0
Apr. 8, 1974	0930	.08	25.0
May 10, 1974	1040	.43	25.0
July 25, 1974	1130	.50	25.0

16801500 MIDDLE FORK TALOFOFO STREAM
(LAT 15 13 05 N. LONG 145 46 36 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 12, 1973	0900	.22	25.0
Oct. 27, 1973	1310	.33	25.0
Nov. 9, 1973	0940	.23	25.0
Nov. 23, 1973	1355	.21	25.0
Dec. 7, 1973	0930	.14	26.0
Dec. 21, 1973	0900	.17	26.0
Jan. 4, 1974	1400	.16	26.0
Jan. 18, 1974	0925	.15	24.0
Feb. 1, 1974	1055	.20	25.0
Feb. 15, 1974	0940	.22	25.0
Mar. 1, 1974	1345	.14	25.0
Mar. 21, 1974	0945	.12	25.0
Apr. 8, 1974	1020	.12	25.0
July 25, 1974	1040	.21	25.0

MARIANA ISLANDS, ISLAND OF GUAM

16808300 FINILE CREEK AT AGAT
(LAT 13 22 39 N. LONG 144 39 26 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Feb. 8, 1974	1450	.46	26.0
Apr. 8, 1974	1205	.41	25.0
June 6, 1974	1035	.97	25.0
July 10, 1974	1040	1.70	27.0
Sept.18, 1974	1035	1.32	27.5

16816000 UMATAC RIVER AT UMATAC
(LAT 13 17 48 N. LONG 144 39 46 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Dec. 5, 1973	1600	4.42	27.0
Feb. 1, 1974	1535	1.41	25.0
Mar. 1, 1974	1535	.71	25.0
Apr. 1, 1974	1505	2.10	26.0
June 11, 1974	1545	7.61	25.0
Sept.18, 1974	1341	3.06	27.0

16821000 GEUS RIVER NEAR MERIZO
(LAT 13 16 13 N. LONG 144 40 38 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Dec. 5, 1973	1425	.83	27.0
Dec. 18, 1973	1440	.36	28.0
Dec. 26, 1973	1610	.90	28.0
Jan. 2, 1974	1440	.29	24.0
Jan. 9, 1974	1530	.38	26.0
Feb. 5, 1974	1525	.04	26.0
Feb. 20, 1974	1530	.13	25.0
Mar. 8, 1974	1500	.49	26.5
Mar. 13, 1974	1510	6.69	25.0
Mar. 15, 1974	1130	84.2	26.0
Mar. 15, 1974	1130	63.9	26.0
Mar. 27, 1974	1600	.53	26.0
Apr. 3, 1974	1445	.10	26.0
Apr. 10, 1974	1630	.12	26.0
June 20, 1974	1545	2.06	26.0
Sept.18, 1974	1730	1.10	26.5

16835000 INARAJAN RIVER NEAR INARAJAN
(LAT 13 16 41 N. LONG 144 44 15 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Dec. 6, 1973	1515	7.16	27.0
Jan. 7, 1974	1420	7.37	26.0
Feb. 5, 1974	1355	4.19	26.0
Mar. 8, 1974	1340	6.53	26.0
Apr. 8, 1974	1615	3.89	26.0
June 5, 1974	1530	11.8	26.0
Aug. 8, 1974	1420	8.25	27.0
Sept.17, 1974	1250	12.2	27.5

16840000 TINAGA RIVER NEAR INARAJAN
(LAT 13 17 10 N. LONG 144 45 04 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Dec. 6, 1973	----	2.88	28.0
Jan. 7, 1974	----	3.78	26.0
Feb. 5, 1974	----	1.30	26.0
Mar. 8, 1974	----	1.46	26.0
Apr. 8, 1974	----	1.28	26.0
June 5, 1974	1425	5.56	27.0
July 11, 1974	1240	4.32	27.0
Aug. 8, 1974	1240	3.17	27.0
Sept.17, 1974	1435	3.82	27.0

16847000 IMONG RIVER NEAR AGAT
(LAT 13 20 17 N. LONG 144 41 55 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Jan. 4, 1974	1320	4.07	26.0
Feb. 7, 1974	1430	2.72	27.0
Mar. 6, 1974	1400	1.92	26.0
July 9, 1974	1415	8.29	26.0
Sept.13, 1974	1345	6.67	27.0

16848000 ALMAGOSA SPRINGS NEAR AGAT
(LAT 13 20 43 N. LONG 144 40 45 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Feb. 6, 1974	1220	.55	25.0
Mar. 4, 1974	1115	.48	24.0

16848100 ALMAGOSA RIVER NEAR AGAT
(LAT 13 20 43 N. LONG 144 41 36 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Jan. 4, 1974	1150	2.24	24.0
Feb. 7, 1974	1315	.99	26.0
Mar. 6, 1974	1210	1.08	27.0
June 7, 1974	1305	3.48	26.0
July 9, 1974	1310	10.7	26.0
Sept.13, 1974	1225	4.28	26.0

MARIANA ISLANDS, ISLAND OF GUAM

16848500 MAULAP RIVER NEAR AGAT
(LAT 13 21 14 N. LONG 144 41 44 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Jan. 4, 1974	1030	2.28	24.0
Feb. 7, 1974	1130	1.37	25.0
Mar. 6, 1974	1055	1.03	24.5
June 7, 1974	1135	3.47	26.0
Sept.13, 1974	1002	3.04	25.0

16858000 YLIG RIVER NEAR YONA
(LAT 13 23 28 N. LONG 144 45 06 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Dec. 5, 1973	1517	13.5	27.0
Jan. 3, 1974	1400	12.4	26.0
Feb. 1, 1974	1045	5.79	25.0
Feb. 13, 1974	1030	12.5	25.0
Mar. 1, 1974	1210	3.58	26.0
Apr. 1, 1974	1200	8.29	26.0
Sept.19, 1974	1305	13.3	26.5

16865000 PAGO RIVER NEAR ORDOT
(LAT 13 26 08 N. LONG 144 45 14 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Jan. 8, 1974	1230	12.8	26.0
Feb. 8, 1974	1210	4.33	25.0
Mar. 7, 1974	1400	2.60	25.0
Apr. 4, 1974	1545	5.47	26.0
June 10, 1974	1110	16.8	26.0
Sept.19, 1974	1557	8.36	27.0

CAROLINE ISLANDS, PALAU ISLANDS

16890600 ADEIDDO RIVER, BABELTHUAP
(LAT 7 36 01 N. LONG 134 35 38 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 23, 1973	1200	49.2	26.0
Dec. 13, 1973	1310	19.5	25.0
Jan. 24, 1974	1216	44.0	25.5
Feb. 28, 1974	1310	17.0	26.0
Apr. 10, 1974	1150	18.9	25.5
May 1, 1974	1450	61.1	25.5
July 3, 1974	1150	61.4	24.5
Aug. 1, 1974	1130	40.8	25.0

16890900 TABAGATEN RIVER, BABELTHUAP
(LAT 7 27 00 N. LONG 134 32 05 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 13, 1973	1005	40.6	25.5
Nov. 2, 1973	0953	20.0	25.5
Nov. 23, 1973	0816	48.4	25.0
Dec. 13, 1973	0957	12.6	24.0
Jan. 24, 1974	0901	51.2	25.5
Feb. 28, 1974	0958	20.3	26.0
Apr. 10, 1974	0830	31.2	25.0
May 1, 1974	1736	33.0	25.5
Aug. 30, 1974	0820	24.1	24.5
Sept.27, 1974	1438	34.1	25.0

16891200 GIHMEL RIVER, BABELTHUAP
(LAT 7 21 59 N. LONG 134 32 06 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 31, 1973	1003	1.49	29.0
Nov. 19, 1973	1125	6.06	28.0
Jan. 25, 1974	1315	3.90	29.0
Mar. 1, 1974	1312	.19	32.0
Apr. 11, 1974	1044	.55	29.5
May 3, 1974	1343	.29	35.0
July 16, 1974	1530	3.63	29.0
Aug. 12, 1974	1418	5.79	26.0
Sept.24, 1974	1228	.42	29.5

16891300 GADEN RIVER, BABELTHUAP
(LAT 7 22 57 N. LONG 134 33 40 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 10, 1973	1056	42.0	25.5
Oct. 31, 1973	1202	18.3	25.5
Nov. 19, 1973	1347	54.8	25.5
Dec. 18, 1973	1448	9.30	25.0
Jan. 25, 1974	1055	33.0	25.5
Mar. 1, 1974	1053	12.3	26.0
Apr. 16, 1974	1115	23.2	25.5
May 3, 1974	1103	23.8	25.0
June 19, 1974	1102	14.9	25.0
July 16, 1974	1338	30.9	25.0
July 31, 1974	1500	19.7	26.0
Aug. 16, 1974	1055	27.1	25.0
Sept.24, 1974	1509	13.6	25.0

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)

CAROLINE ISLANDS, PALAU ISLANDS

16891400 SOUTH FORK NGARDOK RIVER, BABELTHUAP
(LAT 7 26 15 N. LONG 134 35 03 E.)

Nov. 1, 1973	1105	8.03	25.5
Nov. 21, 1973	0835	25.3	25.5
Dec. 14, 1974	1115	11.9	25.5
Jan. 23, 1974	1115	22.8	25.5
Feb. 27, 1974	1100	7.51	26.0
Apr. 9, 1974	0908	12.2	25.5
Apr. 29, 1974	1114	13.0	25.5
May 17, 1974	1230	11.5	27.0
July 8, 1974	1051	15.8	25.0
Aug. 29, 1974	1257	8.81	26.5

CAROLINE ISLANDS, YAP ISLANDS

16892400 ARINGEL STREAM, YAP
(LAT 9 31 01 N. LONG 138 05 11 E.)

Oct. 19, 1973	----	.10	27.0
Dec. 26, 1973	----	.47	26.5
July 14, 1974	1516	.25	25.5
July 30, 1974	1435	.71	26.5
Sept.13, 1974	1400	.26	26.5

16892800 DALOLAB STREAM, YAP
(LAT 9 31 04 N. LONG 138 06 04 E.)

Oct. 16, 1973	----	.25	27.0
July 11, 1974	1456	.08	26.0
July 30, 1974	1015	.31	25.5

16892900 PEMGOY STREAM, YAP
(LAT 9 31 07 N. LONG 138 06 18 E.)

Nov. 20, 1973	1435	.73	28.0
Mar. 11, 1974	1005	.01	25.5
Apr. 5, 1974	1206	.08	26.5
July 11, 1974	1709	.20	25.5
July 30, 1974	1240	.52	25.5
Sept.11, 1974	1557	.05	25.5

16893000 TALAGU STREAM, YAP
(LAT 9 31 08 N. LONG 138 06 13 E.)

July 11, 1974	1626	.13	25.5
July 30, 1974	1138	.29	25.5
Sept.11, 1974	1502	.02	25.5

16893100 BURONG STREAM, YAP
(LAT 9 31 59 N. LONG 138 07 05 E.)

Nov. 19, 1973	1025	5.93	26.0
Dec. 28, 1973	1500	.11	26.0
July 11, 1974	1028	.50	25.5
July 30, 1974	1635	.60	26.0
Sept.21, 1974	1510	.24	27.0

16893300 BILEIY SPRING, GAGIL-TOMIL
(LAT 9 32 19 N. LONG 138 10 59 E.)

Oct. 3, 1973	----	.31	26.0
Mar. 7, 1974	----	.01	27.5
July 10, 1974	----	.11	27.0
July 29, 1974	----	.24	26.0
Aug. 16, 1974	1512	.45	27.0
Sept.12, 1974	1506	.06	27.0

CAROLINE ISLANDS, TRUK ISLANDS

16893700 WICHEN RIVER AT ALTITUDE 55 M, MOEN
(LAT 7 26 45 N. LONG 151 52 02 E.)

May 20, 1974	1450	.71	28.0
June 5, 1974	1408	.73	27.0
June 19, 1974	1221	.28	27.5

16893800 WICHEN RIVER AT ALTITUDE 18 M, MOEN
(LAT 7 27 05 N. LONG 151 52 18 E.)

May 7, 1974	1150	.48	28.0
May 14, 1974	1005	.44	27.5
May 21, 1974	0945	2.87	28.0
June 5, 1974	1505	.43	28.0
June 19, 1974	1328	.46	29.0

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)

CAROLINE ISLANDS, TRUK ISLANDS

16894200 NACHIPONONG STREAM, MOEN
(LAT 7 25 45 N. LONG 151 51 31 E.)

May 6, 1974	1424	.12	29.0
May 20, 1974	1120	.90	28.0
June 19, 1974	0936	.37	29.0

16895000 ECHAPACHIK STREAM, TOL
(LAT 7 20 57 N. LONG 151 37 26 E.)

Apr. 25, 1974	----	3.72	25.0
May 6, 1974	----	.08	27.0
May 23, 1974	----	.56	34.0
June 6, 1974	----	.40	28.5
June 24, 1974	----	.14	30.0

16896800 CHUN STREAM, DUBLON ISLAND
(LAT 7 22 36 N. LONG 151 52 13 E.)

Apr. 26, 1974	1300	.64	27.0
May 10, 1974	1230	.19	28.0
June 12, 1974	1406	.50	29.0
June 18, 1974	1224	.38	27.0
July 10, 1974	1155	1.14	25.0

16897200 TUMUNU STREAM, DUBLON ISLAND
(LAT 7 22 42 N. LONG 151 52 51 E.)

May 10, 1974	1045	.22	27.0
May 24, 1974	1230	.97	31.5
June 18, 1974	1050	.89	28.5
July 10, 1974	1020	.92	26.0

CAROLINE ISLANDS, ISLAND OF PONAPE

16897600 NANEPIL RIVER
(LAT 6 55 11 N. LONG 158 12 36 E.)

Feb. 13, 1974	1040	15.6	23.0
Feb. 28, 1974	1120	12.2	24.0
Mar. 21, 1974	1020	10.8	25.0
Apr. 3, 1974	1130	69.4	24.0
Apr. 18, 1974	1000	19.7	23.0
May 1, 1974	1100	32.8	24.0
May 15, 1974	1030	29.3	24.0
June 25, 1974	1210	16.6	24.0
July 9, 1974	1110	12.6	23.0
July 24, 1974	1100	33.5	24.0
Aug. 7, 1974	1110	27.6	26.0
Aug. 21, 1974	1035	10.8	23.0

16897900 LUI RIVER
(LAT 6 55 36 N. LONG 158 12 55 E.)

Jan. 25, 1974	1447	1.39	24.5
Feb. 13, 1974	1250	2.56	25.0
Feb. 28, 1974	1320	2.27	24.5
Mar. 21, 1974	1210	1.55	25.0
Apr. 3, 1974	1320	5.06	25.0
Apr. 18, 1974	1145	2.54	25.0
May 1, 1974	1255	2.55	25.0
May 15, 1974	1230	3.99	25.0
June 25, 1974	1500	12.0	24.0
July 9, 1974	1320	3.66	23.0
July 24, 1974	1255	5.60	24.0
Aug. 7, 1974	1310	3.39	25.0
Aug. 21, 1974	1310	1.29	26.0

16898200 LUI RIVER AT MOUTH
(LAT 6 57 07 N. LONG 158 13 16 E.)

Feb. 12, 1974	1100	35.2	25.0
Mar. 1, 1974	0930	14.2	25.0
Mar. 22, 1974	1030	19.4	24.5
Apr. 2, 1974	1430	30.4	25.0
Apr. 22, 1974	1400	24.5	26.0
Apr. 30, 1974	1430	47.9	26.0
May 16, 1974	1020	27.8	25.0
June 26, 1974	1110	18.8	24.0
July 15, 1974	1020	37.6	24.0
July 29, 1974	0950	12.4	25.0
Aug. 12, 1974	1120	33.7	25.0
Aug. 20, 1974	1350	11.8	26.0
Aug. 29, 1974	0858	9.33	24.5
Sept. 9, 1974	1410	8.41	25.0

CAROLINE ISLANDS, ISLAND OF PONAPE

16898300 TAWANNU RIVER
(LAT 6 56 57 N. LONG 158 12 50 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Feb. 26, 1974	1505	18.3	25.0
Mar. 19, 1974	1100	5.85	26.0
Apr. 2, 1974	1545	8.27	25.0
Apr. 22, 1974	1540	7.84	25.0
Apr. 30, 1974	1550	11.6	26.0
May 16, 1974	0930	6.94	25.0
June 28, 1974	1000	7.03	25.0
July 8, 1974	1420	7.78	24.0
July 23, 1974	1420	12.3	26.0
Aug. 6, 1974	1040	7.20	26.5
Aug. 20, 1974	0950	3.71	25.0
Sept. 9, 1974	1050	1.07	25.0

16898600 LUPWOR RIVER
(LAT 6 54 15 N. LONG 158 09 45 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Jan. 26, 1974	1200	2.01	24.5
Feb. 14, 1974	1005	3.51	26.0
Feb. 26, 1974	1055	3.56	25.0
Mar. 20, 1974	1015	4.13	26.0
Apr. 4, 1974	1150	5.17	26.0
Apr. 19, 1974	1050	4.76	26.0
May 3, 1974	1045	4.55	26.0
May 5, 1974	1100	2.58	25.0
May 21, 1974	0950	2.96	26.0
June 27, 1974	1135	5.26	24.0
July 10, 1974	1000	4.77	24.0
July 25, 1974	1330	4.99	27.0
Aug. 15, 1974	1200	5.79	26.0
Aug. 22, 1974	1050	3.55	25.0

CAROLINE ISLANDS, ISLAND OF KUSAIE

16899500 MUTUNTE RIVER
(LAT 5 22 25 N. LONG 163 00 24 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 11, 1973	----	4.78	25.0
Oct. 26, 1973	----	3.39	25.0
May 20, 1974	0945	3.63	25.0
June 24, 1974	1120	6.52	26.0
July 8, 1974	1035	3.11	25.0
Aug. 12, 1974	1050	3.90	25.0
Sept. 9, 1974	1215	2.27	26.0
Sept.25, 1974	1325	9.52	26.0

16899600 OKAT RIVER
(LAT 5 20 32 N. LONG 162 59 30 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 18, 1973	----	19.2	25.0
Nov. 13, 1973	----	14.6	26.0
Nov. 29, 1973	----	13.0	25.0
Jan. 8, 1974	----	15.5	26.0
Feb. 5, 1974	----	4.15	25.5
Feb. 12, 1974	----	14.2	25.5
Feb. 20, 1974	----	4.51	26.5
Mar. 6, 1974	----	17.4	25.0
Mar. 27, 1974	----	8.18	26.0
Apr. 24, 1974	----	185	26.0
May 6, 1974	----	14.9	26.0
June 26, 1974	----	8.07	26.0
July 9, 1974	----	13.8	25.0
Aug. 6, 1974	----	10.5	26.0
Sept. 5, 1974	----	12.8	24.0
Sept.19, 1974	1620	16.1	24.5

16899750 MALEM RIVER
(LAT 5 18 21 N. LONG 163 01 46 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 25, 1973	----	8.40	25.0
Nov. 5, 1973	----	7.53	25.0
Nov. 19, 1973	----	2.66	25.0
Dec. 3, 1973	----	1.44	27.0
Dec. 17, 1973	----	2.96	25.0
Jan. 7, 1974	----	11.1	26.0
Jan. 21, 1974	----	4.04	25.0
Feb. 19, 1974	----	1.56	27.0
Mar. 8, 1974	----	102	26.0
Mar. 18, 1974	----	5.79	25.0
Mar. 28, 1974	----	3.22	25.0
Apr. 9, 1974	----	3.34	25.0
Apr. 22, 1974	----	8.46	26.0
May 8, 1974	----	29.8	26.0
July 1, 1974	----	6.48	25.0
July 23, 1974	----	3.48	26.0
Aug. 7, 1974	----	1.24	25.0
Aug. 21, 1974	----	4.88	27.0

CAROLINE ISLANDS, ISLAND OF KUSAIE

16899800 TOFOL RIVER
(LAT 5 19 53 N. LONG 163 01 25 E.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 3, 1973	----	2.95	26.0
Oct. 30, 1973	----	5.46	25.0
Nov. 12, 1973	----	4.67	25.0
Nov. 26, 1973	----	4.80	25.0
Dec. 10, 1973	----	6.27	25.0
Jan. 14, 1974	----	3.03	24.0
Jan. 31, 1974	----	2.67	25.0
Feb. 11, 1974	----	14.5	25.0
Feb. 11, 1974	----	13.8	25.0
Feb. 19, 1974	----	1.49	26.0
Mar. 8, 1974	----	20.9	26.0
Mar. 8, 1974	----	89.6	26.0
Mar. 19, 1974	----	3.27	25.0
Apr. 2, 1974	----	5.62	25.0
Apr. 9, 1974	----	3.46	25.0
Apr. 23, 1974	----	5.21	26.0
May 6, 1974	----	3.33	25.0
May 20, 1974	----	3.97	25.0
July 1, 1974	----	5.47	25.0
Aug. 13, 1974	----	7.24	25.0
Sept. 6, 1974	1310	2.71	26.0
Sept.18, 1974	1237	11.4	24.0

SAMOA ISLANDS, ISLAND OF TUTUILA

16912000 PAGO STREAM AT AFONO
(LAT 14 16 03 S. LONG 170 39 02 W.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 14, 1973	0905	2.33	25.0
Jan. 28, 1974	0940	.84	25.0
Mar. 2, 1974	0930	4.15	25.0
June 18, 1974	0845	.56	25.0
Aug. 21, 1974	0900	.33	25.0
Aug. 21, 1974	0925	.33	25.0
Sept.13, 1974	0930	.29	25.0

16917500 LEELE STREAM AT MOUTH, AT FAGASA
(LAT 14 17 28 S. LONG 170 43 09 W.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 7, 1973	1125	6.15	25.0
Dec. 11, 1973	0905	.78	25.0
Jan. 15, 1974	----	1.35	26.0
Mar. 27, 1974	1205	31.0	25.0
Apr. 26, 1974	0955	.23	26.0
May 30, 1974	1000	.15	25.5
Aug. 12, 1974	0915	.08	24.5
Sept.10, 1974	0940	.04	26.0
Sept.12, 1974	1300	.04	28.0
Sept.25, 1974	1145	.06	27.0

16920500 AASU STREAM AT AASU
(LAT 14 17 51 S. LONG 170 45 30 W.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Jan. 18, 1974	1120	4.96	25.0
Apr. 5, 1974	----	4.09	25.5
June 21, 1974	0925	.90	25.0
Aug. 14, 1974	1055	.73	25.0

16931000 ATAULOMA STREAM AT AFAO
(LAT 1 20 10 S. LONG 170 48 02 W.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Oct. 17, 1973	0810	.43	25.0
Nov. 21, 1973	1310	1.28	26.0
Feb. 1, 1974	1110	.90	26.0
Mar. 6, 1974	1035	.39	27.0
Apr. 11, 1974	0940	.20	25.5
May 28, 1974	0955	.27	25.5
July 25, 1974	1005	.14	24.5
Aug. 26, 1974	0925	.14	25.0
Aug. 30, 1974	1115	.13	27.5
Sept.11, 1974	0940	.13	25.0
Sept.25, 1974	0940	.09	26.0

16944200 PAPA STREAM AT NUUULI
(LAT 14 18 48 S. LONG 170 42 33 W.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 28, 1973	0950	.62	26.0
Feb. 5, 1974	1025	2.82	25.0
Mar. 8, 1974	1315	.77	27.0
Apr. 24, 1974	1000	.88	26.0
May 29, 1974	1000	1.99	25.5
July 8, 1974	0945	1.06	25.5
Sept.11, 1974	1100	.29	25.0
Sept.12, 1974	0915	.17	25.0
Sept.20, 1974	1010	.10	25.0

SAMOA ISLANDS, ISLAND OF TUTUILA

16948000 AFUELO STREAM AT MATUU
(LAT 14 18 07 S. LONG 170 41 07 W.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 26, 1973	0835	.37	25.5
Jan. 7, 1974	1030	.34	26.0
Apr. 10, 1974	1000	.21	25.5
May 16, 1974	1005	.17	24.5
June 26, 1974	1000	.96	25.0
July 30, 1974	1410	.06	24.5
July 30, 1974	1425	.05	24.5
Sept. 6, 1974	0935	.05	25.0
Sept.25, 1974	1330	.04	26.0

16960000 ALEGA STREAM AT ALEGA
(LAT 14 16 58 S. LONG 170 38 19 W.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 9, 1973	0950	4.49	25.0
Nov. 9, 1973	1020	4.30	25.0
Nov. 9, 1973	1125	3.87	25.0
Dec. 14, 1973	1005	1.18	25.5
Jan. 17, 1974	0925	.48	25.0
Mar. 29, 1974	1045	2.54	24.0
May 3, 1974	1030	1.19	25.5
June 5, 1974	0900	.33	25.0
July 9, 1974	----	.29	25.0
Aug. 13, 1974	1100	.16	24.0
Sept.16, 1974	0925	.22	25.0
Sept.18, 1974	0930	.22	24.0
Sept.24, 1974	0900	.24	25.0
Sept.24, 1974	0940	.24	25.0

SAMOA ISLANDS, ISLAND OF TUTUILA

16963900 LEAFU STREAM NEAR AUASI
(LAT 14 16 27 S. LONG 170 34 26 W.)

DATE	TIME (24 HR)	DISCHARGE (CFS)	TEMP. (C)
Nov. 2, 1973	1010	.51	25.0
Nov. 6, 1973	1305	2.19	25.0
Dec. 4, 1974	0955	5.04	25.0
Dec. 4, 1974	1040	4.30	25.0
Feb. 15, 1974	1150	.12	25.0
Mar. 19, 1974	----	.08	25.0
Apr. 22, 1974	0940	.17	26.0
June 25, 1974	1000	.46	25.5
July 29, 1974	1120	.05	26.0
Aug. 27, 1974	1110	.02	25.0
Sept.10, 1974	1100	.03	26.0
Sept.18, 1974	1050	.04	27.0
Sept.24, 1974	1050	.03	26.0
Sept.26, 1974	----	.03	27.0
Sept.30, 1974	1320	.03	26.0

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
HAWAII, ISLAND OF KAUAI												
16019000 WAIALAE STREAM AT ALTITUDE 3,820 FT (1,164 M) NEAR WAIMEA (LAT 22°05'20" LONG 159°34'18")												
DEC., 1973												
13...	1055	11	14.0	4.9	1.1	.6	4.1	.3	4	0	3.4	6.9
FEB., 1974												
15...	0905	6.1	--	5.1	2.7	.6	3.9	.2	3	0	2.5	5.8
MAY												
06...	1000	4.4	16.5	6.5	1.2	.7	3.1	.4	4	--	3.1	6.6
16031000 WAIMEA RIVER NEAR WAIMEA (LAT 21°59'02" LONG 159°39'46")												
DEC., 1973												
11...	1150	400	18.0	10	2.6	2.5	4.6	.4	17	0	3.4	7.4
APR., 1974												
15...	1545	278	22.0	11	2.8	2.8	4.7	.5	20	--	4.0	5.5
16049000 HANAPEPE RIVER BELOW MANUAHI STREAM, NEAR ELEELE (LAT 21°57'29" LONG 159°33'13")												
DEC., 1973												
12...	1130	41	20.0	20	5.5	5.9	8.7	.6	46	0	3.2	12
APR., 1974												
16...	1245	235	20.5	10	2.6	2.8	5.6	.4	22	--	2.5	7.3
16052500 LAWAI STREAM NEAR KOLOA (LAT 21°54'11" LONG 159°30'21")												
DEC., 1973												
11...	1510	4.4	21.0	14	5.8	7.6	18	1.3	46	0	8.0	27
APR., 1974												
16...	1505	11	22.0	11	6.7	5.3	13	.9	35	--	7.0	19
16055000 HULEIA STREAM NEAR LIHUE (LAT 21°57'20" LONG 159°25'23")												
DEC., 1973												
12...	1430	126	22.0	12	5.0	5.1	10	1.0	33	0	5.1	17
APR., 1974												
30...	0915	35	23.5	12	5.5	5.9	12	.8	35	--	7.0	20
16060000 SOUTH FORK WAILUA RIVER NEAR LIHUE (LAT 22°02'24" LONG 159°22'58")												
DEC., 1973												
10...	1500	426	19.5	13	4.0	4.2	6.7	.6	31	0	2.9	11
APR., 1974												
25...	1245	234	21.0	12	3.4	3.8	6.8	.5	28	--	2.6	11
16068000 EAST BRANCH OF NORTH FORK WAILUA RIVER NEAR LIHUE (LAT 22°04'19" LONG 159°25'05")												
DEC., 1973												
10...	0915	88	20.0	13	3.0	4.0	7.3	1.0	28	0	2.5	12
APR., 1974												
25...	0955	79	20.0	12	2.6	3.2	7.2	.6	24	--	2.4	11
16071000 NORTH FORK WAILUA RIVER NEAR KAPAA (LAT 22°03'08" LONG 159°22'22")												
DEC., 1973												
10...	1315	433	18.0	13	3.8	4.2	6.3	.8	28	0	3.3	11
APR., 1974												
30...	1415	38	25.0	15	5.0	5.3	10	.8	39	--	3.6	17
16093200 ANAHOLA STREAM AT ANAHOLA (LAT 22°08'42" LONG 159°18'59")												
DEC., 1973												
05...	1500	54	24.0	12	3.8	4.5	11	.9	27	0	4.9	16
APR., 1974												
18...	1300	63	22.0	9.3	2.7	3.5	8.7	.5	22	--	5.8	13
16103000 HANALEI RIVER NEAR HANALEI (LAT 22°11'31" LONG 159°27'57")												
DEC., 1973												
05...	1100	208	21.0	18	5.2	5.1	6.0	.7	42	0	2.1	8.5
APR., 1974												
17...	1200	413	21.0	15	3.8	4.2	6.1	.4	32	--	2.1	8.3
16108000 WAINIHA RIVER NEAR HANALEI (LAT 22°08'20" LONG 159°33'38")												
NOV., 1973												
16...	0905	100	19.0	13	2.8	1.9	4.1	1.8	22	0	2.0	5.1
MAY , 1974												
06...	1300	60	19.5	19	4.0	3.1	4.6	.5	31	--	2.4	5.7
AUG.												
13...	1200	76	22.0	15	4.0	2.6	4.0	.4	25	--	1.6	4.7

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)
HAWAII, ISLAND OF KAUAI--Continued												
16019000 WAIALAE STREAM AT ALTITUDE 3,820 FT (1,164 M) NEAR WAIMEA--Continued												
DEC., 1973 13...	.0	.03	.00	180	0	24	5	2	27	6.0	20	1
FEB., 1974 15...	.1	.00	.01	170	0	23	9	7	25	6.2	70	1
MAY 06...	.2	.03	.02	200	0	24	6	3	26	6.4	40	1
16031000 WAIMEA RIVER NEAR WAIMEA--Continued												
DEC., 1973 11...	.1	.11	.04	140	0	40	17	3	53	7.1	90	3
APR., 1974 15...	.3	.01	.02	200	0	42	19	2	75	6.6	50	2
16049000 HANAPEPE RIVER BELOW MANUAHI STREAM, NEAR ELEELE--Continued												
DEC., 1973 12...	.1	.03	.06	40	0	79	38	0	115	7.7	10	1
APR., 1974 16...	.2	.01	.02	60	20	42	18	0	90	8.2	20	10
16052500 LAWAI STREAM NEAR KOLOA--Continued												
DEC., 1973 11...	.2	.21	.04	110	0	106	46	8	182	7.3	20	4
APR., 1974 16...	.2	.06	.03	200	0	81	39	10	170	7.7	50	20
16055000 HULEIA STREAM NEAR LIHUE--Continued												
DEC., 1973 12...	.2	.44	.02	100	0	74	33	6	123	7.2	20	30
APR., 1974 30...	.0	.77	.00	230	40	84	38	9	190	6.9	8	2
16060000 SOUTH FORK WAILUA RIVER NEAR LIHUE--Continued												
DEC., 1973 10...	.1	.02	.06	100	10	58	27	2	89	7.4	10	3
APR., 1974 25...	.0	.01	.00	130	0	54	24	1	120	8.1	9	2
16068000 EAST BRANCH OF NORTH FORK WAILUA RIVER NEAR LIHUE--Continued												
DEC., 1973 10...	.0	.01	.05	60	0	57	24	1	88	7.3	10	8
APR., 1974 25...	.0	.03	.00	170	10	51	20	0	125	7.6	8	2
16071000 NORTH FORK WAILUA RIVER NEAR KAPAA--Continued												
DEC., 1973 10...	.1	.02	.03	80	0	57	27	4	85	7.3	20	8
APR., 1974 30...	.0	.08	.01	200	10	77	34	2	165	7.3	9	1
16093200 ANAHOLA STREAM AT ANAHOLA--Continued												
DEC., 1973 05...	.1	.06	.03	50	0	67	28	6	111	7.4	10	2
APR., 1974 18...	.0	.02	.01	140	20	55	21	3	120	7.6	30	7
16103000 HANALEI RIVER NEAR HANALEI--Continued												
DEC., 1973 05...	.1	.01	.04	50	0	67	34	0	93	7.8	5	1
APR., 1974 17...	.0	.02	.00	80	0	56	27	1	110	7.5	10	3
16108000 WAINIHA RIVER NEAR HANALEI--Continued												
NOV., 1973 16...	.0	.02	1.0	50	0	45	15	0	48	7.0	20	1
MAY , 1974 06...	.1	.03	.03	20	0	55	23	0	100	6.6	3	2
AUG. 13...	.0	.12	.01	50	0	45	21	0	65	6.7	7	0

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
HAWAII, ISLAND OF OAHU												
16200000 NORTH FORK KAUKONAHUA STREAM ABOVE RIGHT BRANCH, NEAR WAHIAWA (LAT 21°31'09" LONG 157°56'53")												
DEC., 1973												
07...	1150	4.0	19.0	9.1	1.5	1.6	5.7	.3	13	0	2.3	10
16208000 SOUTH FORK KAUKONAHUA STREAM AT EAST PUMP RESERVOIR, NEAR WAHIAWA (LAT 21°29'32" LONG 157°59'54")												
DEC., 1973												
17...	1200	4.2	18.5	7.7	2.1	2.0	6.7	.5	12	0	2.5	11
MAY , 1974												
22...	1630	38	21.5	6.2	1.2	1.3	5.9	.5	8	--	2.2	10
16211600 MAKAHA STREAM NEAR MAKAHA (LAT 21°30'16" LONG 158°10'59")												
DEC., 1973												
12...	1400	1.2	19.5	23	4.8	4.5	8.3	.9	36	0	3.0	13
MAY , 1974												
28...	1445	.68	20.0	27	6.2	5.2	10	.9	45	--	4.0	13
16212800 KIPAPA STREAM NEAR WAHIAWA (LAT 21°28'13" LONG 157°57'40")												
DEC., 1973												
04...	1115	5.5	21.5	8.7	2.0	2.3	7.1	.9	15	0	2.8	13
MAY , 1974												
24...	1640	7.7	24.5	7.1	1.4	1.5	6.4	.9	9	--	3.0	11
16216000 WAIAWA STREAM NEAR PEARL CITY (LAT 21°23'57" LONG 157°58'51")												
NOV., 1973												
21...	1055	11	23.0	24	14	11	47	2.8	45	0	14	90
MAY , 1974												
30...	0945	9.4	23.0	36	35	29	120	4.7	86	--	43	240
16224500 KALAUAO STREAM AT MOANALUA ROAD, AT AIEA (LAT 21°23'07" LONG 157°56'22")												
NOV., 1973												
21...	1300	.01	23.5	43	23	19	59	3.4	167	--	26	69
JUNE, 1974												
19...	1400	.09	28.5	48	25	21	66	3.6	189	--	32	80
16229000 KALIHI STREAM NEAR HONOLULU (LAT 21°22'00" LONG 157°50'49")												
NOV., 1973												
26...	1500	--	22.0	7.1	4.5	2.7	9.1	1.5	21	0	5.8	15
16229300 KALIHI STREAM AT KALIHI (LAT 21°20'29" LONG 157°52'36")												
NOV., 1973												
26...	1215	3.8	23.0	17	15	8.5	23	1.4	79	0	9.6	32
16232000 NUUANU STREAM BELOW RESERVOIR 2 WASTEWAY, NEAR HONOLULU (LAT 21°20'57" LONG 157°49'40")												
NOV., 1973												
20...	1415	1.9	22.5	12	4.8	5.5	9.9	.7	37	0	5.9	15
16238500 WAIHI STREAM AT HONOLULU (LAT 21°19'55" LONG 157°48'12")												
NOV., 1973												
20...	1200	1.4	25.0	17	7.5	7.1	10	1.0	53	0	4.0	16
JUNE, 1974												
04...	1420	20	20.5	5.8	3.7	2.2	5.1	1.2	18	--	2.8	7.4
16240500 WAIAKEAKUA STREAM AT HONOLULU (LAT 21°19'53" LONG 157°48'08")												
NOV., 1973												
20...	0830	2.2	21.5	20	8.0	5.4	9.6	.7	51	--	2.9	12
JUNE, 1974												
04...	0900	6.8	20.5	14	6.4	3.9	7.7	.8	35	--	3.8	11
16244000 PUKELE STREAM NEAR HONOLULU (LAT 21°18'36" LONG 157°47'27")												
NOV., 1973												
19...	1430	.58	22.5	22	11	9.9	18	1.8	69	0	6.6	24

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)
HAWAII, ISLAND OF OAHU--Continued												
16200000 NORTH FORK KAUKONAHUA STREAM ABOVE RIGHT BRANCH, NEAR WAHIAWA--Continued												
DEC., 1973 07...	.0	.18	.01	10	0	38	10	0	48	7.3	3	2
16208000 SOUTH FORK KAUKONAHUA STREAM AT EAST PUMP RESERVOIR, NEAR WAHIAWA--Continued												
DEC., 1973 17...	.1	.93	.00	190	0	43	13	4	62	6.8	--	4
MAY , 1974 22...	.0	.12	.00	140	0	32	8	2	50	6.1	20	5
16211600 MAKAHA STREAM NEAR MAKAHA--Continued												
DEC., 1973 12...	.1	.02	.04	160	0	76	31	1	104	7.6	10	2
MAY , 1974 28...	.0	.03	.04	200	10	89	37	0	120	7.8	8	2
16212800 KIPAPA STREAM NEAR WAHIAWA--Continued												
DEC., 1973 04...	.1	.00	.01	80	0	44	14	2	70	7.3	20	5
MAY , 1974 24...	.4	.18	.01	70	10	37	10	2	54	7.0	30	5
16216000 WAIAWA STREAM NEAR PEARL CITY--Continued												
NOV., 1973 21...	.1	1.0	.48	40	0	231	80	43	420	6.9	10	20
MAY , 1974 30...	.2	1.9	.42	160	40	560	210	140	920	7.2	7	30
16224500 KALAUAO STREAM AT MOANALUA ROAD, AT AIEA--Continued												
NOV., 1973 21...	.1	.54	.10	20	20	328	140	0	546	7.4	10	8
JUNE, 1974 19...	.1	.73	.08	30	0	372	150	0	560	7.2	2	1
16229000 KALIHI STREAM NEAR HONOLULU--Continued												
NOV., 1973 26...	.1	.23	.07	120	0	58	22	5	97	7.0	80	80
16229300 KALIHI STREAM AT KALIHI--Continued												
NOV., 1973 26...	.1	.23	.06	110	0	147	72	8	258	7.8	6	4
16232000 NUUANU STREAM BELOW RESERVOIR 2 WASTEWAY, NEAR HONOLULU--Continued												
NOV., 1973 20...	.1	.07	.03	110	0	73	35	4	123	7.5	5	3
16238500 WAIHI STREAM AT HONOLULU--Continued												
NOV., 1973 20...	.1	.13	.04	120	0	90	48	4	144	7.4	6	2
JUNE, 1974 04...	.0	.03	.01	190	0	37	18	4	55	7.0	80	70
16240500 WAIAKEAKUA STREAM AT HONOLULU--Continued												
NOV., 1973 20...	.0	.19	.05	40	10	85	42	0	126	7.6	4	2
JUNE, 1974 04...	.1	.39	.01	150	0	67	32	3	100	7.3	30	10
16244000 PUKELE STREAM NEAR HONOLULU--Continued												
NOV., 1973 19...	.1	2.0	.34	60	0	137	68	12	223	7.3	1	1

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
HAWAII, ISLAND OF OAHU--Continued												
16247000 PALOLO STREAM NEAR HONOLULU (LAT 21°17'34" LONG 157°48'24")												
NOV., 1973												
19...	1400	--	27.0	9.3	15	7.0	25	4.5	8	14	10	42
JUNE, 1974												
20...	0915	1.5	25.0	17	11	11	22	.9	54	9	11	35
16247100 MANOA-PALOLO DRAINAGE CANAL AT MOILIILI (LAT 21°17'24" LONG 157°49'17")												
NOV., 1973												
19...	1500	4.0	24.5	20	12	8.8	17	1.2	52	11	7.5	23
JUNE, 1974												
18...	1330	7.7	27.5	19	12	9.5	17	1.3	34	21	8.6	24
16249000 WAIMANALO STREAM AT WAIMANALO (LAT 21°21'12" LONG 157°43'52")												
NOV., 1973												
13...	1150	1.5	22.5	28	15	8.7	16	1.7	86	0	7.0	21
MAY , 1974												
28...	1550	1.5	28.5	34	24	15	28	1.8	133	--	18	32
16254000 MAKAWAO STREAM NEAR KAILUA (LAT 21°21'49" LONG 157°46'02")												
NOV., 1973												
13...	1520	1.3	22.0	32	11	8.7	17	1.0	74	0	8.9	22
16260500 MAUNAWILI STREAM AT HIGHWAY 61, NEAR KAILUA (LAT 21°22'51" LONG 157°45'48")												
NOV., 1973												
13...	1330	3.0	22.5	29	12	8.9	18	1.5	77	0	8.7	23
MAY , 1974												
28...	1630	2.5	25.0	30	11	8.4	16	.9	82	--	5.9	19
16273900 KAMOOALII STREAM AT KANEOHE (LAT 21°24'51" LONG 157°48'13")												
NOV., 1973												
21...	1350	6.1	23.5	24	11	8.2	15	1.2	72	0	5.1	18
MAY , 1974												
29...	1505	45	22.0	17	11	5.3	11	1.7	55	--	5.9	14
16275000 HAIKU STREAM NEAR HEEIA (LAT 21°24'46" LONG 157°49'33")												
NOV., 1973												
14...	1500	1.6	21.5	26	14	8.8	14	1.3	89	0	4.3	17
MAY , 1974												
23...	1530	1.6	22.0	26	12	6.8	12	1.1	70	0	3.5	16
16294900 WAIKANE STREAM AT ALTITUDE 75 FT (23 M), AT WAIKANE (LAT 21°30'00" LONG 157°51'54")												
NOV., 1973												
21...	1220	7.5	22.0	28	7.3	6.1	14	.9	54	0	3.8	19
MAY , 1974												
23...	1150	4.7	22.5	28	7.6	5.7	14	.8	55	--	3.8	18
16296500 KAHANA STREAM AT ALTITUDE 30 FT (9.1 M), NEAR KAHANA (LAT 21°32'37" LONG 157°53'07")												
NOV., 1973												
16...	1230	25	22.0	22	6.2	4.4	10	.6	41	0	2.5	14
MAY , 1974												
20...	1410	47	22.0	21	7.4	3.9	9.4	.7	39	--	2.9	12
16303000 PUNALUU STREAM NEAR PUNALUU (LAT 21°33'33" LONG 157°54'06")												
NOV., 1973												
20...	1510	20	21.0	25	5.7	4.1	8.6	1.0	40	0	2.4	12
MAY , 1974												
30...	1030	21	21.0	28	7.0	4.6	9.4	.8	42	--	3.3	13
16304200 KALUANUI STREAM NEAR PUNALUU (LAT 21°35'22" LONG 157°54'38")												
NOV., 1973												
30...	1440	5.4	22.5	3.8	1.2	1.3	6.6	.5	7	0	2.8	12
MAY , 1974												
20...	1120	19	21.5	5.3	1.9	1.3	5.9	.6	6	--	2.6	11

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)
HAWAII, ISLAND OF OAHU--Continued												
16247000 PALOLO STREAM NEAR HONOLULU--Continued												
NOV., 1973 19...	.1	.68	.17	80	0	134	66	36	258	10.4	5	10
JUNE, 1974 20...	.0	.56	.01	70	0	146	73	13	240	8.9	20	1
16247100 MANOA-PALOLO DRAINAGE CANAL AT MOILIILI--Continued												
NOV., 1973 19...	.1	.22	.04	170	0	128	66	5	213	9.2	4	1
JUNE, 1974 18...	.0	.09	.03	170	10	130	69	6	210	8.8	5	2
16249000 WAIMANALO STREAM AT WAIMANALO--Continued												
NOV., 1973 13...	.1	.03	.07	140	0	140	73	3	221	7.6	5	1
MAY , 1974 28...	.0	.29	.07	90	0	220	120	13	350	7.4	5	3
16254000 MAKAWAO STREAM NEAR KAILUA--Continued												
NOV., 1973 13...	.1	.06	.06	220	0	138	63	3	212	7.6	5	3
16260500 MAUNAWILI STREAM AT HIGHWAY 61, NEAR KAILUA--Continued												
NOV., 1973 13...	.1	.51	.31	320	0	143	67	3	223	7.4	5	4
MAY , 1974 28...	.1	.25	.16	440	30	134	62	0	210	7.4	2	2
16273900 KAMOOALII STREAM AT KANEOHE--Continued												
NOV., 1973 21...	.1	.39	.08	40	0	120	61	2	196	8.3	4	3
MAY , 1974 29...	.0	1.4	.02	100	0	99	49	4	160	7.7	40	40
16275000 HAIKU STREAM NEAR HEEIA--Continued												
NOV., 1973 14...	.0	.02	.03	120	20	130	71	0	206	7.8	3	1
MAY , 1974 23...	.5	.00	.01	130	30	113	58	1	160	8.5	5	1
16294900 WAIKANE STREAM AT ALTITUDE 75 FT (23 M), AT WAIKANE--Continued												
NOV., 1973 21...	.0	.03	.04	90	0	106	43	0	155	7.6	4	2
MAY , 1974 23...	.0	.01	.01	390	30	106	42	0	150	7.3	4	1
16296500 KAHANA STREAM AT ALTITUDE 30 FT (9.1 M), NEAR KAHANA--Continued												
NOV., 1973 16...	.0	.03	.03	290	20	80	34	0	114	7.4	5	1
MAY , 1974 20...	.0	.28	.01	80	20	78	35	3	100	5.9	10	2
16303000 PUNALUU STREAM NEAR PUNALUU--Continued												
NOV., 1973 20...	.0	.03	.05	100	0	79	31	0	109	7.1	20	3
MAY , 1974 30...	.6	.02	.02	150	10	88	36	2	115	7.2	5	1
16304200 KALUANUI STREAM NEAR PUNALUU--Continued												
NOV., 1973 30...	.0	.03	.02	110	0	32	8	3	58	7.1	40	2
MAY , 1974 20...	.0	.01	.00	170	10	32	10	5	50	7.2	30	3

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
HAWAII, ISLAND OF OAHU--Continued												
16330000 KAMANANUI STREAM AT MAUNAWAI (LAT 21°38'20" LONG 158°03'27")												
DEC., 1973												
05...	1430	2.5	22.0	6.5	2.3	2.4	8.3	.9	15	0	4.1	15
MAY , 1974												
20...	1330	18	23.0	7.7	3.8	1.8	9.1	.7	11	--	4.4	15
16343000 HELEMANO STREAM AT HALEIWA (LAT 21°34'40" LONG 158°06'12")												
DEC., 1973												
06...	1430	.28	22.0	16	5.6	5.7	13	1.2	32	0	5.0	28
MAY , 1974												
23...	1505	13	24.5	6.5	3.8	1.6	5.9	.7	12	--	4.6	10
16345000 OPAEULA STREAM NEAR WAHIAWA (LAT 21°33'55" LONG 158°00'10")												
DEC., 1973												
03...	1430	7.2	21.0	1.7	.5	.6	4.3	.4	4	0	3.6	7.7
MAY , 1974												
23...	0950	9.8	21.0	2.8	.9	.8	5.2	.4	3	--	3.4	8.5
HAWAII, ISLAND OF MOLOKAI												
16400000 HALAWA STREAM NEAR HALAWA (LAT 21°09'32" LONG 156°45'53")												
NOV., 1973												
08...	1145	6.6	21.5	9.5	2.6	.8	7.3	.9	9	0	2.5	11
MAR., 1974												
20...	1200	22	21.0	5.4	1.8	1.3	6.6	.6	6	--	3.5	10
16404000 PELEKUNU STREAM NEAR PELEKUNU (LAT 21°08'11" LONG 156°52'43")												
NOV., 1973												
13...	1600	24	20.0	20	10	2.6	8.3	.6	35	0	10	12
MAR., 1974												
28...	0910	12	17.5	25	10	3.2	9.1	.7	36	--	13	10
16405500 WAIKOLU STREAM AT ALTITUDE 900 FT (274 M), NEAR KALAUPAPA (LAT 21°08'43" LONG 156°55'18")												
NOV., 1973												
07...	1345	.84	19.0	35	7.3	3.0	9.3	1.5	41	0	4.0	11
MAR., 1974												
19...	1330	4.0	18.5	18	3.0	1.9	6.4	.9	19	--	1.1	7.8
HAWAII, ISLAND OF MAUI												
16501000 PALIKEA STREAM BELOW DIVERSION DAM, NEAR KIPAHULU (LAT 20°41'03" LONG 156°04'10")												
OCT., 1973												
04...	1230	1.4	21.5	4.7	2.9	.6	2.9	.4	8	0	4.0	6.8
NOV.												
20...	1215	425	18.0	1.4	.4	.2	2.2	.3	4	0	2.3	3.7
MAR., 1974												
06...	1220	1020	15.5	1.5	.8	.3	1.9	.3	2	0	1.1	3.2
16508000 HANAWI STREAM NEAR NAHIKU (LAT 20°48'37" LONG 156°07'00")												
OCT., 1973												
03...	1500	2.2	20.0	11	2.1	.7	5.0	.7	14	0	2.3	5.6
MAR., 1974												
05...	1700	61	17.0	2.8	.8	.4	2.3	.4	5	0	1.5	3.4
16518000 WEST WAILUAIKI STREAM NEAR KEANAE (LAT 20°49'16" LONG 156°08'37")												
OCT., 1973												
03...	1015	2.0	20.5	8.5	2.7	1.3	3.8	.5	13	0	3.6	6.0
MAR., 1974												
05...	1130	39	17.0	3.1	.7	.5	2.4	.4	5	0	2.1	4.0
16570000 NAILIILIHAELE STREAM NEAR HUELO (LAT 20°52'28" LONG 156°13'06")												
OCT., 1973												
10...	1310	3.1	21.0	12	3.3	1.4	5.6	.6	19	0	2.0	5.8
MAR., 1974												
07...	1515	33	18.5	5.8	1.6	.9	4.0	.5	7	0	1.8	7.0

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)
HAWAII, ISLAND OF OAHU--Continued												
16330000 KAMANANUI STREAM AT MAUNAWAI--Continued												
DEC., 1973 05...	.1	.00	.02	220	0	47	16	3	79	7.0	80	20
MAY , 1974 20...	.0	.00	.04	230	0	48	17	8	71	7.2	50	20
16343000 HELEMANO STREAM AT HALEIWA--Continued												
DEC., 1973 06...	.1	.02	.02	60	0	91	37	11	154	6.9	20	10
MAY , 1974 23...	.0	.97	.04	140	0	44	16	6	56	6.3	400	90
16345000 OPAEULA STREAM NEAR WAHIAWA--Continued												
DEC., 1973 03...	.1	.00	.00	90	0	21	4	0	33	6.2	80	9
MAY , 1974 23...	.0	.00	.02	110	0	24	6	3	38	6.5	50	4
HAWAII, ISLAND OF MOLOKAI--Continued												
16400000 HALAWA STREAM NEAR HALAWA--Continued												
NOV., 1973 08...	.1	.00	.03	50	0	39	10	2	53	7.1	9	2
MAR., 1974 20...	.0	.00	.01	160	20	32	10	5	56	7.6	40	3
164040 PELEKUNU STREAM NEAR PELEKUNU--Continued												
NOV., 1973 13...	.2	.07	.03	20	0	81	36	7	116	7.3	9	1
MAR., 1974 28...	.1	.85	.01	20	0	93	38	9	125	7.9	3	0
16405500 WAIKOLU STREAM AT ALTITUDE 900 FT (274 M), NEAR KALAUPAPA--Continued												
NOV., 1973 07...	.2	.04	.09	50	0	92	31	0	100	7.4	3	1
MAR., 1974 19...	.0	.08	.02	70	20	49	15	0	60	8.0	30	1
HAWAII, ISLAND OF MAUI												
16501000 PALIKEA STREAM BELOW DIVERSION DAM, NEAR KIPAHULU--Continued												
OCT., 1973 04...	.2	.01	.00	150	24	27	10	3	36	6.9	20	2
NOV. 20...	.0	.01	.01	--	--	13	2	0	18	6.2	--	--
MAR., 1974 06...	.5	.03	.01	50	25	11	3	2	15	5.6	30	2
16508000 HANAWI STREAM NEAR NAHIKU--Continued												
OCT., 1973 03...	.0	.00	.02	60	24	34	8	0	49	7.2	6	1
MAR., 1974 05...	.4	.03	.01	70	0	15	4	0	19	5.7	40	3
16518000 WEST WAILUAIKI STREAM NEAR KEANAE--Continued												
OCT., 1973 03...	.0	.00	.02	260	32	33	12	1	43	7.0	40	5
MAR., 1974 05...	.2	.02	.01	150	0	16	4	0	22	5.6	60	4
16570000 NAILILIHAELE STREAM NEAR HUELO--Continued												
OCT., 1973 10...	.0	.00	.02	30	0	40	14	0	53	7.3	6	1
MAR., 1974 07...	.2	.03	.00	100	25	26	8	2	36	6.4	30	2

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
HAWAII, ISLAND OF MAUI--Continued												
16588000 WAILOA DITCH AT HONOPOU, NEAR HUELO (LAT 20°53'20" LONG 156°15'19")												
OCT., 1973												
10...	1500	35	20.0	11	3.2	1.5	5.8	.6	18	0	1.6	5.7
MAR., 1974												
01...	1330	85	18.5	10	3.3	1.3	4.9	.6	14	0	1.5	6.9
16599500 OPANA TUNNEL AT KAILIILI (LAT 20°51'04" LONG 156°16'17")												
OCT., 1973												
15...	1530	.31	19.0	16	4.0	2.4	5.6	.8	28	0	1.6	6.3
MAR., 1974												
08...	1515	4.5	17.5	7.7	3.5	.9	3.6	.5	8	0	1.6	5.1
16607000 IAO STREAM AT WAILUKU (LAT 20°53'38" LONG 156°30'27")												
OCT., 1973												
30...	0900	20	18.5	19	7.2	3.1	5.5	.6	33	0	6.2	7.1
MAR., 1974												
13...	0900	50	19.5	19	7.1	3.1	6.3	.6	34	0	4.3	7.8
16620000 HONOKOHAU STREAM NEAR HONOKOHAU (LAT 20°57'48" LONG 156°35'22")												
OCT., 1973												
16...	1250	18	20.0	18	4.1	1.9	4.6	.6	24	0	2.3	5.6
MAR., 1974												
11...	1230	13	19.5	24	6.9	2.2	4.9	.7	26	0	1.3	6.5
16646200 OLOWALU STREAM AT OLOWALU (LAT 20°49'23" LONG 156°37'15")												
OCT., 1973												
30...	1110	3.6	20.5	38	19	9.2	14	1.1	84	0	26	17
MAR., 1974												
12...	1400	3.2	20.5	41	19	9.0	14	1.1	81	0	20	18
HAWAII, ISLAND OF HAWAII												
16700000 WAIAKEA STREAM NEAR MOUNTAIN VIEW (LAT 19°38'30" LONG 155°10'28")												
NOV., 1973												
27...	0845	41	19.5	18	3.2	.6	3.2	1.0	19	0	2.0	2.3
MAY , 1974												
28...	1030	14	18.0	19	3.1	.6	3.8	.7	18	--	2.0	2.2
16704000 WAILUKU RIVER AT PIIHONUA (LAT 19°42'58" LONG 155°09'13)												
DEC., 1973												
27...	1000	16	17.0	15	4.8	2.7	3.0	.4	29	0	2.3	3.7
JUNE, 1974												
03...	1015	54	22.0	12	3.5	1.9	2.9	.4	23	--	1.9	3.2
16717800 POHAKUPUKA STREAM NEAR PAPAALOA (LAT 19°57'20" LONG 155°11'20")												
DEC., 1973												
14...	1145	8.9	20.0	25	10	4.8	6.8	.6	56	0	3.0	8.9
MAY , 1974												
22...	1430	12	22.0	12	4.6	2.2	3.7	.3	27	--	2.6	4.2
16724800 UPPER HAMAKUA DITCH ABOVE ALAKAHI STREAM, NEAR KAMUELA (LAT 20°04'31" LONG 155°40'26")												
NOV., 1973												
26...	0955	3.2	15.0	2.0	1.1	.3	2.4	.3	3	0	4.1	4.3
MAY , 1974												
23...	0920	2.3	15.0	2.4	.6	.3	2.9	.2	2	--	3.5	4.1
16725000 ALAKAHI STREAM NEAR KAMUELA (LAT 20°04'27" LONG 155°40'25")												
NOV., 1973												
26...	1030	5.0	--	2.5	1.0	.5	2.6	.3	4	0	4.2	4.9
MAY , 1974												
23...	0940	3.9	15.0	2.7	.8	.5	3.1	.2	3	--	3.7	4.5

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA+MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)
HAWAII, ISLAND OF MAUI--Continued												
16588000 WAILOA DITCH AT HONOPOU, NEAR HUELO--Continued												
OCT., 1973 10...	.0	.00	.03	30	0	38	14	0	51	7.1	5	1
MAR., 1974 01...	.1	.02	.01	40	0	36	14	2	48	6.3	3	0
16599500 OPANA TUNNEL AT KAILIILI--Continued												
OCT., 1973 15...	.0	.00	.04	60	0	51	20	0	69	7.3	5	1
MAR., 1974 08...	.1	.10	.01	70	0	27	12	6	34	6.3	10	0
16607000 IAO STREAM AT WAILUKU--Continued												
OCT., 1973 30...	.0	.00	.05	10	0	65	31	4	91	7.5	4	0
MAR., 1974 13...	.6	.06	.02	30	0	66	31	3	92	6.9	5	0
16620000 HONOKOHAU STREAM NEAR HONOKOHAU--Continued												
OCT., 1973 16...	.0	.01	.06	10	0	49	18	0	57	7.4	--	0
MAR., 1974 11...	.1	.23	.02	90	13	61	26	5	67	7.2	2	0
16646200 OLOWALU STREAM AT OLOWALU--Continued												
OCT., 1973 30...	.1	.00	.13	30	0	166	85	16	242	7.9	7	1
MAR., 1974 12...	.2	.02	.07	20	0	163	85	18	237	7.5	3	0
HAWAII, ISLAND OF HAWAII												
16700000 WAIAKEA STREAM NEAR MOUNTAIN VIEW--Continued												
NOV., 1973 27...	.0	.07	.12	10	0	40	10	0	--	6.8	6	1
MAY , 1974 28...	.0	.18	.03	20	0	41	10	0	--	7.2	4	1
16704000 WAILUKU RIVER AT PIIHONUA--Continued												
DEC., 1973 27...	.0	.09	.00	50	0	47	23	0	62	7.3	10	1
JUNE, 1974 03...	.1	.00	.00	70	0	37	17	0	44	6.8	4	1
16717800 POHAKUPUKA STREAM NEAR PAPAALOA--Continued												
DEC., 1973 14...	.0	.24	.02	50	0	88	45	0	125	7.5	10	2
MAY , 1974 22...	.0	.01	.03	340	10	43	21	0	59	7.3	50	3
16724800 UPPER HAMAKUA DITCH ABOVE ALAKAHI STREAM, NEAR KAMUELA--Continued												
NOV., 1973 26...	.0	.01	.00	330	0	16	4	2	24	5.2	80	1
MAY , 1974 23...	.1	.01	.03	330	0	16	3	1	23	5.3	90	1
16725000 ALAKAHI STREAM NEAR KAMUELA--Continued												
NOV., 1973 26...	.1	.03	.00	330	0	19	5	1	26	5.8	80	1
MAY , 1974 23...	.1	.00	.03	470	10	18	4	2	25	5.9	100	1

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
HAWAII, ISLAND OF HAWAII--Continued												
16756000 KOHAKOHAU STREAM NEAR KAMUELA (LAT 20°03'02" LONG 155°40'58")												
NOV., 1973												
26...	1200	3.3	16.0	2.5	.9	.5	4.0	.4	5	0	4.3	5.6
MAY , 1974												
23...	1100	.56	17.0	3.9	3.0	.9	3.5	.2	5	--	3.6	5.7
16758000 WAIKOLOA STREAM AT MARINE DAM, NEAR KAMUELA (LAT 20°02'48" LONG 155°39'58")												
NOV., 1973												
26...	1305	4.6	15.5	5.9	1.1	1.1	3.4	.3	9	0	4.3	5.3
MAY , 1974												
23...	1210	4.1	15.5	5.7	1.5	1.3	7.8	.3	8	--	3.6	5.5
16759200 RIGHT BRANCH WAIAHA STREAM NEAR HOLUALOA (LAT 19°38'41" LONG 155°54'55")												
MAY , 1974												
21...	1315	.02	18.5	5.1	4.1	1.5	2.9	.5	8	--	5.2	4.7
16759800 KIILAE STREAM NEAR HONAUNAU (LAT 19°24'52" LONG 155°50'56")												
MAY , 1974												
21...	1015	.07	17.0	3.2	1.5	.6	1.6	.1	3	--	4.0	2.3
16764000 HILEA GULCH TRIBUTARY NEAR HONUAPO (LAT 19°10'27" LONG 155°35'58")												
DEC., 1973												
19...	1100	.21	15.0	17	5.2	2.2	3.7	.3	18	0	6.6	3.5
JUNE, 1974												
04...	1130	4.3	14.0	11	3.6	1.6	2.5	.1	7	--	7.9	3.4

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)
HAWAII, ISLAND OF HAWAII--Continued												
16756000 KOHAKOHAU STREAM NEAR KAMUELA--Continued												
NOV., 1973 26...	.1	.02	.01	270	10	21	4	0	29	5.8	90	2
MAY , 1974 23...	.2	.00	.03	540	0	24	11	7	30	6.2	100	1
16758000 WAIKOLOA STREAM AT MARINE DAM, NEAR KAMUELA--Continued												
NOV., 1973 26...	.1	.02	.01	270	0	26	7	0	32	6.7	90	1
MAY , 1974 23...	.1	.00	.03	660	--	34	9	3	34	6.4	100	1
16759200 RIGHT BRANCH WAIAHA STREAM NEAR HOLUALOA--Continued												
MAY , 1974 21...	.1	.00	.02	420	0	29	16	10	41	6.6	30	2
16759800 KIILAE STREAM NEAR HONAUNAU--Continued												
MAY , 1974 21...	.0	.01	.02	600	0	15	6	4	21	6.1	40	1
16764000 HILEA GULCH TRIBUTARY NEAR HONUAPO--Continued												
DEC., 1973 19...	.1	.10	.01	30	0	48	22	7	57	7.6	10	1
JUNE, 1974 04...	.1	.17	.01	50	0	34	16	10	41	6.7	5	1

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

HAWAII, ISLAND OF OAHU

16228200 MOANALUA STREAM NEAR AIEA
(LAT 21°22'37" LONG 157°52'58")

DATE	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
NOV.			
12...	112	98	51
29...	39	121	24
30...	17	10	.46
DEC.			
01...	28	62	13
02...	34	30	2.8
JAN.			
11...	18	62	15
12...	34	40	3.7
FEB.			
01...	54	118	21
MAR.			
18...	27	130	19
APR.			
18...	39	65	24
19...	450	454	975
20...	115	62	33
21...	34	30	2.8
22...	29	50	3.9
MAY			
14...	72	229	169
15...	37	58	10
JUNE			
29...	22	153	25
SEP.			
04...	17	60	18

16229000 KALIHI STREAM NEAR HONOLULU
(LAT 21°22'00" LONG 157°50'49")

NOV.			
26...	6.8	57	2.2
DEC.			
01...	24	117	15
JAN.			
14...	7.7	10	.21
MAR.			
05...	8.1	116	4.9
12...	22	78	15
APR.			
19...	--	811	1640

16229300 KALIHI STREAM AT KALIHI
(LAT 21°20'29" LONG 157°52'36")

JAN.			
15...	22	75	7.1
29...	58	248	212
29...	--	3070	9120
31...	41	122	18
FEB.			
01...	112	265	121
05...	20	49	9.3
10...	26	171	17
MAR.			
12...	63	234	103
18...	45	205	32
APR.			
18...	63	220	100
19...	681	2380	11700
19...	--	12500	
20...	104	279	148

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

HAWAII, ISLAND OF OAHU

16227900 MOANALUA STREAM TRIBUTARY NEAR AIEA
(LAT 21°23'07" LONG 157°51'42")

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
NOV.					
29...	1440	21.0	.16	9	.00
MAR.					
12...	1030	19.5	.20	497	.27
12...	1530	--	.12	20	.01
18...	1145	--	.15	92	.04
APR.					
22...	0740	19.0	.20	118	.06
22...	1420	--	.10	6	.00
24...	1535	--	.12	5	.00

16273900 KAMOOALII STREAM AT KANEOHE
(LAT 21°24'51" LONG 157°48'13")

OCT.					
09...	1830	--	5.2	3	.04
NOV.					
10...	1510	--	98	597	158
11...	1030	--	28	160	12
19...	1840	--	7.0	7	.13
26...	1720	--	7.0	6	.11
29...	1130	22.0	47	67	8.5
DEC.					
15...	1735	--	10	22	.59
20...	1655	--	10	20	.54
JAN.					
02...	1530	24.0	13	6	.21
20...	1810	--	16	6	.26
FEB.					
25...	1730	--	12	9	.29
MAR.					
07...	1830	--	12	8	.26
APR.					
16...	1830	--	12	8	.26
MAY					
10...	1830	--	12	9	.29
14...	1655	--	69	478	89
14...	1940	--	770	1860	3870
17...	1710	--	16	4	.17
29...	1330	--	59	58	9.2
29...	1420	22.0	39	50	5.3
29...	1700	--	21	26	1.5
JUNE					
03...	1715	--	14	5	.19

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

HAWAII, ISLAND OF OAHU

16227500 MOANALUA STREAM NEAR KANEOHE (LAT 21°23'29", LONG 157°51'05")

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM AD-SORP-TION RATIO	PERCENT SODIUM	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	CARBON DIOXIDE (CO2) (MG/L)
FEB. 07...	1200	1.5	9.4	2.8	150	2.1	8.9	1.0	54	.7	.9

DATE	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER DAY)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)
FEB. 07...	50	.27	65	.09	16	1	78	7.5	20.0	50	20

DATE	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)
FEB. 07...	18	0	15	4.1	13	.0	.36	1.6	.04	.32	.03

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)
HAWAII, ISLAND OF OAHU												
16227700 MOANALUA STREAM TRIBUTARY NEAR KANEOHE (LAT 21°23'27" LONG 157°50'53")												
FEB., 1974 07...	1130	.68	9.8	2.8	2.0	8.7	.8	16	13	3.3	12	.0
16227900 MOANALUA STREAM TRIBUTARY NEAR AIEA (LAT 21°23'07" LONG 157°51'42")												
FEB., 1974 07...	1045	.10	16	5.8	3.8	11	1.2	38	31	4.2	14	.1
16228200 MOANALUA STREAM NEAR AIEA (LAT 21°22'37" LONG 157°52'58")												
FEB., 1974 07...	0915	5.0	21	6.6	5.9	17	1.2	40	33	5.3	30	.0

DATE	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	TOTAL ORGANIC CARBON (C) (MG/L)
16227700 MOANALUA STREAM TRIBUTARY NEAR KANEOHE (LAT 21°23'27" LONG 157°50'53")												
FEB., 1974 07...	.09	.35	.04	47	15	2	77	7.3	19.5	50	10	6.4
16227900 MOANALUA STREAM TRIBUTARY NEAR AIEA (LAT 21°23'07" LONG 157°51'42")												
FEB., 1974 07...	.19	.95	.15	75	30	0	117	7.7	19.5	100	40	12
16228200 MOANALUA STREAM NEAR AIEA (LAT 21°22'37" LONG 157°52'58")												
FEB., 1974 07...	.09	.52	.08	107	41	8	184	7.3	20.5	100	50	4.7

DATE	TOTAL NITRITE PLUS NITRATE IN BOT. DEP. (MG/KG)	TOTAL KJEL. NITROGEN IN BOTTOM DEP. (MG/KG)	TOTAL PHOSPHORUS IN BOTTOM DEPOSITS (MG/KG)	ORGANIC CARBON IN BED MATERIAL (C) (G/KG)	TOTAL IRON IN BOTTOM DEPOSITS (UG/G)	TOTAL MANGANESE IN BOTTOM DEPOSITS (UG/G)	TOTAL ARSENIC IN BOTTOM DEPOSITS (UG/G)	TOTAL CADMIUM IN BOTTOM DEPOSITS (UG/G)
16227900 MOANALUA STREAM TRIBUTARY NEAR AIEA (LAT 21°23'07" LONG 157°51'42")								
FEB., 1974 07...	4.9	2400	32	170	30000	1200	0	0
16228200 MOANALUA STREAM NEAR AIEA (LAT 21°22'37" LONG 157°52'58")								
FEB., 1974 07...	.7	1200	15	9.0	22000	640	5	0

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TOTAL ALUMINUM (AL) (UG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	TOTAL IRON (FE) (UG/L)	DISSOLVED IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DISSOLVED ARSENIC (AS) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)
HAWAII, ISLAND OF OAHU--Continued												
16227700 MOANALUA STREAM TRIBUTARY NEAR KANEOHE--Continued												
FEB., 1974 07...	1300	60	530	50	10	0	0	0	<10	0	0	0
16227900 MOANALUA STREAM TRIBUTARY NEAR AIEA--Continued												
FEB., 1974 07...	2100	120	2100	80	70	0	1	0	10	0	0	0
16228200 MOANALUA STREAM NEAR AIEA--Continued												
FEB., 1974 07...	1900	100	2400	60	70	0	17	17	<10	0	0	0

DATE	TOTAL COBALT (CO) (UG/L)	DISSOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DISSOLVED COPPER (CU) (UG/L)	TOTAL LEAD (PB) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DISSOLVED MERCURY (HG) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)
16227700 MOANALUA STREAM TRIBUTARY NEAR KANEOHE--Continued											
FEB., 1974 07...	<50	0	10	2	<100	9	.2	.2	4	20	10
16227900 MOANALUA STREAM TRIBUTARY NEAR AIEA--Continued											
FEB., 1974 07...	<50	1	20	3	30	8	.1	.1	5	130	10
16228200 MOANALUA STREAM NEAR AIEA--Continued											
FEB., 1974 07...	<50	2	10	5	<100	6	.0	.0	4	60	30

DATE	TOTAL CHROMIUM IN BOTTOM DEPOSITS (UG/G)	TOTAL COBALT IN BOTTOM DEPOSITS (UG/G)	TOTAL COPPER IN BOTTOM DEPOSITS (UG/G)	TOTAL LEAD IN BOTTOM DEPOSITS (UG/G)	TOTAL MERCURY IN BOTTOM DEPOSITS (UG/G)	TOTAL SELENIUM IN BOTTOM DEPOSITS (UG/G)	TOTAL ZINC IN BOTTOM DEPOSITS (UG/G)
16227900 MOANALUA STREAM TRIBUTARY NEAR AIEA--Continued							
FEB., 1974 07...	68	60	110	30	.0	0	76
16228200 MOANALUA STREAM NEAR AIEA--Continued							
FEB., 1974 07...	56	20	30	10	.0	0	29

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS,
WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

HAWAII, ISLAND OF OAHU

16227700 MOANALUA STREAM TRIBUTARY NEAR KANEOHE (LAT 21°23'27" LONG 157°50'53")

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
NOV.					
29...	1605	21.0	2.7	2	.01

16345000 OPAEULA STREAM NEAR WAHIAWA (LAT 21°33'55" LONG 158°00'10"

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
NOV.				
12...	1255	224	22	13
12...	1355	158	19	8.1
JAN.				
07...	1400	29	9	.70
MAR.				
06...	1040	88	49	12
06...	1100	85	72	17
06...	1130	84	40	9.1
06...	1200	78	38	8.0
06...	1300	70	30	5.7
JULY				
18...	1130	20	8	.43

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS AND PARTICLE-SIZE DISTRIBUTION
WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

HAWAII, ISLAND OF OAHU

16212800 KIPAPA STREAM NEAR WAHIAWA (LAT 21°28'13" LONG 157°57'40")

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM
FEB.										
04...	1600	920	2840	7050	30	44	60	78	91	--
MAR.										
02...	0645	1630	3150	13900	11	39	52	71	83	89
APR.										
19...	0825	2770	4160	31100	28	36	49	65	76	81

DATE	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. FALL DIAM. % FINER THAN 2.00 MM
FEB.									
04...	95	--	98	--	99	--	100	--	--
MAR.									
02...	--	96	--	99	--	100	--	--	--
APR.									
19...	--	87	--	92	--	94	--	96	100

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS AND PARTICLE-SIZE DISTRIBUTION, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

HAWAII, ISLAND OF OAHU

16213000 WAIKELE STREAM AT WAIPAHU (LAT 21°23'11" LONG 158°00'49")

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM
OCT. 15...	1400	26	39	2.7	--	--	--	--	--
NOV. 15...	1440	57	73	11	--	--	--	--	--
DEC. 13...	2200	22	23	1.4	--	--	--	--	--
JAN. 11...	1535	33	28	2.5	--	--	--	--	--
FEB. 01...	0605	902	4160	11200	--	--	--	--	--
MAR. 02...	0905	420	3370	3820	34	48	65	84	95
18...	2050	940	3740	9490	38	46	63	80	96
APR. 19...	0905	4770	10100		34	42	54	69	82
MAY 22...	1110	16	37	1.6	--	--	--	--	--
JUNE 15...	1900	20	37	2.0	--	--	--	--	--
JULY 28...	1830	8.3	20	.4	--	--	--	--	--
AUG. 28...	1825	14	12	.5	--	--	--	--	--
SEP. 25...	1700	30	80	6.5	--	--	--	--	--

DATE	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM
OCT. 15...	--	100	--	--	--	--	--	--
NOV. 15...	--	98	--	--	--	--	--	--
DEC. 13...	--	100	--	--	--	--	--	--
JAN. 11...	--	100	--	--	--	--	--	--
FEB. 01...	--	98	--	99	--	100	--	--
MAR. 02...	--	98	--	100	--	--	--	--
18...	--	97	--	99	--	100	--	--
APR. 19...	89	--	96	--	98	--	99	100
MAY 22...	--	100	--	--	--	--	--	--
JUNE 15...	--	100	--	--	--	--	--	--
JULY 28...	--	93	--	--	--	--	--	--
AUG. 28...	--	100	--	--	--	--	--	--
SEP. 25...	--	100	--	--	--	--	--	--

16229000 KALIHI STREAM NEAR HONOLULU (LAT 21°22'00" LONG 157°50'49")

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
NOV. 26...	--	--	57	2.2	--	--	--	--	--	--
DEC. 01...	--	--	117	15	--	--	--	--	--	--
JAN. 14...	--	--	10	.21	--	--	--	--	--	--
MAR. 05...	--	--	116	4.9	--	--	--	--	--	--
12...	--	--	78	15	--	--	--	--	--	--
APR. 19...	0930	750	811	1640	88	91	94	95	97	100

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS AND PARTICLE-SIZE DISTRIBUTION, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

HAWAII, ISLAND OF OAHU

16229300 KALIHI STREAM AT KALIHI (LAT 21°20'29" LONG 157°52'36")

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM
JAN.										
15...	--	--	75	7.1	--	--	--	--	--	--
29...	--	--	248	212	--	--	--	--	--	--
29...	1600	1100	3070	9120	36	50	62	75	88	--
31...	--	--	122	18	--	--	--	--	--	--
FEB.										
01...	--	--	265	121	--	--	--	--	--	--
05...	--	--	49	9.3	--	--	--	--	--	--
10...	--	--	171	17	--	--	--	--	--	--
MAR.										
12...	--	--	234	103	--	--	--	--	--	--
18...	--	--	205	32	--	--	--	--	--	--
APR.										
18...	--	--	220	100	--	--	--	--	--	--
19...	--	--	2380	11700	--	--	--	--	--	--
19...	1030	5840	12500		23	27	34	40	48	51
20...	--	--	279	148	--	--	--	--	--	--

DATE	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM	SUS. SED. FALL DIAM. % FINER THAN 2.00 MM
JAN.									
15...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	93	--	98	--	99	--	100	--	--
31...	--	--	--	--	--	--	--	--	--
FEB.									
01...	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
MAR.									
12...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
APR.									
18...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	67	--	81	--	89	--	94	99
20...	--	--	--	--	--	--	--	--	--

16270500 KAMOOALII STREAM BELOW KUOU STREAM NEAR KANEOHE (LAT 21°23'42" LONG 157°48'26")

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM
JAN.								
27...	0840	220	1810	1080	35	53	71	88
27...	1930	550	2660	3950	35	50	67	86
MAY								
14...	1900	850	3560	8170	30	42	58	73

DATE	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM
JAN.								
27...	98	--	99	--	100	--	--	--
27...	97	--	99	--	100	--	--	--
MAY								
14...	87	90	--	95	--	97	99	100

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