

Historical
Statistics
of Hawaii

Robert C. Schuyler

HISTORICAL STATISTICS OF HAWAII

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CONTENTS

	Preface	vii
	Introduction	xv
SECTION 1	Population	1
SECTION 2	Vital Statistics, Health, and Medical Care	39
SECTION 3	Migration	87
SECTION 4	Labor	111
SECTION 5	Prices and Price Indexes	143
SECTION 6	State Income	161
SECTION 7	Consumer Income and Expenditures	171
SECTION 8	Social Welfare	191
SECTION 9	Education	207
SECTION 10	Crime and Correction	233
SECTION 11	Recreation and Tourism	259
SECTION 12	Land, Water, and Climate	285
SECTION 13	Agriculture	327
SECTION 14	Forestry, Fisheries, and Minerals	365
SECTION 15	Construction and Housing	379
SECTION 16	Manufactures	405
SECTION 17	Transportation	423
SECTION 18	Communications	473
SECTION 19	Energy	493
SECTION 20	Distribution and Services	507

SECTION 21	Foreign and Interstate Trade	535
SECTION 22	Business Enterprise	559
SECTION 23	Banking and Finance	573
SECTION 24	Elections and Politics	593
SECTION 25	Government Employment and Finances	611
SECTION 26	Armed Forces and Veterans	651
	Index	671

PREFACE

GENERAL BACKGROUND

This volume is intended to serve as a convenient reference work on the major long-term statistical series of Hawaii. These statistics, covering trends in the social, demographic, economic, governmental, and physical characteristics of the state, are organized into more than 260 individual tables in twenty-six sections. Each section is prefaced by a narrative statement outlining the development of statistical reporting in that particular field, defining important terms used in the tables, noting significant qualifications, and citing pertinent published sources. Each table, in turn, presents annual, decennial, or other periodic data on a specific subject, along with a source reference that both documents the data and guides the user to more detailed information presented elsewhere.

In content and format, this work is the Hawaiian counterpart of Historical Statistics of the United States, Colonial Times to 1970, published by the United States Bureau of the Census in 1975. A major reason for modeling the present work after the U.S. volume was to facilitate comparison of national and island trends.

This volume differs from The State of Hawaii Data Book, Thrum's Hawaiian Annual, and other periodic compilations in its emphasis on long-term time series for the state as a whole, rather than on current data and geographic detail.

SPECIAL PROBLEMS

Numerous problems beset the compiler of historical statistics--uneven coverage over time, widely scattered sources, shifting definitions and scope, lack of identifying information, inconsistent format and units of measurement, and variant data or obvious misprints, to name only the most important.

Coverage is inevitably variable from subject to subject, and from year to year. "On the one hand," notes the introduction to Historical Statistics of the United States, "a burdensome multiplicity of sources has frequently to be consulted in order to reconstruct one quantitative aspect of a particular subject. On the other hand, users are confronted just as often by a discouraging barrenness of data, discoverable only after much costly work and delay."

The sources are widely scattered and difficult to locate. Even such a carefully organized and indexed effort as the 1970 U.S. census presents problems to the occasional user, who tends to get lost in its wealth of detail.

Tracing comparable data for earlier years leads the statistician (in this case) to fugitive preprints, unpublished records in government files, annual reports of the Minister of Public Instruction, and microfilm copies of nineteenth century newspapers.

Keeping track of changes in definitions, geographic coverage, methodology and time reference, or of periodic revisions in earlier data, is of utmost importance. Such identifying information is in fact often lacking from published series, or is half-hidden in textual appendixes many pages apart from the printed tables. Errata sheets, revisions of preliminary estimates, and other changes in basic data are easily missed. Reporting may shift from a calendar year to a fiscal year basis, or vice versa, without sufficient notation.

Comparability is affected by changes in format and units of measurement. Pineapple canning, for example, has been shown as a separate industrial category in one manufacturing census and combined with "other fruits and vegetables" in others. Fortunately, the use of most common American weights and measures had been accepted by the time the series cited here were initiated. The expected conversion to metric units is bound to cause future difficulty in interpreting time series.

Variant data, obvious misprints, internal inconsistencies, and computational errors abound in historical statistics, even in those for more recent periods. Such errors and apparent errors are especially common in secondary sources.

Limitations of space and the relative abundance of material on many topics impose a special burden on the compiler of historical statistics. Obviously, he cannot reproduce all data of interest or significance. Much of the most valuable available material, however, consists of disaggregated detail, which must regrettably be omitted from a general purpose volume of this size.

ARRANGEMENT OF DATA

Tables are numbered consecutively in each section; thus, the sixth table in the fourth section is table 4.6. The order of presentation generally follows that of Historical Statistics of the United States. The latter volume, however, identifies each section by letter and each series (not each table) within the section by number.

All series are arranged--left to right, or top to bottom--in chronological order, from the earliest available year to the most recent. Preliminary

values for recent years are shown, even though subject to future revision.

Unless otherwise specified, data are for the state (or territory, republic or kingdom) of Hawaii. Because of limitations of space, data are not generally shown for counties, islands, or smaller areas. Some exceptions were permitted, however, in the following instances: for population totals, where summary data for a given subarea (typically Oahu or Honolulu) are indicative of a general trend or level, and where data are available for only a given area.

In general, only annual or census-period data that cover at least twenty years are presented. Annual statistics are given preference, but certain series are presented only for census years, and, in some instances, only for the few dates for which the data are available. Unless otherwise indicated, annual data refer to calendar years.

Because of space limitations, series selected are confined to those regarded as of major importance in each field. Within each subfield, the amount of subject detail is held to a minimum. Generally, only summary measures are shown and detailed cross classifications and information of a highly specialized character are avoided.

Primary emphasis is placed on the presentation of absolute figures rather than on derived data since the absolute figures offer somewhat greater flexibility to the user. The major exception is the presentation of index numbers. Percentages, averages, medians, ratios, and rates are used only where they facilitate interpretation.

Many series reproduced here have been rounded, even though presented in the original sources in unrounded form. Such rounding has been undertaken either to conserve space or to indicate the approximate nature of the data. Because of rounding, details may not add to the totals shown.

Zero values or values that round to less than half the unit of measurement shown in the tables are represented by a dash.

Data not enumerated, tabulated, or otherwise available separately are indicated by NA (not available). In tables in which a large number of cells lack data, NA may be replaced by three dots (ellipses).

Headnotes immediately below table titles provide information important for correct interpretation or evaluation of the table as a whole or for a major segment of it. Footnotes below the bottom rule of tables give information relating to specific items or figures within the table.

Unit indicators ("Thousands," "Millions of dollars," and the like) are usually given as the first element of the headnote. In tables where several units are used, the unit indicators are generally given in the stub or in the column headings.

ACKNOWLEDGMENTS

The tables in this compilation are based on a wide variety of published and unpublished sources. Both these categories are cited in the detailed source references to individual tables. The major published sources are more over discussed at some length in the narrative introductions to the sections in which they were used.

Although credited in the source references to specific tables, the government agencies, private organizations, and individuals responsible for the many series of unpublished statistics in this volume deserve special mention at this point. When published reports were unavailable in Honolulu libraries or lacked the necessary detail for long-term series, the author sought help from the organizations with major responsibilities in the field in question. Almost invariably, these agencies were able to provide much of the needed data from their records and files. Many went to considerable trouble to fill out or update series for which published materials were incomplete. Unfortunately, the persons involved in this work were often unidentified.

Federal agencies and individuals employed by them providing unpublished or generally unavailable statistics include the following: in the U.S. Department of Commerce: the Bureau of the Census, Bureau of Economic Analysis, National Weather Service Pacific Region (particularly Saul Price), and the Patent and Trademark Office; in the Department of Defense: the Office of the Assistant Secretary of Defense, the U.S. Army Support Command, Hawaii, the Army Corps of Engineers Waterborne Commerce Statistics Center, the U.S. Air Force Fifteenth Air Base Wing, the U.S. Marine Corps Fleet Marine Force, Pacific, and the U.S. Navy Fourteenth Naval District Staff Headquarters; in the Department of Health, Education, and Welfare: the National Center for Health Statistics and the Social Security Administration Office of Research and Statistics; the Department of Housing and Urban Development and its Federal Housing Administration offices in San Francisco and Honolulu; in the Department of the Interior: the National Park Service Honolulu office and the Hawaiian Volcano Observatory; in the Department of Justice: the Immigration and Naturalization Service Washington and Honolulu offices; in the Depart-

ment of Labor: the Bureau of Labor Statistics, in both Washington and San Francisco; in the Department of Transportation: the Federal Aviation Administration, Washington and Honolulu offices, and U.S. Coast Guard, Washington headquarters and Fourteenth Coast Guard District Headquarters; the Department of the Treasury, Internal Revenue Service; the U.S. Postal Service, in both Washington and Honolulu; and, the Administrative Office of the U.S. Courts, the U.S. Civil Service Commission, the Federal Communications Commission, the General Services Administration, and the Veterans Administration.

State agencies and persons employed by them providing special assistance include the following: the administrative director of the courts; the Department of Agriculture and Hawaii Crop and Livestock Reporting Service (especially Paul Wallrabenstein); in the Department of the Attorney General, the Bureau of Crime Statistics and Civil Identification; in the Department of Accounting and General Services, the Office of the Comptroller and the Archives Division (with particular gratitude to Agnes Conrad and her staff); the Department of Defense; in the Department of Education, the Office of Research, Statistics, and Data Processing (variously named over the years), the Office of Library Services, and the Hawaii State Library; in the Department of Health: the Communicable Disease Division, Hawaii State Hospital, Research and Statistics Office (especially Charles G. Bennett, Thomas A. Burch, Shigeo Tengan, and George Tokuyama), and the Waimano Training School and Hospital Division; in the Department of Labor and Industrial Relations, the Research and Statistics Office (notably Gordon Frazier); in the Department of Land and Natural Resources: the Conveyances Division, Fish and Game Division, Forestry Division, and State Parks, Outdoor Recreation, and Historic Sites Division; the Office of the Lieutenant Governor; the Department of Planning and Economic Development (especially Anthony M. Oliver and Lynn Y. S. Zane); in the Department of Regulatory Agencies: the Bank Examination Division, Business Registration Division, Insurance Division, and Public Utilities Division (particularly Teruo Yoshida); in the Department of Social Services and Housing: the Corrections Division, Hawaii Housing Authority, and Research and Statistics Office (especially Jack T. Wakayama); the Department of Taxation, Tax Research and Planning Office; in the Department of Transportation: the Airports Division, Harbors Division, Highways Division, and Statewide Transportation Planning Office; in the University of Hawaii: the Office of the President, Management Systems Office, Sinclair Library (particularly the Hawaiian and government

documents librarians), Hawaii Institute of Geophysics (notably Wm. Mansfield Adams and Augustine S. Furumoto), Land Study Bureau, University Theatre, and Waikiki Aquarium; and in the East-West Center, the East-West Population Institute.

Considerable assistance was obtained from the following city and county agencies: in the City and County of Honolulu: the Board of Water Supply, Building Department, the Department of Finance Division of Licenses, Fire Department, Department of Housing and Community Development, Municipal Reference Library, Department of Parks and Recreation, Police Department, and the Department of Transportation Services Bus Systems Division; in the County of Hawaii: the Department of Finance Treasury Division, Department of Parks and Recreation, Police Department, Department of Public Works, and Department of Water Supply; in the County of Kauai: the County Treasurer, Police Department, Department of Public Works, and Department of Water; and, in the County of Maui: the Department of Finance Treasury Division, Department of Parks and Recreation, Police Department, Department of Public Works and Department of Water Supply.

Private organizations and persons responsible for special contributions include the following: Aloha United Way; Bank of Hawaii, Department of Business Research; Bernice P. Bishop Museum; Cardinal Mailing Services; Chamber of Commerce of Hawaii; Hawaii's four private colleges (Brigham Young University, Hawaii Campus; Chaminade College of Honolulu; Hawaii Loa College; and Hawaii Pacific College); First Hawaiian Bank, Research and Planning Division; Gasco; Hawaii Employers Council, Research Department; Hawaii Medical Service Association; Hawaii Newspaper Agency; Hawaii Tribune-Herald; Hawaii Visitors Bureau Research Department (especially Evelyn K. Richardson and Ernest J. Donehower); Hawaiian Airlines; Hawaiian Electric Co.; Hawaiian Historical Society Library; Hawaiian Mission Children's Society Library; Hawaiian Sugar Planters' Association (especially Barbara R. Milz); Hawaiian Telephone Co. (particularly Otto Orenstein); Honolulu Academy of Arts; Honolulu Rapid Transit Co.; Honolulu Stock Exchange; Honolulu Symphony Society; Kaiser Foundation Health Plan; Lahaina, Kaaupali, and Pacific Railroad; Pan American World Airways; Queen's Medical Center; Tax Foundation of Hawaii; and various theater groups, chiefly the Hawaii Performing Arts Company, Honolulu Community Theatre, Honolulu Theatre for Youth, U.S. Army Recreation Services Theater Guild, and Windward Theatre Guild.

To all of the federal, state, and county agencies, private organizations, and individuals listed above, the author expresses his gratitude.

Finally, mention should be made of Irene Fujimori, who typed the camera-ready copy for this volume, and Rose Strombel, who did the proofreading. Both deserve the highest praise.

INTRODUCTION: STATISTICAL REPORTING AND DATA PROCESSING IN HAWAII*

The history of statistical reporting in Hawaii covers almost five centuries, from the legendary census of King Umi (ca. 1500) to the computer-aided surveys of the 1970s. Statistical coverage has expanded from rudimentary tabulations of a limited number of subjects in the early missionary period to the richly varied subject matter and geographic detail provided by sophisticated modern-day statisticians. Improved statistical coverage and analysis have been greatly facilitated by even more dramatic developments in data processing technology, as the primitive counting methods of ancient Hawaii have successively given way to the abacus and slide rule, adding machine and desk calculator, punched card equipment, and the modern computer. Men like Robert C. Wyllie, Richard Armstrong, Thomas G. Thrum, and John F. Child, Jr., pioneered statistical coverage of previously uncharted areas or compiled widely quoted collections of important series. Many of their publications--Wyllie's Notes of 1844, Thrum's Hawaiian Almanac and Annual (introduced in 1875), the Report of the Governor of Hawaii to the Secretary of the Interior (1900-1959), and, more recently, the State of Hawaii Data Book, to name the most important--quickly achieved enviable reputations as indispensable reference works.

STATISTICS IN ANCIENT HAWAII

Umi's census, thought to have been taken at the beginning of the sixteenth century, may be the earliest known example of Hawaiian statistics and data processing. For this census, each inhabitant of the island of Hawaii was instructed to come to a place called the "Plain of Numbering" to put a rock on the pile representing his own district. The result, still visible today, was a three-dimensional graphic portrayal of population size and distribution.

The ancient Hawaiians devised a counting system based on multiples of four and ten. Although words for numbers from one (akahi) to ten (umi) were typically short, larger numbers were often highly polysyllabic. Thirteen, for example, was umikumamakolu, thirty-one was kanakolukumamakahi, and 85,650 was

* This section is based in part on two earlier articles by the author, "Hawaii's Statistical Reporting and Data Processing System," State Government, vol. 38, No. 2, Spring 1965, pp. 100-103, and "From Umi to UNIVAC: Data Processing in Hawaii, 1500-1965," Seventy-Fourth Annual Report of the Hawaiian Historical Society for the Year 1965 (1966), pp. 17-28. The Hawaiian Historical Society report contains complete documentation (in the form of 75 footnotes) and photographs of historical processing equipment.

elua kini, hookahi mano, eha lau, akahi kanaha me ka umi. Early white residents like William Ellis and E. W. Clark recorded numbers as high as 40,000 (kini), 400,000 (lehu), and even 4,000,000 (nalowale). "When they had arrived at 40, they returned to one and counted to 40 again," Clark noted. "The words iako and kaau are sometimes used for 40 instead of kanaha. iako is used for counting tapas; kaau in counting fish; and kanaha in counting rope, cord, bundles of food, etc."

Arithmetic was primitive and laborious. Clark wrote:

Their computations were all performed in the mind, and in the analytic method, often making use of the fingers of one or both hands to assist their calculations. They had nothing like arithmetical rules. All their calculations were performed by counting. If they wished to ascertain how much 10 yds. of cloth would cost at \$5. per yard, they would count thus, 1 yard is 5 dollars; 2 yds. is 5 more or 10; 3 yds. is 5 more or 15, and so on to 8 yds. which would be 40 dollars. They would then begin back and count the remainder until they ascertained the amount, hookahi kanaha me ka umi dala, - one forty and ten dollars. If at any time they lost their reckoning, as was often the case, they would go back and count over.

... The chiefs often had persons about them, more or less skilled in numbers, to keep an account of their tapas, mats, fish, and other property, and divide them out to their dependents.

Precontact Hawaiian counting differed somewhat from the system used by their Tahitian cousins. Teuira Henry noted that "numbers went as high as the 'iu, or million, and the knowledge of them was maintained by the pastime of counting, of which the Tahitians were very fond." Ellis observed "their acquaintance with and extensive use of numbers ..." and added:

They did not reckon by forties, after the manner of the Mexicans and Sandwich islanders, but had a decimal method of calculation. ... In counting, they usually employ a piece of the stalk of the cocoanut leaf, putting one aside for every ten, and gathering them up, and putting a longer one aside for every rau, or hundred. The natives of most of the islands, adults and children, appear remarkably fond of figures and calculations, and receive the elements of arithmetic with great facility, and seeming delight.

THE GROWTH OF STATISTICAL COVERAGE

In two brief centuries, beginning with Captain James Cook's first landfall in 1778, Hawaii was transformed from a primitive, preliterate society to a complex, modern industrial state. Such a metamorphosis required a wide range of accurate, up-to-date statistics as administrators, planners, businessmen, and scholars sought new data sources to satisfy their needs.

Modern statistical reporting was introduced to Hawaii in the 1820s, more or less contemporaneously with such other important innovations as schools and

churches, written laws, printing, Western medicine, taxes, and a cash economy. By 1850 many of the major social, demographic, economic, and governmental series used by present-day analysts had been initiated.

Both public and private sources contributed to the proliferation of statistics during this three-decade period. The missionaries were responsible for many new series: expenditure and arrival data (beginning in 1819), meteorological observations (1821), marriages (1828), educational statistics (1828), publishing (1829), population censuses (1831-1832), and family budgets (1834), among others. Businessmen initiated series on ship arrivals in 1824, sugar production in 1836, imports and exports in the same year, business establishments in 1840, prices in 1844, cattle in 1846, and diversified agriculture in 1850. Statistics compiled under government auspices included series on shipping and customs (beginning in 1836), crime and court activities (1838), hospital admissions (1839), government finance (1843), education (1846), licensing (1846), population, births and deaths (1847), housing (1847), and land claims (1848).

Statistical reporting during this era was considerably simplified by standardization of currency, weights, and measures. An early monetary unit was the picul (133 1/3 pounds) of sandalwood, worth approximately \$10; the first written tax law, enacted in 1826, required each able-bodied man to pay one-half picul of "good sandalwood" or four Spanish dollars. Money of many nations circulated in the islands, and the first Hawaiian coinage, a copper cent, did not appear until 1847. In 1846, however, Hawaiian currency was officially defined in terms of U.S. currency, with one Hawaiian dollar (not actually minted until 1883) equal to 100 U.S. cents. Ancient units of length, like the anana, muku, and iwilei, were meanwhile being supplanted by the inch, foot, yard, and fathom. In 1840 a law stipulated that "the weights and measures approved by the Hawaiian Laws are those of Massachusetts. The yard, the gallon, the ton, the pound are all in accordance with the weights and measures of Massachusetts." From that time forward, virtually all statistical series published for the islands were routinely expressed in the same units as those in use on the American mainland.

The second half of the nineteenth century brought continued growth in statistical coverage, as new series were introduced and old ones were refined. During the 1850s, Hawaii conducted its first, complete official population census (1850), began records on immigrant arrivals (1852), initiated postal statistics (1850), and tallied election results (1851). In the 1860s, island

statisticians added series on assessed valuation (1860), passenger arrivals and departures (1860), and employment by occupation (1866). During the 1870s and 1880s, regular reporting was undertaken on prison inmates (1874); mortality by age, sex, nationality, and cause (1876); telephones in use (1880); and building permits (1888). The 1890s brought the first housing census (1890), railroading data (1890), and information on public water supplies (1895).

Hawaii was annexed to the United States in 1898 and accorded territorial status two years later, events which proved to have important statistical (as well as political) ramifications. As an independent nation, nineteenth century Hawaii had enjoyed complete control over all governmental data series. As part of a much larger and often dissimilar country, it lost much of this control. An important example is the population census. The Hawaiian government had conducted censuses at six-year intervals and had routinely obtained data for the numerous ethnic groups and ethnic mixtures important to the islands. The U.S. census, in contrast, was taken at decennial intervals, and frequently forced island populations into mainland classificatory schemes of questionable local value.

Not all of the statistical effects of annexation were negative. In 1901 the Commissioner of Labor published the first of nine exceptionally valuable reports on labor conditions in the territory; this report included survey findings on family income and expenditure patterns; wage and hour data cross-tabulated by sex, race, and industry; and average prices for a wide range of foods and household goods back to 1890. Other series introduced by the U.S. government were the censuses of agriculture and manufactures (for 1899), mineral industries (for 1909), ocean cargo receipts and shipments (1908), newspaper circulation (1912), taxable income of individuals (1916), national park attendance (1921), and licensed radio stations (1922).

The territorial government and business community likewise developed new series. Examples include data on banking (1900), electrical energy (1901), streetcar passengers (1902), pineapple production (1903), insurance (1903), forestry (1904), automobile registration (1908), the sugar industry (1909), gas (1910), tourism (1922), commercial fishing (1928), and air travel (1929).

Progress was especially rapid during the Depression and World War II. Some of the most useful new series were by-products of tax programs: fuel consumption from the liquid-fuel tax base (1932); business income from the general excise tax base (1936); and employment, payrolls, and unemployment insurance from the employment security tax (1939). Important studies of

land use were undertaken in 1930 and 1939, and a pioneering survey of visitor expenditures was made in 1931. The Honolulu Police Department adopted the Uniform Crime Reports program in 1932 and soon thereafter began publication of greatly expanded statistics on crime and law enforcement. Census tracts were defined on all islands in 1937-1939 and used for small-area tabulations of the 1940 census. New social programs contributed data on public welfare caseloads and expenditures (1939), public housing (1939), and social security (1940). In 1939, for the first time, the U.S. Bureau of the Census included Hawaii in its Census of Business, providing data on retail trade, wholesaling, and hotels and other services. The 1940 decennial census added questions on educational attainment and housing. In 1943 the income and expenditure patterns of Honolulu families were surveyed to obtain weights for the consumer price index inaugurated that year. In 1945 the first comparative study of living costs in Honolulu and the mainland was conducted.

With the lifting of wartime security restrictions, older series were given belated release and new ones were developed. Some of the most important new series were regular reports on agricultural production (1946), County Business Patterns (1946), labor force status (1947), mineral production (1947), air cargo (1947), beach pollution (1949), military expenditures (1949), and the territorial balance of payments (1950). At least one serious setback occurred when the legal requirement for reporting cargo movements between Hawaii and the mainland was repealed (1948).

Additional social and economic statistics emerged during the 1950s. Many concerned recreation and tourism. In 1950 the Hawaii Visitors Bureau began the regular distribution of questionnaires to arriving passengers, thereby obtaining data on intended and returning residents as well as on visitors. State park visits were first estimated in 1951-1952, and hotel occupancy rates, in 1954. A report released in 1953 supplied estimates of total and per capita personal income back to 1939; thereafter, Hawaii data regularly appeared in federal publications on this subject. Other new series included annual surveys of pay rates (1951), current estimates of the housing inventory (1954), air pollution measurements (1957), studies of military personnel and dependents (1959), estimates of the number of "top wealth-holders" (1962), and comparative family budgets (1966).

DATA PROCESSING

This great expansion in statistical coverage could not have occurred without a corresponding improvement in data processing technology. Traditional

Hawaiian computational methods were obviously inadequate for even elementary statistical analysis. They likewise failed to meet the needs arising from increased activity in business, industry, and government resulting from routine ordering, billing, accounting, and other operations. Development of a money economy during the second quarter of the nineteenth century and thereafter inevitably required a corresponding growth in data processing and arithmetical methods.

Western techniques and procedures soon supplanted the more primitive Hawaiian methods. Schools operated by the American missionaries added courses in arithmetic around 1828, at first using a simple eight-page primer printed at the mission press. A translation of Fowle's child's arithmetic appeared five years later. Lahainaluna, the first high school in the islands, reported an enrollment of 134 students in 1835 and offered courses in algebra, geometry, trigonometry, and surveying, all taught in Hawaiian. Teachers introduced "Hawaiian" words for 50, 60, 70, 100, 1,000, and other numbers in the decimal system. Soon many islanders were acquainted with the fundamentals of Western computation. The growing foreign community meanwhile provided a small group of workers experienced in handling some of the more difficult problems in data processing.

Even the foreigners, however, were restricted to techniques now regarded as primitive. A basic tool was the tally sheet, with tallies grouped in fives (four vertical lines crossed by a diagonal). One of the earliest white settlers in Hawaii, Don Francisco de Paula Marin, was keeping his accounts in this manner at least as early as 1819. In fact, tally sheets were used by the U.S. Bureau of the Census as late as the 1880s, although European nations had by that time discovered the greater convenience of individual data cards for statistical work. Mechanical devices were sometimes used to aid the eye in tallying. Similar procedures were presumably known to bookkeepers, accountants, and statisticians in Hawaii. The only reference to computational aids in the inventory of government property in the islands, taken at the time of annexation, was "1 ready reckoner, \$2.50." (The same inventory listed numerous typewriters and mimeograph machines, "1 tin spittoon, \$0.25," and "9 paper clips, \$4.50," but no slide rules, adding machines, or calculators.)

One of the earliest calculating aids used in the islands was a Gunter's scale, owned by James Hunnewell at least as early as 1820. The Merriam Webster Dictionary describes this instrument as "a scale consisting of a wooden rule, two feet long, on one side of which are marked scales of equal

parts, of chords, sines, tangents, rhombs, etc., and on the other side, scales of logarithms of these various parts." When Hunnewell donated his old Gunter's scale to the museum of Oahu College in 1854, he wrote: "This old scale is not introduced as the first that was ever carried to the islands, but as the first that was used as a standard measure, in trade, in Honolulu."

The abacus or suan-pan, used in China as early as the sixth century B.C., was introduced to Hawaii before 1842. Sir George Simpson, describing his six-week stay in February and March of that year, wrote:

Of the Chinese, there are altogether about forty in this archipelago. ... Those who are employed as shopmen, keep their accounts with a wonderful degree of exactness, making all their calculations by means of an abacus.

No record exists of the initial appearance of the slide rule in Hawaii. First developed by Napier, Oughtred, Gunter, and Bissaker between 1614 and 1654, the slide rule attained its modern form in 1859. An early version, called the Sliding Gunter, was used by sailors until the nineteenth century, presumably including many who visited Hawaii, although more sophisticated navigators by that time preferred seven- or eight-place logarithmic tables. Slide rules were first advertised in a Honolulu newspaper (The Polynesian) on June 6, 1840.

Automatic data processing, in the form of the adding machine and desk calculator, was not known in the islands until the early 1900s. Both machines were seventeenth century inventions, although their commercial development took many more years. Blaise Pascal built the first known adding machine in 1642. Twenty-nine years later Leibnitz constructed a machine that could multiply. A commercially successful calculator was introduced in Europe in 1820. American manufacturers entered the field much later. The Burroughs adding machine, for example, was first put on the market in 1891, and the Marchant and Monroe desk calculators were not produced commercially until this century's second decade.

The adding machine was introduced to Hawaii about 1903. Late that year, an advertisement for "National Cash Registers, Comptometers, sales books, office fixtures, loose leaf ledgers, printers', stationers' and binders' supplies; advertising novelties, wrappings, twines, bags, etc." was inserted in Thrum's Hawaiian Almanac and Annual by J. A. M. Johnson Company, Bethel and Hotel Streets, Honolulu. The machine named in this advertisement, the Comptometer, was a simple, key-driven, reciprocating machine developed by Felt around 1884.

The Burroughs adding machine, described by George Mellen as the "first computing machine ever seen in Hawaii," arrived in 1904. First sold locally by Pearson & Potter Company, an office equipment and sporting goods store at 931 Fort Street, the Burroughs was mentioned in an advertisement late that year in Thrum's Annual.

Desk calculators were first sold in the islands a few years before World War I, when the Marchant was introduced. According to Howard Stahr, of the Honolulu branch office,

A Mr. Fred R. Harvey was the first distributor of Marchant Calculators either in the latter part of 1911 or the first part of 1912. Mr. Harvey later went into the partnership of what is now known as Wright, Harvey and Wright and at that time purchased and put into use the first Marchant Calculator which they still [1965] have at their office in the Hawaiian Trust Building.

The machine referred to bears a 1911 patent date and a serial number (3430) indicating manufacture before 1916. The earliest reference to Hawaii in company headquarters files is "in a report to the directors in May 1916, at which time it is indicated that 40 machines had been sold in Honolulu."

The Monroe desk calculator was introduced in Hawaii in 1916, four years after its first mainland appearance. The earliest island buyers were Castle & Cooke, Ewa Plantation, Inter-Island Steam Navigation Company, and Oahu Sugar Company, all of which made purchases on May 22, 1916. The first government agency to buy a Monroe was the Territorial Board of Health, on August 28, 1916. The County Auditor in Hilo bought one on October 2, 1916.

Annual issues of the Honolulu city directory listed a growing number of stores selling adding machines and calculators during the first quarter of the twentieth century. Adding machines were first advertised in the 1905-1906 edition, and calculators, in 1921.

The next important step in data processing in Hawaii was the introduction of punched-card equipment, late in 1930.

Punched-card tabulation was first developed in the 1880s and given its first large-scale application in processing the 1890 United States Census. The earliest machines were built by Herman Hollerith, who applied for his first patent in 1884. Later, Hollerith organized the Tabulating Machine Company in order to develop and produce punched-card equipment for accounting use. In 1924 this company became the International Business Machines Corporation (IBM). Similar equipment was manufactured by the Powers Accounting Machine Company, organized after 1910 and absorbed in 1927 by Remington Rand.

The first punched-card equipment in Hawaii was installed in the offices of the Hawaiian Pineapple Company (now Dole Corporation) in late 1930, according to the IBM Honolulu office. This installation--IBM 011 Card Punches, 080 Sorter, and a 285 Tabulator--had been recommended by Paul Schwartz, a consulting engineer from New York. The machines arrived two days before Thanksgiving 1930, accompanied by Steven A. Derby, newly appointed Hawaiian Pineapple statistician, and Vern McQuady of IBM.

The Honolulu Paper Company was then the local agent for IBM.

The first territorial government agency to obtain punched-card equipment was the Bureau of Vital Statistics of the Board of Health. According to the annual report of the governor for 1932,

On October 31, 1931, there was installed a sorting, key punch, and verifying machine, cards, and filing cabinet. This equipment fills a long-felt necessity and now enables the bureau to tabulate and classify its work in a rapid and efficient manner.

The first county agency with punched-card processing was the Honolulu Police Department. This installation appears to have been a direct result of the controversy caused by the Massie rape case. The subsequent investigation of the Police Department revealed serious deficiencies in the statistics on crime and law enforcement. One of the investigators, Captain J. A. Greening, accordingly recommended in March 1932 that the department "install [a] Hollerith tabulating machine and statistical cards." This was done in May 1932.

Automatic data processing was soon adopted by other agencies and on the neighbor islands. The first IBM installation in a federal government agency in Hawaii included card punches, sorter, and tabulator at the Navy Supply Center in June 1938. The Hawaiian Pineapple Company installed IBM equipment on Lanai in 1937; two or three years later, Pioneer Mill installed similar equipment at Lahaina, Maui. Not until December 1964, however, was punched-card equipment used by a county agency (the Hawaii County Board of Water Supply) on a neighbor island.

The next major innovation, the electronic computer, came to Hawaii in 1956, twelve years after it was introduced to the world and five years after its first commercial manufacture.

The digital computer is essentially a twentieth century development, in spite of nineteenth century origins. Its forerunners were the "difference engine" (designed in 1822) and "analytical engine" (1833), conceived by Charles Babbage but still unbuilt at his death in 1871. Actual construction

of a computer waited until 1939, when Howard Aiken of Harvard University, assisted by IBM, began building the first large-scale digital calculating machine that was fully automated and operative. This device, the Harvard Mark I, was completed in 1944. In March 1951, Remington Rand put its UNIVAC I--the "first large-scale, general-purpose, commercially available automatic computer"--on the market.

The first electronic computer in Hawaii was an IBM 650 installed in the Honolulu offices of Libby, McNeill & Libby in November 1956. The Libby IBM 650 (a model introduced on the mainland in July 1953) replaced a punched-card installation put into service just eight years earlier, and was, in turn, supplanted by an IBM 1401 computer in December 1963.

The first true computer installed by a government agency in the islands, another IBM 650, was installed at the U.S. Army Hawaiian Army Base Command on July 25, 1957.

The University of Hawaii Statistical and Computing Center was established in April 1960. Its IBM 650, installed April 1, 1960, was the first electronic computer in a state or county government agency in the islands. In the summer of 1963, the center occupied quarters in the new building of the Hawaii Institute of Geophysics. An IBM 7040, the most powerful computer in civilian use in the islands, was installed at the center and put into operation in September 1963. Later acquisitions included an IBM 360/50 in 1967 and an IBM 370/158 in 1974.

A statewide data processing system was initiated in 1962 and 1963. The state legislature mandated a study of such a system in 1962, and the resulting report, prepared by the consulting firm of Cresap, McCormick and Paget, was presented to them the following year. Governor Burns established the position of director of data processing shortly thereafter. This post was initially filled by Edwin H. Mookini, and subsequently by KeNam Kim, Eugene Harrison, Daniel K. Arita, and Francis Santos. The Statewide Information System (as it was at first designated) operated three computer centers, served by an IBM 1401, IBM 360/30, and UNIVAC 1050. Later renamed the Electronic Data Processing Division of the Department of Budget and Finance, this unit eventually upgraded its equipment to an IBM 360/30 and IBM 370/155.

A similar agency, the Information System Center, was established by the City and County of Honolulu in 1967. Now known as the Department of Data Systems, the city and county unit operates an IBM 360/40 and IBM 360/50.

By November 1964, from 60 to 65 computers were in operation in Hawaii.

This total (based on the number with capabilities equivalent to those of an IBM 1620 or more powerful machine) included twenty-five or thirty in federal agencies (both military and civilian), five in state agencies, none in county agencies, and thirty in private firms. About forty-five or fifty were of IBM manufacture; the remaining fifteen included equipment produced by Remington Rand, Control Data, General Electric, Burroughs, and National Cash Register. Although most of these computers were in use on Oahu, several were on the neighbor islands. Included in the latter category were C. Brewer's IBM 1401 in Hilo, installed late in 1962, and the computers used by the armed forces for satellite tracking and similar purposes.

By the late 1960s, calculating equipment was becoming less bulky, less expensive, and more versatile. The electronic calculator, introduced in 1965, permitted far faster and more complex computations than had hitherto been possible with a desk machine. Pocket electronic calculators entered the market around 1971 and, as a consequence of their compact size, speed and simplicity of operation, and low prices, immediately appealed to many buyers. The State Department of Planning and Economic Development, for example, purchased its first electronic desk calculator in 1970; five years later, many of its staff had such equipment at their desks, and most owned their own pocket equipment.

STATISTICIANS

Statisticians in Hawaii, as elsewhere in the world, have for the most part remained faceless and anonymous. Although their work has often gained wide notoriety, their individual contributions and identities have been known to only a few of their colleagues. This public obscurity extends even to the major professional society for local statisticians, a small but active chapter of the American Statistical Association.

There are many reasons for such widespread anonymity. In part, anonymity is inherent in the very nature of statistical work, which typically requires input from a wide variety of enumerators, clerks, programmers, analysts, and other contributors; no single person can legitimately claim credit for the final product. Anonymity also stems from the decentralized character of statistical reporting in Hawaii. Each government agency and industrial firm has its own statistical unit, and there is no statewide central bureau of statistics headed by a highly visible director. Finally, many island residents who might have become known for their statistical contributions have instead been identified with their subject-matter fields, as educators, economists,

government officials, or businessmen.

The title of "statistician" is in fact a relatively new one in state and county governments in the islands. Most of the early statistical programs were under the direction of political appointees, or persons with different technical backgrounds, such as engineering, law, or teaching. Day-to-day responsibilities for the data were assigned to poorly paid (and sometimes poorly motivated) clerical workers. Few, if any, of these program chiefs and underlings had had much training in statistical work.

Statehood gave new impetus to the development of improved statistical reporting. The first state legislature, elected in 1959, assigned the Department of Planning and Research the responsibility for the collection and dissemination of data bearing on the social, economic, and physical resources of the state. Four years later the Cresap, McCormick, and Paget report on a statewide information system recommended the employment of a "chief statistician." Soon thereafter the position of state statistician was created in the Department of Planning and Economic Development, with responsibility for providing guidance to the governor and executive departments in statistical matters, establishing liaison among state agencies and with other levels of government, delineating statistical areas, and compiling an annual state statistical abstract. Since its creation, this post has been filled by the present writer.

The only professional society in the islands devoted entirely to statistical matters is the Hawaii Chapter of the American Statistical Association, organized in 1947 and continuously active since that time. Although its membership has generally hovered between twenty-five and fifty, few would claim to be full-time professional statisticians. Most of the members have been professionals in other fields that bring them into frequent contact with statistics.

Notwithstanding this pervasive anonymity, both today and in the past, several individuals may rightly lay claim to statistical eminence in Hawaii. Any selection of names is, of course, subjective and likely to dissatisfy other persons with other choices. Even so, few would dispute the contributions of the four men singled out for special mention: Robert C. Wyllie, Richard Armstrong, Thomas G. Thrum, and John F. Child, Jr.

Robert Crichton Wyllie (1798-1865) was a pioneer of government statistics in Hawaii. He was born at Hazelbank, Ayrshire, Scotland, and educated as a physician at the University of Glasgow. After service as a ship's surgeon

and South American merchant, he came to Hawaii in 1844. For twenty years, from 1845 until his death in 1865, he was minister of foreign affairs for the kingdom. In 1844 he contributed a series of long, descriptive articles, crammed with statistics, to The Friend, a Honolulu periodical. Published at monthly intervals over an eight-month span under the general title, "Notes on the Shipping, Trade, Agriculture, Climate, Diseases, Religious Institutions, Civil and Social Condition, Mercantile and Financial Policy of the Sandwich or Hawaiian Islands, Viewed in Relation to Other Groups of Islands, and to the Natural and Acquired Advantages of the Sandwich or Hawaiian Islands," these articles provided the first comprehensive statistical view of the islands.

Wyllie was also responsible for what may well have been the first comprehensive social and economic survey ever undertaken in the Pacific. In May 1846, he sent a list of 116 questions to the General Meeting of the Sandwich Islands Mission for distribution to missionaries throughout the kingdom. These questions today sound like an agenda for modern social research, requesting data on such subjects as wages and hours, dietary patterns, agriculture, manufactures, imports and exports, retail trade, shipping, demographic characteristics, fertility, morbidity, mortality, housing, land use and tenure, education, religion, crime, life expectancy, depopulation, child care, living costs, poverty, taxation, capital improvements, labor supply, water resources, and interracial marriage. The response to this questionnaire was transmitted to Wyllie by Armstrong, Chamberlain, and Castle on March 28, 1848, and their report was soon thereafter published by the government as a ninety-five-page document titled Answers to Questions Proposed by His Excellency, R. C. Wyllie, His Hawaiian Majesty's Minister of Foreign Relations, and Addressed to all the Missionaries in the Hawaiian Islands, May 1846. Wyllie's questions unfortunately required far greater statistical resources than were available to widely dispersed missionaries in an emerging nation, and the answers were considerably less significant than the questions.

Richard Armstrong (1805-1860), a contemporary of Wyllie's, was the official responsible for not only the development of Hawaiian educational statistics but also the first successful government censuses. He was born in McEwensville, Pennsylvania, and graduated from Dickinson College and Princeton Theological Seminary. After working as a surveyor and teacher in Pennsylvania, he came to Hawaii in 1832 and saw service as a missionary on Molokai, the Marquesas, Maui, and Oahu. In 1848 he became minister of Public

instruction and remained in government service until his death. Regarded as "the father of public education in Hawaii," Armstrong contributed to the growth of data on schools and enrollment. He was also in charge of the 1849, 1850, and 1853 census enumerations. These were the first censuses taken under government auspices to achieve a reasonable degree of completeness and accuracy, and provided the earliest available islandwide information on fertility, mortality, and the age, sex, and national origins of the population.

Thomas George Thrum (1842-1932) was an indefatigable compiler and publisher of Hawaiian statistics. Thrum was born in Newcastle, New South Wales, Australia. His formal schooling ended at fourteen. After migrating to Hawaii in 1853, he worked as a seaman, printer, bookstore owner, publisher, and scholar. From 1888 to 1904, he served as registrar of conveyances and did much to improve statistical reporting on land transfers. He founded the Hawaiian Almanac and Annual in 1875 and lived eventually to publish fifty-eight issues. In addition to numerous scholarly articles, the annual volumes of this series contained many pages of island statistics from both governmental and private sources. Although many of the tables published by Thrum simply duplicated those previously issued in government reports, a surprising number embodied the results of original research or brought to public (and scholarly) attention the data in little-known and fugitive sources.

John Francis Child, Jr. (1912-1970), contributed to market research, census geography, and tourism statistics in the islands. He was born in Honolulu and educated at the Wharton School of Finance and Commerce, University of Pennsylvania, where he received a degree in economics. From 1937 until his death, he headed firms engaged in real estate research and appraising, market research, and tourism studies. With Romanzo Adams, professor of sociology at the University of Hawaii, he formed the Committee of Users of Census Data in 1937 and delineated the census tract system used for small-area data of the 1940 and subsequent census enumerations. In 1947 he was the prime organizer of the Hawaii Chapter, American Statistical Association, and from 1947 to the end of 1949 he served as the chapter's first president. In 1950 he originated the Hawaii Visitors Bureau basic data and visitor reaction surveys, and conducted them under contract to the bureau until 1957.

These four--Wyllie, Armstrong, Thrum, and Child--have been joined by many others in the development of Hawaiian statistics. Individual contributions have often been lost to history, and no listing could remotely approach completeness. Yet these statistical pioneers, whether well known, obscure, or

xxviii

anonymous, deserve the heartfelt gratitude of their modern-day successors.

PUBLICATIONS

The statistical series compiled for Hawaii during the past two centuries have appeared in a staggering variety of publications. A bibliography of even the most important would require many pages. It may be useful, however, to cite the most authoritative and accessible general compilations, which have sought to bring together in a single volume or annual series of volumes the major statistics of the state.

As noted earlier, the first such general collection of data was "Notes on the Shipping, Trade, Agriculture, Climate, Diseases, Religious Institutions, Civil and Social Condition, Mercantile and Financial Policy of the Sandwich or Hawaiian Islands, Viewed in Relation to Other Groups of Islands, and to the Natural and Acquired Advantages of the Sandwich or Hawaiian Islands. Published in Monthly Numbers of The Friend, from May to December [1844], and Dedicated to His Majesty by Robert Crichton Wyllie, Esq., of Hazelbank, Ayrshire, Scotland. Honolulu, Oahu, S. I. Printed at the Am. Mission Press. 1845."

Thos. G. Thrum's Hawaiian Almanac and Annual and its successor publication, All About Hawaii, have since 1875 contained numerous statistical tables bearing on the demographic, social, economic, and physical characteristics of the islands. This annual work was compiled and published by its founder from 1875 until his death in 1932, and by the Printshop Company, Ltd., from 1933 through 1940. It was absorbed by the Honolulu Star-Bulletin later that year and combined with All About Hawaii (a guide book first issued in 1928 and revised several times during the 1930s) for 1940-1941 and succeeding years. The current edition of All About Hawaii, Combined with Thrum's Hawaiian Almanac and Standard Guide is the ninety-first, published in 1974 by SB Printers, Inc.

During the territorial period, the best single official source for general statistical information was the Report of the Governor of Hawaii to the Secretary of the Interior. Issued annually (sometimes under variant titles) from 1900 to 1959, these reports brought together a wide range of governmental and privately developed series.

The Chamber of Commerce of Hawaii has published general-purpose statistical compilations since the 1930s. Then known as the Chamber of Commerce of Honolulu, this organization issued Business Statistics in 1935, 1937, and 1938, and General Information About Honolulu, Hawaii, U.S.A. and the Territory in 1938.

1939, 1940, 1941, and 1943. The first issue of Hawaii Facts and Figures appeared in 1946; updated editions, under the same title, have come out at annual or biennial intervals since that time, most recently in 1977.

For the years since statehood, the major official source for general statistics on the islands has been The State of Hawaii Data Book: A Statistical Abstract, published by the Department of Planning and Economic Development. Initially issued by the Department of Planning and Research as Statistical Abstract of Hawaii, 1962, this publication was given its present name in 1967 when the second edition appeared. Subsequent editions appeared in 1968, 1970, and annually thereafter. The 1967 and 1968 editions were the work of Nancy C. Fowler; those for 1962 and 1970 to date, of Robert C. Schmitt, assisted (since 1970) by Lynn Y. S. Zane.

In addition to the Data Book, the Department of Planning and Economic Development has issued three general reference works on Hawaiian statistical sources: Statistics in Hawaii: 34 Papers Prepared for the Hawaii Statistical Reporting System Workshop, February 18-20, 1970, at Waikiki (1970); Proceedings of the Conference on Socio-Environmental Indicators, March 15-17, 1971, Honolulu, Hawaii (1971); and Inventory of Hawaii Planning Information (1973).

Island data also appear in the Statistical Abstract of the United States and its companion volume, the County and City Data Book. The Abstract is an annual publication of the U.S. Bureau of the Census, initiated in 1878. The County and City Data Book, also prepared by the Bureau of the Census, has appeared at less frequent intervals, most recently in 1972. Data for Hawaii have been carried in the Abstract since annexation and in the County and City Data Book since statehood.

TABLES IN SECTION 1

- 1.1 Population estimates, 1778 to 1832
- 1.2 Population: urban and rural, and density, 1831 to 1970
- 1.3 Estimated population, 1832 to 1899
- 1.4 Estimated population, 1900 to 1976
- 1.5 Population by island, 1831 to 1970
- 1.6 Population of counties and districts, 1831 to 1970
- 1.7 Population of major cities and towns, 1831 to 1970
- 1.8 Population of the City and County of Honolulu, by census tracts, 1920 to 1970
- 1.9 Age and sex, 1831 to 1970 (broad age groupings)
- 1.10 Age and sex, 1831 to 1896 (detailed age groupings)
- 1.11 Age and sex, 1900 to 1970 (detailed age groupings)
- 1.12 Ethnic stock, 1853 to 1970
- 1.13 Ethnic mixture, 1950 to 1976
- 1.14 Persons 10 years old and over unable to speak English, 1900 to 1930
- 1.15 Mother tongue, 1930 to 1970
- 1.16 Marital status, 1853 to 1970
- 1.17 Population in households and group quarters, 1890 to 1970
- 1.18 Household and family characteristics, 1950 to 1970
- 1.19 Church membership, 1825 to 1972
- 1.20 Components of population change, 1850 to 1976

SECTION 1

Population

This section contains statistics on total population, population distribution, density, urbanization, age, sex, ethnic stock, mother tongue, marital status, households and families, church membership, and components of population change.

Most of the tables pertain to total resident population, although several also contain estimates of civilian resident population and total de facto population. Total resident population, the basis of the decennial United States census, refers to all persons whose usual place of residence is in a given location; it includes armed forces stationed in the area, their dependents domiciled there, and residents who are temporarily absent. Civilian resident population excludes armed forces but includes their dependents. De facto population, the basis of the censuses conducted by the Hawaiian government during the nineteenth century, refers to all persons physically present in a given area, regardless of their usual place of residence; it thus includes tourists and other visitors present on the census or estimate date but excludes residents who are temporarily absent.

The tables on population distribution show totals for counties, islands, districts, census tracts, and major urban places. The boundaries of the first three types of areas have been relatively permanent, but the last two have changed appreciably over the years.

Hawaii is made up of eight major islands divided, since 1905, among four counties. (A fifth county, Kalawao, is coterminous with the Kalaupapa Leper Settlement; it lacks any governmental structure and is usually included with Maui County for statistical purposes.) The counties are divided into twenty-eight districts. These districts have existed since precontact times, and their boundaries have undergone little or no change from census to census. What changes have occurred have been traced in some detail in Robert D. King's article on "Districts in the Hawaiian Islands," published in A Gazetteer of the Territory of Hawaii (edited by John Wesley Coulter) in 1935.

The cities, towns, and villages of the state have never been accorded separate municipal governments and consequently have never been assigned legal city limits. The only exceptions to this rule have been Hilo, which was given official boundaries in 1911, and Honolulu, which was officially bounded for statistical purposes in 1923; neither set of boundaries referred to a separate

political entity, however. It is thus not surprising that early censuses generally ignored urban places (other than Hilo and Honolulu) in their tabulations. Beginning in 1930, however, the Bureau of the Census routinely assigned ad hoc urban boundaries for its own use. A law passed by the 1963 legislature required the Department of Planning and Economic Development to define statistical boundaries for all cities, towns, and villages. In response to this mandate, the department defined 93 places for the 1970 census. Separate population counts for urban and rural territories have consequently been available since 1930, but it is important to note that the urban boundaries have changed markedly during these decades in response to shifting settlement patterns.

Similar changes have occurred in census tract boundaries. Census tracts are relatively small statistical areas, characterized by a high degree of homogeneity and relative permanence in their boundaries. The entire territory was tracted prior to the 1940 census. Since that time the tracts have been altered in many ways: boundaries have been shifted, tracts have been split and split again, a few tracts have been consolidated, and the entire system has been renumbered. On Oahu alone, the number of tracts increased from 42 in 1940 to 84 in 1950, 113 in 1960, and 161 in 1970. The tract table in this section is based on the 1940 boundaries.

Statistics on ethnic stock are complicated both by the large number of separate groups in Hawaii's population and by the high rate of interracial marriage. Islanders have traditionally recognized at least ten distinct groups: Chinese, Filipinos, haoles (persons of north European extraction), Hawaiians, Japanese, Koreans, Negroes, Portuguese, Puerto Ricans, and Samoans. In addition, there are many residents of mixed race, most of them part Hawaiian. Prior to 1970, census statistics provided a separate category for the part Hawaiians and arbitrarily allocated other mixtures to one of the "pure" categories: to the non-Caucasian side if part Caucasian, and to the father's race if some other mixture, such as Chinese-Japanese. In 1970, however, ethnic stock was assigned on the basis of self-identification, without any provision for persons of mixed race; if undecided, respondents were instructed to use the race of their father. This practice unfortunately destroyed all comparability with earlier censuses and also with ethnic data compiled by state and local agencies. The Department of Health, for example, continued to use the older census definitions in its registration activities,

and in its Hawaii Health Surveillance Program survey it provided separate categories for both part Hawaiians and mixtures other than part Hawaiian.

Data on households, families, married couples, and unrelated individuals are likewise subject to misunderstanding, primarily because of confusion regarding definitions. The Bureau of the Census has defined a "household" as all the persons who occupy a housing unit, that is, a house, an apartment or other group of rooms, or a room that constitutes separate living quarters. A person living alone is counted as a household; so is a group of unrelated persons sharing the same housing unit as partners. The term "family," in contrast, refers to a group of two or more persons related by blood, marriage, or adoption and residing together in a household. A "married couple" is defined as a husband and wife living together in the same household, with or without children and other relatives. "Unrelated individuals" are persons (other than inmates of institutions) who are not living with any relatives. Persons who live in group quarters--typically military barracks, institutions, rooming houses, dormitories, or aboard ships--are not included in the household population.

Historical statistics on church membership should be interpreted with special caution. Definitions of "membership" differ significantly from group to group and from survey to survey.

Statistics on the population of Hawaii have been collected since 1778, or even earlier if Umi's legendary census is counted. Both King and Bligh recorded population estimates by island at the time of Cook's visit. The missionaries and their associates, notably Ellis, Stewart, and Jarves, prepared estimates for 1823. Contemporary observers differed widely in their figures for specific areas, and recent writers who have reviewed these early estimates have similarly disagreed. Controversy has been especially great with respect to the population on first contact, with published totals ranging from 100,000 to 500,000. These early estimates have been discussed at some length in two works by the present author, Demographic Statistics of Hawaii: 1778-1965 (1968) and "New Estimates of the Pre-Censal Population of Hawaii" (in The Journal of the Polynesian Society, June 1971).

The first actual censuses of the population were conducted under missionary auspices in 1831-1832 and 1835-1836. A full description of these censuses was prepared by the present author and published in 1973 by the Bernice P. Bishop Museum under the title The Missionary Censuses of Hawaii.

The first census law was enacted in 1839, but it was not until 1850 that the Hawaiian government was able to conduct a complete and accurate headcount. Efforts made in 1847 and 1848 were total failures, and the 1849 census, while vastly superior, still suffered from significant underenumeration. The earliest governmental count fully accepted by both contemporary and modern observers was the one undertaken in January 1850.

From that time until the end of the century, the Hawaiian censuses were constantly expanded and improved. Censuses were made in 1853, 1860, and at six-year intervals thereafter until 1896. Coverage eventually included data on geographic distribution, age, sex, race, nationality, marital status, fertility, disability, length of residence, religion, occupation, real estate ownership, and housing.

Beginning in 1900, Hawaii was included in the decennial U.S. census. Subsequent enumerations were made at ten-year intervals through 1970. Important methodological developments included the extensive use of sampling beginning in 1950, the first use of mailed questionnaires in 1970, and the availability of tapes as well as printed reports in 1970. Data were first tabulated for urban places (other than Honolulu and Hilo) in 1930, for census tracts in 1940, and for city blocks in 1960. Subjects typically covered by the U.S. census included age, sex, race, place of birth, citizenship, marital status, household relationship, school attendance, and occupation. Coverage was extended to such subjects as unemployment and mother tongue in 1930; years of school completed (replacing literacy), income, and occupancy, condition, and financial characteristics of housing in 1940; children ever born and place of residence five years earlier in 1950; and place of work and automobile availability in 1960.

Census counts have for many years been supplemented and updated by post-censal estimates. Such estimates, based on the most recent census count and subsequent data on births, deaths, and passenger arrivals and departures, were published by the Hawaiian government during the closing years of the nineteenth century. The same procedure was used for current estimates by the Territorial Board of Health, beginning around 1912 and continuing, at six- or twelve-month intervals, until the late 1960s. Similar, but not identical, postcensal estimates were issued by the U.S. Bureau of the Census beginning in the 1930s. All of these estimates purported to show total or civilian resident population, but beginning in 1956 the Health Department

estimates were adjusted by other agencies using Hawaii Visitors Bureau data on visitors present and residents absent to devise estimates of de facto population. Although the Bureau of the Census postcensal data stopped at the statewide level, locally produced estimates showed county and island totals as well, and beginning in 1957, they included estimates for Oahu census tracts. During the late 1960s, it was evident that the passenger statistics used to compute net migration were no longer sufficiently accurate for the purpose, and the two state agencies then producing estimates, the Department of Health and Department of Planning and Economic Development (DPED), joined the Federal-State Cooperative Program for Local Population Estimates, sponsored by the Bureau of the Census, to develop a substitute methodology and regular small-area estimates acceptable to all three organizations. After 1970 such estimates were jointly issued by the three participating groups, based on the results obtained by averaging estimates by a variety of methods: Census Component Method II, the Regression Method, the Administrative Records Method, and sometimes the Composite and Housing Unit Methods. These estimates and methodological descriptions are published by the Bureau of the Census in its Current Population Reports, series P-25 and P-26; by the DPED in its statistical report series, The Population of Hawaii; and by the Department of Health in its Annual Report, Statistical Supplement.

Such postcensal estimates are, of course, subject to considerable error and must eventually be revised in the light of subsequent census findings. So revised, they become intercensal (as distinct from postcensal) estimates. Intercensal revisions of this type have been published for 1848-1959 in Demographic Statistics of Hawaii: 1778-1965, for 1930-1969 in several Bureau of the Census reports (and recapitulated in DPED Statistical Reports 81 and 86), and for 1900-1969 in the Department of Health's "Vital Statistics and Population of Hawaii, 1900 to 1973" (R & S Report, No. 5, June 1974).

Estimates of the components of population change--births, deaths and net migration--have been computed back to 1850. Data for earlier periods should be interpreted with considerable caution, however, because underregistration of births and deaths and inadequate coverage of passenger movements has produced sizable "errors of closure" (unaccounted-for growth or decline) for many intercensal periods. Estimates on the components of population change have appeared in Demographic Statistics of Hawaii: 1778-1965; the Census Bureau's Current Population Reports, series P-23, P-25, and P-26; and the

DPED statistical report series on The Population of Hawaii. The estimates included in this section are limited to intercensal periods; persons interested in annual data (which, however, tend to be much less accurate) should consult table 2.1 for natural increase data and tables 3.6 and 3.8 through 3.11 for migration statistics.

Population data for the nation as a whole are contained in Historical Statistics of the United States, Colonial Times to 1970, chapter A.

TABLE 1.1 POPULATION ESTIMATES, 1778 TO 1832

Year	Authority ¹	Estimated Population
1778-79	King, 1779 ²	400,000
	Bligh, 1779	242,200
	Dixon, 1787	200,000
	Golovnin, 1818	200,000
	Jarves, 1843 ³	300,000
	Buck, 1951	100,000-150,000
	Schmitt, 1971	200,000-250,000
1796	Adams ⁴	270,000-280,000
1800	Schmitt, 1971	165,000-195,000
1803-04	Adams ⁴	266,000-280,000
1804-05	Adams ⁴	152,000-154,000
1805	Youngson, 1805	264,160
1819	Adams ⁴	144,000-145,000
1823	Jarves, 1843 ⁵	142,050
	Adams ⁴	134,925
	Schmitt, 1971	135,000-145,000
1831-32	Census	130,313
	Adams ⁴	124,449

1. With year in which estimate was actually prepared or first published.

2. Accepted by A. Bishop (1838), Forbes (1883), and others.

3. Accepted by Adams (1937), Hormann (1949), Lind (1955), and others.

4. From undated manuscript, probably prepared around 1935; cited in Schmitt (1968).

5. Based on earlier estimates by Ellis and Stewart.

Source: Robert C. Schmitt, "New Estimates of the Pre-Censal Population of Hawaii," The Journal of the Polynesian Society, June 1971, pp. 237-243.

TABLE 1.2 POPULATION: URBAN AND RURAL, AND DENSITY, 1831 TO 1970

Census Date	Total Population		Urban ¹		Rural ¹		Popula- tion per Square Mile ²
	Number	Percent Change ³	Places	Popu- lation	Popu- lation	Percent of Total	
1831-32 ⁴	129,814	...	1	13,344	116,470	89.7	20.2
1835-36 ⁵	108,568	-4.5	1	12,994	95,574	88.0	16.9
1850, Jan.	84,165	-1.8	1	14,484	69,681	82.8	13.1
1853, Dec. 26	73,138	-3.5	1	11,455	61,683	84.3	11.4
1860, Dec. 24	69,800	-0.7	1	14,310	55,490	79.5	10.9
1866, Dec. 7	62,959	-1.7	1	13,521	49,438	78.5	9.8
1872, Dec. 27	56,897	-1.7	1	14,852	42,045	73.9	8.9
1878, Dec. 27	57,985	0.3	1	14,114	43,871	75.7	9.0
1884, Dec. 27	80,578	5.5	1	20,487	60,091	74.6	12.5
1890, Dec. 28	89,990	1.8	1	22,907	67,083	74.5	14.0
1896, Sept. 27	109,020	3.3	1	29,920	79,100	72.6	17.0
1900, June 1	154,001	9.4	1	39,306	114,695	74.5	24.0
1910, Apr. 15	191,874	2.2	2	58,928	132,946	69.3	29.9
1920, Jan. 1	255,881	3.0	2	92,251	163,630	63.9	39.8
1930, Apr. 1	368,300	3.6	12	197,937	170,363	46.3	57.3
1940, Apr. 1	422,770	1.4	17	264,262	158,508	37.5	65.8
1950, Apr. 1	499,794	1.7	17	344,869	154,925	31.0	77.8
1960, Apr. 1	632,772	2.4	19	483,961	148,811	23.5	98.5
1970, Apr. 16	769,913	2.0	34	643,222	126,691	16.5	119.8

1. The urban population comprises all persons living in urbanized areas (first defined for Hawaii in 1960) and in places of 2,500 or more outside urbanized areas. Statistical boundaries were first established for Honolulu in 1831, Hilo in 1911 (for 1910 census tabulations), and other urban places beginning in 1930. The rural population includes all persons living outside urban places.

2. Based on land area only (6,425 square miles).

3. Annual rate since the preceding census, based on the formula for continuous compounding.

4. Total population also reported as 130,313.

5. Total population also reported as 108,393 and 108,579.

6. Revised.

Source: Robert C. Schmitt, The Missionary Censuses of Hawaii (Bernice P. Bishop Museum, May 1973), p. 9, and Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 10, 70, and 115; U.S. Census of Population: 1970, Final Report PC(1)-A13, table 1 and correction note.

TABLE 1.3 ESTIMATED POPULATION, 1832 TO 1899

Year	Jan. 1	July 1	Year	Jan. 1	July 1
1832	130,300	127,400	1866	64,300	63,600
1833	124,500	121,700	1867	62,900	62,400
1834	119,000	116,300	1868	61,800	61,000
1835	113,600	111,100	1869	60,300	60,000
1836	108,600	107,900	1870	59,800	59,100
1837	107,200	106,600	1871	58,400	58,200
1838	105,900	105,200	1872	57,900	57,400
1839	104,600	103,900	1873	56,900	56,300
1840	103,300	102,700	1874	55,700	55,200
1841	102,000	101,400	1875	54,600	54,200
1842	100,800	100,100	1876	53,900	54,500
1843	99,500	98,900	1877	55,100	55,500
1844	98,300	97,700	1878	55,800	56,900
1845	97,100	96,500	1879	58,000	60,600
1846	95,900	95,300	1880	63,200	64,600
1847	94,700	94,100	1881	66,100	67,900
1848	93,500	90,300	1882	69,700	70,700
1849	87,100	85,600	1883	71,800	75,100
1850	84,200	83,900	1884	78,500	79,500
1851	83,700	82,000	1885	80,600	82,000
1852	80,300	80,000	1886	83,400	84,000
1853	79,600	76,400	1887	84,500	84,700
1854	73,100	73,000	1888	84,900	85,700
1855	72,900	72,900	1889	86,500	86,900
1856	72,800	72,600	1890	87,300	88,700
1857	72,400	72,100	1891	90,000	92,400
1858	71,800	71,600	1892	94,900	95,400
1859	71,300	71,000	1893	96,000	96,900
1860	70,600	70,200	1894	97,800	99,100
1861	69,800	69,300	1895	100,400	102,000
1862	68,800	68,200	1896	103,700	107,300
1863	67,600	66,900	1897	110,800	113,200
1864	66,100	65,500	1898	115,600	120,600
1865	64,900	64,600	1899	125,500	137,300

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 42 and 223.
 Intercensal values prior to 1848 based on geometric interpolation.

TABLE 1.4 ESTIMATED POPULATION, 1900 TO 1976

Year (July 1)	Resident Population			Year (July 1)	Resident Population			De Facto Popu- lation
	Total	Armed Forces	Civilian		Total	Armed Forces	Civilian	
1900	154,193	293	153,900	1940	427,884	30,041	397,843	429,177
1901	155,547	347	155,200	1941	459,335	48,187	411,148	460,939
1902	157,436	336	157,100	1942	582,026	135,907	446,119	582,026
1903	162,634	334	162,300	1943	649,650	199,832	449,818	649,650
1904	167,976	376	167,600	1944	858,945	406,811	452,134	858,945
1905	166,728	328	166,400	1945	814,601	354,734	459,867	814,601
1906	166,895	495	166,400	1946	545,439	65,731	479,708	545,476
1907	174,740	540	174,200	1947	526,238	38,673	487,565	526,910
1908	182,662	662	182,000	1948	517,013	32,849	484,164	518,432
1909	188,316	1,716	186,600	1949	511,039	30,681	480,358	512,335
1910	193,225	1,925	191,300	1950	497,980	20,063	477,917	500,073
1911	196,735	2,835	193,900	1951	514,256	44,188	470,068	516,681
1912	207,276	4,421	202,855	1952	517,378	57,260	460,118	520,252
1913	218,417	7,090	211,327	1953	509,947	47,215	462,732	513,711
1914	226,868	8,545	218,323	1954	505,461	37,762	467,699	509,725
1915	231,515	9,820	221,695	1955	539,292	56,807	482,485	544,116
1916	237,538	8,852	228,686	1956	558,575	57,246	501,329	564,192
1917	250,138	13,249	236,889	1957	584,466	59,581	524,885	591,079
1918	254,465	11,050	243,415	1958	605,356	55,011	550,345	611,767
1919	260,408	8,851	251,557	1959	622,087	56,596	565,491	630,479
1920	260,726	6,652	254,074	1960	641,520	59,183	582,337	651,185
1921	271,790	9,597	262,193	1961	658,684	60,812	597,872	668,224
1922	284,290	12,542	271,748	1962	683,513	78,977	604,536	693,634
1923	299,507	17,014	282,493	1963	682,241	59,562	622,679	694,503
1924	308,912	15,925	292,987	1964	699,858	73,174	626,684	711,158
1925	325,960	17,874	308,086	1965	703,804	53,381	650,423	715,428
1926	331,126	17,709	313,417	1966	710,325	54,058	656,267	724,581
1927	337,294	17,169	320,125	1967	722,528	55,981	666,547	742,639
1928	351,382	17,598	333,784	1968	734,456	57,013	677,443	758,839
1929	360,406	17,862	342,544	1969	750,228	48,474	701,754	778,848
1930	367,880	18,908	348,972	1970	774,173	53,039	721,134	801,780
1931	377,530	18,845	358,685	1971	798,034	50,802	747,232	830,513
1932	385,013	18,526	366,487	1972	820,895	51,971	768,924	863,516
1933	383,973	19,228	364,745	1973	843,720	58,134	785,586	895,510
1934	384,331	18,644	365,687	1974	854,060	57,505	796,555	912,268
1935	389,562	22,005	367,557	1975	868,396	58,762	809,634	928,244
1936	396,072	25,512	370,560	1976 ¹	886,621	55,986	830,635	952,306
1937	400,816	24,952	375,864					
1938	409,960	27,839	382,121					
1939	415,705	27,163	388,542					

1. Provisional.

Source: Hawaii State Department of Health, "Vital Statistics and Population of Hawaii, 1900 to 1973," R & S Report, No. 5, June 1974, table 2; Hawaii State Department of Planning and Economic Development, unpublished estimates for 1970-1976.

TABLE 1.5 POPULATION BY ISLAND, 1831 TO 1970

Year	Total	Hawaii	Kahoolawe	Maui	Lanai	Molokai	Oahu ¹	Kauai	Niihau
1831-32	130,313	45,792	80	35,062	1,600	6,000	29,755	10,977	1,047
1835-36	108,579	39,364	80	24,199	1,200	6,000	27,809	8,934	993
1850	84,165	25,864	--	21,047	604	3,540	25,440	6,956	714
1853	73,138	24,450	--	17,574	600	3,607	19,126	6,991	790
1860	69,800	21,481	--	16,400	646	2,864	21,275	6,487	647
1866	62,959	19,808	--	14,035	394	2,299	19,799	6,299	325
1872	56,897	16,001	--	12,334	348	2,349	20,671	4,961	233
1878	57,985	17,034	--	12,109	214	2,581	20,236	5,634	177
1884	80,578	24,991	--	15,970	2,614	2,826	28,068	8,935	
1890	89,990	26,754	--	17,357	2,826	2,826	31,194	11,859	
1896	109,020	33,285	--	17,726	105	2,307	40,205	15,228	164
1900	154,001	46,843	--	25,416		2,504	58,504	20,562	172
1910	191,874	55,382	2	28,623	131	1,791	81,993	23,744	208
1920	255,881	64,895	3	36,080	185	1,784	123,496	29,247	191
1930	368,300	73,325	2	48,756	2,356	5,032	202,887	35,806	136
1940	422,770	73,276	1	46,919	3,720	5,340	257,696	35,636	182
1950	499,794	68,350	--	40,103	3,136	5,280	353,020	29,683	222
1960	632,772	61,332	--	35,717	2,115	5,023	500,409	27,922	254
1970	769,913	63,468	--	38,691	2,204	5,261	630,528	29,524	237

1. Includes outlying islands legally part of the City and County of Honolulu: Palmyra (32 in 1940, uninhabited in 1950, and detached in 1959) and the Northwestern Hawaiian Islands from Nihoa to Kure but excluding Midway (14 in 1950, 15 in 1960, and 31 in 1970). Midway (35 in 1910, 31 in 1920, 36 in 1930, 437 in 1940, 416 in 1950, 2,356 in 1960, and 2,220 in 1970), often included with Oahu for census purposes, has never been under Hawaiian jurisdiction.

Source: Missionary censuses of 1831 and 1835, censuses by the Hawaiian government for 1850-1896, and censuses by the U.S. Bureau of the Census, 1900-1970, reported in Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 42, 70, and 116, and U.S. Bureau of the Census, U.S. Census of Population: 1970, Final Report PC(1)-A13, table 9 and correction note.

TABLE 1.6 POPULATION OF COUNTIES AND DISTRICTS, 1831 TO 1970

County and District ¹	1831- 1832 ²	1835- 1836 ²	1850 ³	1853	1860	1866	1872
State total	129,814	108,568	84,165	73,138	69,800	62,959	56,897
Hawaii County	45,700	39,364	25,864	24,450	21,481	19,808	16,001
Puna		4,800	...		2,158	1,932	1,288
South Hilo	12,500	7,087	...	7,748	4,742	4,655	4,220
North Hilo			...		4	2,230	1,516
Hamakua	4,786	4,015	...		2,632	2,345	2,086
North Kohala	8,679	6,175	...	3,395	1,321	1,089	892
South Kohala	1,427	1,396	...		3,488	3,268	2,218
North Kona	6,649	5,957	...	4,110	2,683	2,449	1,916
South Kona	5,751	4,997	...	3,113	2,227	2,020	1,865
Ka'u	5,800	4,766	...	2,210			
Maui County ⁵	42,342	31,479	25,191	21,781	19,910	16,728	15,031
Hana	10,750	8,024	...	5,331	4,509	3,501	2,760
Makawao	10,743	7,144	...	2,947	3,310	2,653	2,512
Wailuku	5,235	3,873	...	4,463	3,695	4,300	4,060
Lahaina	8,415	5,234	...	4,833	4,886	3,581	3,002
Lanai	1,200	1,200	604	600	646	394	348
Molokai							
Kalawao ⁵	6,000	6,000	3,540	3,607	2,864	2,299	2,349
City & Co. of Honolulu	29,745	27,798	25,440	19,126	21,275	19,799	20,671
Honolulu	13,344	12,994	14,484	11,455	14,310	13,521	14,852
Koolaupoko	4,987	4,631	...	2,749	2,318	2,195	2,028
Koolauloa	2,891	2,681	...	1,345	1,187	1,163	1,269
Wai'alua	2,640	2,415	...	1,126	1,309	1,136	851
Wahiawa ⁶	...	...	...	...	...	...	...
Waianae	1,868	1,654	...	2,451	2,151	1,784	1,671
Ewa	4,015	3,423	...				
Kauai County	12,027	9,927	7,670	7,781	7,134	6,624	5,194
Hanalei	...	...	...	1,998	1,641	2,186	1,558
Kawaihau ⁷	...	...	...	
Lihue ⁸	...	...	...	1,615	1,738	1,478	1,301
Koloa	...	...	...	1,296	1,324	1,084	833
Waimea	...	...	...	2,872	2,431	1,876	1,502

TABLE 1.6 (cont.)

County and District ¹	1878	1884	1890	1896	1900	1910	1920
State total	57,985	80,578	89,990	109,020	154,001	191,874	255,881
Hawaii County	17,034	24,991	26,754	33,785	46,843	55,382	64,895
Puna	1,043	944	834	1,748	5,128	6,834	7,282
South Hilo	] 4,231	7,988	9,935	12,878	19,785	18,468	23,828
North Hilo						4,077	5,644
Hamakua	1,805	3,908	5,002	5,680	6,919	9,037	9,122
North Kohala	3,299	4,481	4,303	4,125	4,366	5,398	6,275
South Kohala	718	589	538	558	600	922	1,304
North Kona	1,967	1,773	1,753	3,061	3,819	3,377	3,709
South Kona	1,761	1,825	1,812	2,327	2,372	3,191	3,703
Ka'u	2,210	3,483	2,577	2,908	3,854	4,078	4,028
Mau'i County ⁵	14,904	18,584	20,183	20,138	27,920	30,547	38,052
Hana	2,067	2,814	3,270	3,792	5,276	3,241	3,100
Makawao	3,408	5,073	5,266	5,464	7,236	8,855	10,900
Wailuku	4,186	5,814	6,708	6,072	7,953	11,742	14,941
Lahaina	2,448	2,269	2,113	2,398	] 4,951	4,787	7,142
Lanai	214	] 2,614	2,826	105		131	185
Molokai] 2,581] 2,614] 2,826] 2,307] 2,504	1,006	1,117
Kalawao ⁵		785	667				
City & Co. of Honolulu	20,236	28,068	31,194	40,205	58,504	81,993	123,496
Honolulu	14,114	20,487	22,907	29,920	39,306	52,183	81,820
Koolaupoko	2,402	2,621	2,499	2,753	2,844	3,251	4,035
Koolauloa	1,082	1,321	1,444	1,835	2,372	3,204	4,490
Wai'alua	939	1,265	1,286	1,349	3,285	6,083	7,641
Wahiawa ⁶	...	...	...	...	...	799	4,302
Waianae	] 1,699	] 2,374	903	1,281	1,008	1,846	1,802
Ewa			2,155	3,067	9,689	14,627	19,406
Kauai County	5,811	8,935	11,859	15,392	20,734	23,952	29,438
Hanalei	] 1,597	1,807	2,472	2,775	2,630	2,457	2,549
Kawaihau ⁷		1,882	2,101	2,762	3,220	2,580	4,533
Lihue ⁸	1,832	1,984	2,792	3,425	4,434	4,951	6,223
Koloa	1,008	1,500	1,755	1,835	4,564	5,769	7,270
Waimea	1,374	1,762	2,739	4,595	5,886	8,195	8,863

TABLE 1.6 (cont.)

County and District ¹	1930	1940	1950	1960	1970
State total	368,300	422,770	499,794	632,772	769,913
Hawaii County	73,325	73,276	68,350	61,332	63,468
Puna	8,284	7,733	6,747	5,030	5,154
South Hilo	29,572	32,588	34,448	31,553	33,915
North Hilo	5,028	4,468	3,505	2,493	1,881
Hamakua	8,864	8,244	6,056	5,221	4,648
North Kohala	6,171	5,362	4,456	3,386	3,326
South Kohala	1,250	1,352	1,505	1,538	2,310
North Kona	4,728	3,924	3,607	4,451	4,832
South Kona	4,677	4,024	3,723	4,292	4,004
Ka'u	4,751	5,581	4,303	3,368	3,398
Maui County ⁵	56,146	55,980	48,519	42,855	46,156
Hana	2,436	2,663	1,495	1,073	969
Makawao	17,021	14,915	12,800	10,409	9,979
Wailuku	21,363	21,051	19,835	19,391	22,219
Lahaina	7,938	8,291	5,973	4,844	5,524
Lanai	2,356	3,720	3,136	2,115	2,204
Molokai	4,427	4,894	4,940	4,744	5,089
Kalawao ⁵	605	446	340	279	172
City & Co. of Honolulu	202,887	257,696	353,020	500,409	630,528
Honolulu	137,582	179,358	248,034	294,194	324,871
Koolaupoko	6,385	9,006	20,779	60,238	92,219
Koolauloa	5,258	4,968	5,223	8,043	10,562
Waialua	8,129	8,397	7,906	8,221	9,171
Wahiawa ⁶	18,103	22,417	17,363	34,595	37,329
Waianae	1,923	2,948	7,024	16,452	24,077
Ewa	25,507	30,602	46,691	78,666	132,299
Kauai County	35,942	35,818	29,905	28,176	29,761
Hanalei	2,186	2,065	1,619	1,312	1,182
Kawaihau ⁷	7,441	6,512	6,291	6,498	7,393
Lihue ⁸	7,515	7,896	6,760	6,297	6,766
Koloa	8,452	8,493	7,286	7,012	6,851
Waimea	10,348	10,852	7,949	7,057	7,569

TABLE 1.6 (cont.)

1. For changes in district boundaries, see Robert D. King, "Districts in the Hawaiian Islands," in John Wesley Coulter, comp., A Gazetteer of the Territory of Hawaii (University of Hawaii, 1935), pp. 214-230.

2. Totals and subtotals for 1831-1832 and 1835-1836 in this table differ somewhat from the corresponding data in the preceding table. Detail by districts, moreover, does not always add exactly to the indicated county totals.

3. Except for Honolulu, not available by district.

4. The combined total for Hamakua and South Kohala, not separately available, was 3,874.

5. Kalawao County (Kalaupapa Settlement) included for statistical purposes with Maui County.

6. Wahiawa District was organized in 1913 from part of Waialua District.

7. Data for 1853-1878 refer to Koolau District, which included parts of present-day Hanalei and Kawaihau Districts.

8. Data for 1853-1878 refer to Puna District, which included present-day Lihue District and most of Kawaihau District.

Source: Robert C. Schmitt, The Missionary Censuses of Hawaii (Bernice P. Bishop Museum, May 1973), p. 9, and Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 71 and 116-117, as corrected; U.S. Census of Population: 1970, Final Report PC(1)-A13, table 10 and correction note.

TABLE 1.7 POPULATION OF MAJOR CITIES AND TOWNS, 1831 TO 1970

Year	Honolulu ¹	Year	Honolulu ¹	Year	Hilo ²	Honolulu ¹	
1831-32	13,344	1866	13,521	1896	...	29,920	
1835-36	12,994	1872	14,852	1900	...	39,306	
1850	14,484	1878	14,114	1910	6,745	52,183	
1853	11,455	1884	20,487	1920	10,431	81,820	
1860	14,310	1890	22,907				
City or Town ³		1930	1940	1950	1960 ⁴	1970	
Hawaii							
Hilo ²		19,468	23,353	27,198	25,966	26,353	
Maui							
Puunene		...	4,456	] 6,306 [	3,054	1,132
Kahului		2,353	2,193		4,223	8,280	
Wailuku		6,998	7,319		7,424	6,969	7,979
Lahaina		2,730	5,217		4,025	3,423	3,718
Lanai							
Lanai City		...	3,597	2,746	2,056	2,122	
Molokai							
Kaunakakai		...	722	709	740	1,070	
Oahu							
Honolulu Urbanized Area ⁵		...	...	...	351,336	443,749
Honolulu ¹		137,582	179,358	248,034	294,194	324,871	
Aiea		3,021	3,553	3,714	11,826	12,560	
Pearl City		1,071	1,938	2,663	7,072	19,552	
Waipahu		5,874	6,906	7,169	7,802	24,150	
Wahiawa		3,370	5,420	8,369	15,512	17,598	
Schofield Barracks ⁶		11,694	16,331	7,179	14,873	13,516	
Kaneohe		...	1,762	3,208	14,414	29,903	
Kailua ⁷		...	1,540	7,740	25,622	33,783	
Kauai							
Lihue		2,399	4,254	3,870	3,908	3,124	
Kapaa		2,818	2,828	3,177	3,439	3,794	

TABLE 1.7 (cont.)

1. As defined for statistical purposes, the city of Honolulu is coterminous with Honolulu District, extending from Maunaloa to Moanalua, inclusive, and including the Northwestern Hawaiian Islands (except Midway) and (before 1960) Palmyra. This definition has been used in every census since the first, conducted in 1831-1832.

2. Based on the boundaries adopted in 1911 for 1910-1940, those adopted in 1941 for 1950 and 1960, and the boundaries adopted in 1969 for 1970.

3. Except for Hilo and Honolulu, these places were first shown separately in the 1930 and later censuses. Boundaries of these places, established by the Bureau of the Census for the 1930-1960 censuses and by the Hawaii State Department of Planning and Economic Development (under an act passed by the 1963 state legislature) for the 1970 census, have changed considerably from census to census.

4. The 1960 population within the 1970 boundaries of certain places was as follows: Hilo, 23,005; Aiea, 11,436; Kaneohe, 15,291; Kailua, 24,402; and Lihue, 4,106. See the Hawaii State Department of Planning and Economic Development, Statistical Boundaries of Cities, Towns and Villages as Approved through December 31, 1971 (Report SB-A7, January 1972).

5. As defined by the Bureau of the Census, the Honolulu Urbanized Area includes the city of Honolulu plus the Pearl Harbor area, including Aiea, Pearl City, and Waipahu.

6. Data for 1930-1950 include Wheeler AFB and East Range; see the Hawaii State Census Tract Committee, Population of Census Tracts on Oahu, 1920-1970 (Report CTC-22, January 19, 1972).

7. Includes Coconut Grove, Kalama, Lanikai, and Keolu Hills for all years and Pohakupu for 1960.

Source: Robert C. Schmitt, The Missionary Censuses of Hawaii (Bernice P. Bishop Museum, May 1973), p. 9, and Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 70 and 118; U.S. Census of Population: 1950, bull. P-A52, table 5; U.S. Census of Population: 1960, Final Report PC(1)-13A, table 8 and unpublished enumeration district data; U.S. Census of Population: 1970, Final Report PC(1)-A13, table 6 and correction note.

TABLE 1.8 TOTAL RESIDENT POPULATION OF THE CITY AND COUNTY OF HONOLULU BY CENSUS TRACTS, 1920 TO 1970
(Includes armed forces. Based on 1940 census tract boundaries, shown in figure 1, page xxxi.)

Census Tract	Community	1920	1930	1940	1950	1960	1970
Total ¹		123,496	202,887	257,696	352,020	500,409	630,528
Honolulu		81,820	137,582	179,358	248,034	294,194	324,871
1	Moanalua-Kahauiki	2,100	6,429	5,927	17,686	23,470	34,602
2	Kalihi-Kai	3,003	5,077	8,752	9,771	11,207	11,160
3	Kalihi-Uka	3,213	6,251	9,783	17,138	24,245	27,567
4	Waiakamilo	813	2,626	2,731	4,176	4,022	3,163
5	Iwilei-Sand Island	4,157	4,693	5,037	4,977	5,352	2,749
6	Kapalama	3,973	7,412	8,426	11,133	12,204	12,376
7	Palama	3,473	4,694	6,024	4,742	4,812	3,837
8	Kauluwela	6,509	7,263	8,923	7,842	6,115	482
9	River Street Area	6,091	5,280	5,021	4,409	3,387	1,405
10	Lanakila-Kunawai	2,626	5,075	6,378	6,946	7,205	7,265
11	Alewa-Puunui-Nuuanu	2,628	2,418	3,633	6,263	9,868	9,877
12	Central Business District	3,517	3,079	3,644	2,051	1,039	497
13	Central Intermediate School Area	3,096	3,738	4,510	4,093	991	1,162
14	Kakaako	2,640	4,123	5,067	4,046	1,459	837
15	Alapai	3,681	4,060	4,864	4,599	4,663	4,097
16	Punchbowl-Pauoa	4,386	6,777	8,349	9,996	11,226	11,770
17	Pacific Heights-Dowsett	814	1,775	1,846	2,968	4,360	4,780
18	Kewalo-Pawaa	3,042	5,826	7,222	9,384	9,441	11,161
19	Lower Makiki	2,713	4,199	4,388	4,535	5,028	4,308
20	Makiki Heights	1,930	2,888	4,479	7,168	11,351	16,058
21	Tantalus-Manoa	1,997	5,084	5,939	12,871	13,421	16,208
22	Waikiki-Kalia	3,471	4,221	7,350	11,309	11,075	13,124
23	McCully-Kapahulu	1,300	3,781	5,990	10,009	15,392	17,216
24	Moiliili-Punahou	3,684	6,676	8,024	9,738	11,187	13,877
25	Kapahulu-Diamond Head	1,957	6,561	9,682	12,455	14,455	13,712
26	Kaimuki (ewa part)	1,235	4,804	7,012	8,857	9,292	8,136
27	Kaimuki (koko head part)	970	3,639	4,573	7,060	9,634	8,393
28	St. Louis Heights-Palolo-Wilhelmina	2,358	5,615	9,292	20,411	27,663	31,119
29 ¹	Waiatae-Kahala-Koko Head	443	3,518	6,440	11,401	20,630	33,933
Palmyra ²	Palmyra Island	...	...	32	...	...	...

TABLE 1.8 (cont.)

Census Tract	Community	1920	1930	1940	1950	1960	1970
Other Oahu		41,676	65,305	78,338	104,986	206,215	305,657
30	Kailua-Maunawili-Waimanalo	1,045	2,243	3,619	11,220	30,616	45,920
31	Kaneohe-Kualoa	2,990	4,142	5,387	9,559	29,622	46,299
32	Kaaawa-Laie	1,889	1,592	1,869	2,741	4,893	7,065
33	Kahuku-Paumalu	2,601	3,666	3,099	2,482	3,150	3,497
34	Helemano-Haleiwa-Kawailoa	3,573	4,108	3,534	2,604	1,813	1,825
35	Waialua-Mokuleia	4,068	4,021	4,863	5,302	6,408	7,346
36	Wahiawa	1,342	6,409	6,086	10,184	18,316	20,970
37	Schofield Barracks	2,960	11,694	16,331	7,179	16,279	16,359
38	Waianae-Nanakuli	1,802	1,923	2,948	7,024	16,452	24,077
39	Barbers Point-Ewa	8,683	6,599	5,389	8,957	16,449	24,087
40	Waipahu	4,074	9,373	9,495	9,266	13,374	30,251
41	Pearl City-Waiou	1,314	2,996	4,806	6,680	17,724	34,321
42	Aiea-Halawa-Pearl Harbor	5,335	6,539	10,912	21,788	31,119	43,640

1. Includes the Northwestern Hawaiian Islands (except Midway), legally part of the City and County of Honolulu and city of Honolulu.

2. Detached in 1959.

Source: Hawaii State Census Tract Committee, Population of Census Tracts on Oahu, 1920-1970 (Report CTC-22, January 19, 1972).

TABLE 1.9 AGE AND SEX, 1831 TO 1970

Year	Total Population	Sex ¹		Males per 100 Females	Age ²		Percent Under 15 Years
		Male	Female		Under 15 Years	15 Years and Over	
1831 ³	130,313	NA	NA	105.3	NA	NA	26.1
1850	84,165	42,203	38,336	110.1	NA	NA	NA
1853	73,138	38,810	34,328	113.1	NA	NA	NA
1860	69,800	37,499	32,301	116.1	NA	NA	NA
1866	62,959	34,395	28,564	120.4	16,678	46,281	26.5
1872	56,897	31,650	25,247	125.4	15,800	41,097	27.8
1878	57,985	34,103	23,882	142.8	16,266	41,719	28.1
1884	80,578	51,539	29,039	177.5	22,523	58,055	28.0
1890	89,990	58,714	31,276	187.7	23,518	66,472	26.1
1896	109,020	72,517	36,503	198.7	30,201	78,819	27.7
1900	154,001	106,369	47,632	223.3	34,671	118,767	22.6
1910 ⁴	191,909	123,099	68,810	178.9	56,657	135,196	29.5
1920 ⁴	255,912	151,146	104,766	144.3	90,805	164,994	35.5
1930 ⁴	368,336	222,640	145,696	152.8	133,341	234,892	36.2
1940 ⁴	423,330	245,135	178,195	137.6	131,010	292,320	30.9
1950	499,794	273,895	225,899	121.2	156,137	343,657	31.2
1960	632,772	338,173	294,599	114.8	217,758	415,014	34.4
1970 ⁵	768,561	399,205	369,356	108.1	230,459	538,102	30.0

1. Persons for whom sex was not reported numbered 3,626 in 1850.
 2. Persons not reporting age numbered 563 in 1900, 56 in 1910, 113 in 1920, 103 in 1930, and 155 in 1940. Percent based on number reporting.
 3. Sex ratio based on 1831 data for Oahu and Maui; age, on 1831 data for Niihau, Kauai, Oahu, and Maui; and 1835 data for Hawaii. The age figure refers to the percentage identified as "children" (apparently those under 14) in the census tabulations.
 4. Includes persons on the Midway Islands (and, for 1940, other small outlying islands) not legally part of the territory of Hawaii.
 5. The revised total was 769,913.
- Source: Robert C. Schmitt, The Missionary Censuses of Hawaii (Bishop Museum, May 1973), pp. 8 and 12, and Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 72-73; U.S. Census of Population: 1970, Final Report PC(1)-B13, table 21.

TABLE 1.10 AGE AND SEX, 1831 TO 1896

Census Year and Age Group ¹	Male	Female	Census Year and Age Group ¹	Male	Female
1831, total ²	116,034		1878, total	34,103	23,882
Children	30,300		Under 6 years	3,823	3,785
Adults	85,734		6 to 15 years	4,761	3,897
1850, total ³	42,203	38,336	15 to 40 years	15,540	9,595
Under 18 years	12,983	10,383	Over 40 years	9,979	6,605
18 to 31 years	7,995	7,752	1884, total	51,539	29,039
31 to 53 years	11,018	11,047	Under 6 years	5,130	5,060
Over 53 years	10,207	9,154	6 to 15 years	6,574	5,759
1853, total	38,810	34,328	15 to 30 years	16,823	9,010
Under 20 years	30,306		30 to 50 years	18,683	6,788
Over 20 years	42,518		Over 50 years	4,329	2,422
Not reported	314		1890, total	58,714	31,276
1860, total	37,499	32,301	Under 1 year	955	930
Under 20 years	21,476		1 to 6 years	4,881	4,653
20 to 60 years	42,378		6 to 15 years	6,297	5,802
Over 60 years	5,861		15 to 30 years	19,348	9,770
Not reported	85		30 to 45 years	18,373	5,764
1866, total	34,395	28,564	45 to 60 years	5,898	2,740
Under 15 years	8,721	7,957	60 to 75 years	2,338	1,095
15 to 40 years	14,702	11,795	Over 75 years	624	522
Over 40 years	10,972	8,812	1896, total	72,517	36,503
1872, total	31,650	25,247	Under 1 year	1,215	1,294
Under 6 years	3,574	3,295	1 to 6 years	6,810	6,596
6 to 15 years	4,803	4,128	6 to 15 years	7,694	6,592
15 to 40 years	13,282	10,279	15 to 30 years	26,781	11,888
Over 40 years	9,991	7,545	30 to 45 years	19,883	6,311
			45 to 60 years	7,248	2,558
			60 to 75 years	2,462	940
			75 to 90 years	382	277
			90 to 100 years	33	37
			Over 100 years	9	10

1. Class intervals are shown exactly as reported in the census tabulations.

2. Based on 1831 data for Niihau, Kauai, Oahu, and Maui, and 1835 data for Hawaii; omits Molokai, Lanai, and Kahoolawe (estimated combined population, 7,680), not enumerated. Sex was reported only for Oahu and Maui (33,240 male, 31,567 female).

3. Excludes 754 blind and deaf persons and 2,872 foreigners.

Source: Robert C. Schmitt, The Missionary Censuses of Hawaii (Bishop Museum, May 1973), pp. 8 and 12, and Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), p. 72, as corrected.

TABLE 1.11 AGE AND SEX, 1900 TO 1970

Sex and Age	1900	1910	1920 ¹	1930 ¹	1940 ¹	1950	1960	1970 ²
Both sexes	154,001	191,909	255,912	386,336	423,330	499,794	632,772	768,561
All ages	15,084	24,065	38,550	48,180	40,085	63,991	80,962	70,811
Under 5 years	11,149	19,055	30,195	47,119	43,431	51,794	72,778	79,836
5 to 9 years	8,438	13,537	22,060	38,042	47,494	40,352	64,018	79,812
10 to 14 years	10,844	13,650	20,645	33,490	48,338	43,908	54,821	71,843
15 to 19 years	21,070	20,076	24,763	42,767	51,077	50,356	50,606	81,555
20 to 24 years	26,541	20,446	21,495	36,671	42,329	49,684	44,553	59,459
25 to 29 years	19,478	21,524	20,685	27,474	33,387	42,890	48,936	47,633
30 to 34 years	14,404	19,666	18,912	22,251	28,888	37,527	49,245	46,685
35 to 39 years	9,797	14,009	17,561	18,756	22,111	28,746	40,358	48,844
40 to 44 years	5,811	9,856	15,116	15,637	17,487	25,143	33,485	46,199
45 to 49 years	3,526	6,225	10,066	13,440	15,116	18,906	26,065	38,053
50 to 54 years	2,146	3,604	6,081	9,943	11,128	13,925	22,012	30,343
55 to 59 years	2,473	2,902	4,875	6,825	9,390	12,153	15,771	23,372
60 to 64 years	1,183	1,504	2,538	3,858	6,665	8,428	10,959	17,658
65 to 69 years	697	851	1,161	2,013	3,447	5,971	8,688	11,831
70 to 74 years	797	883	1,096	1,767	2,802	6,020	9,515	14,627
75 years and over	563	56	113	103	155	...	...	...
Not reported	26.9	26.4	23.3	21.7	23.2	24.9	24.3	25.0
Median age								

TABLE 1.11 (cont.)

Sex and Age	1900	1910 ¹	1920 ¹	1930 ¹	1940 ¹	1950	1960	1970 ²
Male								
All ages	106,369	123,099	151,146	222,640	245,135	273,895	338,173	399,205
Under 5 years	7,734	12,170	19,496	24,530	20,411	32,817	41,266	36,256
5 to 9 years	5,701	9,642	15,477	23,894	21,951	26,626	37,175	40,990
10 to 14 years	4,484	7,109	11,263	19,235	24,110	20,402	32,679	40,791
15 to 19 years	6,633	7,865	11,546	19,324	26,359	23,467	30,622	37,275
20 to 24 years	15,067	13,608	14,820	31,778	32,044	27,539	30,403	46,807
25 to 29 years	20,008	13,451	11,639	25,333	27,114	25,967	22,411	30,358
30 to 34 years	15,107	15,071	12,927	17,263	21,571	23,143	24,177	23,846
35 to 39 years	11,302	14,257	11,827	12,844	17,969	22,644	25,167	23,084
40 to 44 years	7,793	10,593	11,915	12,082	12,963	17,915	21,443	23,749
45 to 49 years	4,364	7,529	10,972	10,077	9,648	15,353	19,567	23,347
50 to 54 years	2,626	4,635	7,516	8,968	9,422	10,704	15,876	19,620
55 to 59 years	1,529	2,648	4,541	6,882	6,853	7,445	13,103	17,037
60 to 64 years	1,907	2,296	3,777	4,966	6,058	7,491	8,572	13,791
65 to 69 years	851	1,073	1,887	2,849	4,472	4,979	5,527	9,671
70 to 74 years	434	567	796	1,438	2,295	3,665	5,021	5,781
75 years and over	459	548	668	1,115	1,792	3,738	5,164	6,802
Not reported	370	37	79	62	103	...	...	...
Median age	28.3	29.1	26.3	23.8	24.6	26.2	24.5	24.7

TABLE 1.11 (cont.)

Sex and Age	1900	1910 ¹	1920 ¹	1930 ¹	1940 ¹	1950	1960	1970 ²
Female								
All ages	47,632	68,810	104,766	145,696	178,195	225,899	294,599	369,356
Under 5 years	7,350	11,895	19,054	23,650	19,674	31,174	39,696	34,555
5 to 9 years	5,448	9,413	14,718	23,225	21,480	25,168	35,603	38,846
10 to 14 years	3,954	6,428	10,797	18,807	23,384	19,950	31,339	39,021
15 to 19 years	4,211	5,785	9,099	14,166	21,979	20,441	24,199	34,568
20 to 24 years	6,003	6,468	9,943	10,989	19,033	22,817	20,203	34,748
25 to 29 years	6,533	6,995	9,856	11,338	15,215	23,717	22,142	29,101
30 to 34 years	4,371	6,453	7,758	10,211	11,816	19,747	24,759	23,787
35 to 39 years	3,102	5,409	7,085	9,407	10,919	14,883	24,078	23,601
40 to 44 years	2,004	3,416	5,646	6,674	9,148	10,831	18,915	25,095
45 to 49 years	1,447	2,327	4,144	5,560	7,839	9,790	13,918	22,852
50 to 54 years	900	1,590	2,550	4,472	5,694	8,202	10,189	18,433
55 to 59 years	617	956	1,540	3,061	4,275	6,480	8,909	13,306
60 to 64 years	566	606	1,098	1,859	3,332	4,662	7,199	9,581
65 to 69 years	332	431	651	1,009	2,193	3,449	5,432	7,987
70 to 74 years	263	284	365	575	1,152	2,306	3,667	6,050
75 years and over	338	335	428	652	1,010	2,282	4,351	7,825
Not reported	193	19	34	41	52	...	...	...
Median age	22.3	20.7	19.3	17.5	20.7	23.6	24.1	25.5

1. Includes population of minor outlying islands not legally part of the territory of Hawaii.

2. The revised state total was 769,913.

Source: U.S. Census of Population: 1970, Final Report PC(1)-B13, table 21.

TABLE 1.12 ETHNIC STOCK, 1853 TO 1970

Ethnic Stock	Old Definition ¹								New Def- inition, 1970 ²
	1853	1860	1866	1872	1878	1884	1890	1896	
All groups	73,137	69,800	62,959	56,897	57,985	80,578	89,990	109,020	
Hawaiian	70,036	65,647	57,125	49,044	44,088	40,014	34,436	31,019	
Part Hawaiian	983	1,337	1,640	2,487	3,420	4,218	6,186	8,485	
Caucasian	1,687	1,900	2,400	2,944	3,748	16,579	18,939	22,438	
Portuguese	87	85	90	424	486	9,967	12,719	15,191	
Other Cauc.	1,600	1,815	2,310	2,520	3,262	6,612	6,220	7,247	
Chinese	364	816	1,306	2,038	6,045	18,254	16,752	21,616	
Japanese	...	...	...	...	...	116	12,610	24,407	
All others	67	100	488	384	684	1,397	1,067	1,055	
Ethnic Stock	Old Definition ¹								New Def- inition, 1970 ²
	1900	1910	1920	1930	1940	1950	1960	1970	
All groups	154,001	191,909	255,912	368,336	423,330	499,769	632,772	768,559	
Hawaiian	29,799	26,041	23,723	22,636	14,375	12,245	11,294	71,274	
Part Hawaiian	9,857	12,506	18,027	28,224	49,935	73,845	91,109	...	
Caucasian	26,819	44,048	54,742	80,373	112,087	124,344	202,230	301,429	
Puerto Rican	...	4,890	5,602	6,671	8,296	9,551	...	...
Portuguese	18,272	22,301	27,002	27,588	103,791	114,793	...	...
Spanish	...	1,990	2,430	1,219	...	...	...	...
Other Cauc.	8,547	14,867	19,708	44,895	28,774	32,376	38,197	52,375	
Chinese	25,767	21,674	23,507	27,179	52,569	61,062	69,070	95,354	
Filipino	...	2,361	21,031	63,052	157,905	184,598	203,455	217,669	
Japanese	61,111	79,675	109,274	139,631	6,851	7,030	...	9,625	
Korean	...	4,533	4,950	6,461	255	2,651	4,943	7,517	
Negro	...	695	348	563	...	472	...	1,216	
Amer. Indian	...	...	...	...	...	...	...	...
All others	415	376	310	217	579	1,618	12,002	12,100	

TABLE 1.12 (cont.)

1. Persons of mixed stock, other than part Hawaiian, are classified by race of nonwhite parent if part Caucasian or by race of father if non-Caucasian. The 1853-1900 data are in some cases estimates, made by Romanzo Adams and Andrew W. Lind, from census tabulations on country of birth.

2. Persons of mixed stock, including part Hawaiian, are classified either on the basis of self-identification or race of father. Many persons who would have been counted as part Hawaiians under the former definition were classified as Caucasian, Chinese, Filipino, or some other race in 1970.

Source: Andrew W. Lind, Hawaii's People, 3rd ed. (University of Hawaii Press, 1967), p. 28; Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), p. 120; U.S. Census of Population: 1970, Final Report PC(1)-D13, tables 138 and 139.

TABLE 1.13 ETHNIC MIXTURE, 1950 TO 1976

Ethnic Stock	Total Population: 1950 ¹	Nonbarracks, Noninstitutional Population ²					
		1964-1967 ³	1970	1971	1972	1973	1976
All groups	499,769	652,160	735,166	761,143	787,051	806,117	827,394
Unmixed ⁴	405,588	476,800	552,755	551,878	587,313	602,511	615,783
Caucasian	114,793	166,380	228,913	221,339	223,506	230,863	230,078
Chinese	29,501	34,880	29,389	33,750	33,536	34,508	35,862
Filipino	53,382	53,600	60,061	59,429	78,939	82,055	83,791
Hawaiian	12,245	7,540	7,549	7,074	8,173	8,495	10,932
Japanese	180,508	198,280 ⁵	203,384	199,934	215,289	220,086	219,824
Korean			7,062	5,218	5,721	6,796	10,733
Negro			3,772	4,986	6,793	5,452	7,637
Puerto Rican	15,159	4,740	4,110	5,728	5,175	4,750	3,183
Samoan		2,420	5,733	10,025	5,335	6,262	4,460
Other unmixed ⁶		8,960	2,782	4,395	4,846	3,244	9,283
Mixed	94,181	171,900	182,411	209,265	199,739	203,606	211,611
Part Hawaiian	73,845	118,640	122,812	139,073	142,164	140,238	135,287
Non Hawaiian	20,336	53,260	59,599	70,192	57,575	63,368	76,324
Not reported	-	3,460					

TABLE 1.13 (cont.)

1. Includes 36,557 persons in barracks, institutions, and other group quarters (17,555 Caucasian, 1,192 Chinese, 6,645 Filipino, 3,886 Hawaiian or part Hawaiian, 4,483 Japanese, and 2,796 others).
 2. Excludes persons in barracks and dormitories, inmates of institutions, and residents of Niihau. In 1970 there were 34,681 persons in barracks, dormitories, or institutions (25,358 white, 2,159 Negro, and 7,164 others, as defined by the census) and 237 on Niihau. Data are from the Hawaii Health Surveillance Program survey; sample size was 34,117 in 1964-1967, 19,344 in 1970, 13,918 in 1971, 21,924 in 1972, 58,779 in 1973, and 38,818 in 1976.
 3. The Oahu survey was conducted between April 1, 1964 and March 31, 1967; the neighbor island survey, during the fall of 1967.
 4. Includes Portuguese but not Puerto Rican. The 1964-1967 survey, the only one to obtain separate data for Portuguese since the 1930 census, reported 21,720 Portuguese and 144,660 other Caucasians (haoles).
 5. Included with "other unmixed."
 6. American Indian, Micronesian, Tongan, etc. For 1970-1976, also includes not reported.
- Source: U.S. Census of Population: 1950, Bull. P-C52, tables A, 30 and 38; U.S. Census of Population: 1970, Final Report PC(1)-C13, table 52; Hawaii State Department of Planning and Economic Development, Population Summary for Hawaii, 1972 (Statistical Report 87, January 7, 1972), table 6; Hawaii State Department of Health, unpublished tabulation from Hawaii Health Surveillance Program survey, data for 1970 and 1976; Hawaii State Department of Health and Department of Planning and Economic Development, Population Mobility in Hawaii During 1971 (Population Report, No. 1, April 1973), table 3, Population Characteristics of Hawaii, 1972 (Population Report, No. 2, October 1974), table 2, and Population Characteristics of Hawaii, 1973 (Population Report, No. 5, August 1976), table 2.

TABLE 1.14 PERSONS 10 YEARS OLD AND OVER UNABLE TO SPEAK ENGLISH, 1900 TO 1930

Year	Persons 10 Years Old and Over	Unable to Speak English	
		Number	Percent
1900	127,768	68,017	53.2
1910	148,789	84,177	56.6
1920	187,167	69,493	37.1
1930	273,037	66,822	24.5

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), p. 125.

TABLE 1.15 MOTHER TONGUE, 1930 TO 1970

Mother Tongue	1930, Foreign Born ¹	1960, Foreign Born ²	1970 ³		
			Total	Native Born	Foreign Born
All languages	121,209	68,900	768,300	692,964	75,595
English and Celtic	3,056	3,379	447,200	439,100	5,407
German	815	1,361	5,700	4,434	1,658
Portuguese	3,847	830	9,300	7,240	436
Spanish	472	547 ⁴	13,300	9,691 ⁴	1,160 ⁴
Other European languages	1,378		10,400		
Chinese	7,467	3,075	26,900	19,037 ⁴	5,403 ⁴
Korean	2,977	941	6,200		
Japanese	48,416	23,020	116,900	105,498	20,079
Tagalog ⁵	52,672	25,917	50,200		
Hawaiian	--	--	18,700		
Pacific island languages ⁶	31	1,047	4,200	61,469	40,790
Other languages	75	2,015*	13,200		
Not reported	3	6,768	46,100	46,495	662

1. In 1930 "mother tongue" was defined as the language usually spoken in the home of the person before coming to the United States or any of its territories or possessions. The published data are adjusted by inclusion of the 52,672 persons born in the Philippine Islands, all of whom are assumed to have had Tagalog or other Filipino dialects as their mother tongue. This adjustment was made for greater comparability with the 1960 and 1970 tabulations, which (unlike the 1930 census) classified persons from the Philippines as foreign born.

2. Based on the question, "What language was spoken in his home before he came to the United States?" and thus comparable to the 1930 data.

3. Based on the question, "What language, other than English, was spoken in this person's home when he was a child?" and thus not directly comparable to the 1930 and 1960 data. The total column is from the one-percent Public Use Sample, while the native- and foreign-born distributions are from a 15-percent sample; the data by nativity may accordingly not add exactly to the corresponding total for both groups combined. The final census count was 769,913.

4. Included in "other languages."

5. Includes Ilocano and other Filipino tongues. Estimated for 1930.

6. Figure for 1960 refers to Polynesian only; for 1970, to Polynesian (other than Hawaiian), Micronesian, and Melanesian. Persons born in American Samoa are included with the native-born population in all three years.

Source: Fifteenth Census of the United States: 1930, Population, Second Series, Hawaii, p. 22; U.S. Census of Population: 1960, Mother Tongue of the Foreign Born, Final Report PC(2)-1E, table 2; U.S. Census of Population: 1970, Final Report PC(1)-D13, table 142; East-West Population Institute, special tabulation of 1970 Census Public Use Sample.

TABLE 1.16 MARITAL STATUS, 1853 TO 1970

Sex and Year	Population 15 Years Old and Over	Married		Separated	Widowed	Divorced	Not Reported	Percent	
		Single	Total					Single	Married
Both sexes									
1853	NA	NA	41,849	NA	NA	NA	--	NA	NA
1860	NA	NA	39,203	NA	NA	NA	--	NA	NA
Male									
1866	25,674	NA	15,817	NA	NA	NA	--	NA	61.6
1872	23,273	NA	13,077	NA	NA	NA	--	NA	56.2
1878	25,519	NA	12,238	NA	NA	NA	--	NA	48.0
1884	39,835	NA	14,449	NA	NA	NA	--	NA	36.3
1890	46,581	26,930	17,175	2,307	169		--	57.8	36.9
1896	56,798	34,992	19,560	2,007	239		--	61.6	34.4
1900	88,450	52,800	32,464	2,493	247		446	59.7	36.7
1910	94,178	46,443	42,491	4,278	912		54	49.3	45.1
1920	104,910	45,874	52,977	5,011	956		92	43.7	50.5
1930	154,981	79,092	68,187	6,030	1,622		50	51.0	44.0
1940	183,448	102,913	71,715	6,211	2,609		--	56.1	39.1
1950	197,874	81,917	103,475	7,352	5,130		--	41.4	52.3
1960	232,805	84,965	134,421	7,075	6,344		--	36.5	57.7
1970	289,176	104,625	169,920	6,433	8,198		--	36.2	58.8

TABLE 1.16 (cont.)

Sex and Year	Population 15 Years Old and Over ¹	Married		Separated	Widowed	Divorced	Not Reported	Percent	
		Single	Total					Single	Married
Female									
1866	20,607	NA	15,470	NA	NA	NA	--	NA	75.1
1872	17,824	NA	12,682	NA	NA	NA	--	NA	71.2
1878	16,200	NA	11,789	NA	NA	NA	--	NA	72.8
1884	18,220	NA	12,835	NA	NA	NA	--	NA	70.4
1890	19,891	3,296	14,497	NA	1,974	124	--	16.6	72.9
1896	22,021	4,052	15,634	NA	2,118	217	--	18.4	71.0
1900	30,880	4,655	24,048	NA	1,998	120	59	15.1	77.9
1910	41,074	6,744	31,380	NA	2,559	364	27	16.4	76.4
1920	60,197	10,721	45,550	NA	3,479	416	31	17.8	75.7
1930	80,014	19,602	53,948	NA	5,523	934	7	24.5	67.4
1940	118,238	40,733	66,569	NA	8,819	2,117	--	34.5	56.3
1950	153,515	43,445	94,520	1,127	11,736	3,814	--	28.3	61.6
1960	193,684	44,376	128,528	1,138	15,099	5,681	--	22.9	66.4
1970	264,612	68,009	166,596	2,406	19,909	10,098	--	25.7	63.0

1. Data for 1940-1970 refer to persons 14 years old and over. Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 76 and 123, and underlying data; U.S. Census of Population: 1970, Final Report PC(1)-B13, table 22.

TABLE 1.17 POPULATION IN HOUSEHOLDS AND GROUP QUARTERS, 1890 TO 1970
(Data are only approximately comparable from year to year.)

Year	Population					Population per Household	
	House- holds ¹	Group Quarters ²	In House- holds ¹	In Group Quarters ²		Based on Total Pop- ulation ³	Based on Pop. in Households
				Number	Percent		
1890	12,023	3,670	60,703	29,287	32.5	5.73	5.05
1896	14,026	3,873	71,809	37,211	34.1	6.09	5.12
1900	29,763	7,159	110,306	43,695	28.4	4.17	3.71
1910 ⁴	52,219			191,909	NA	3.68	NA
1920 ⁴	65,670			255,912	NA	3.90	NA
1930 ⁴	77,070			368,336	NA	4.78	NA
1940 ⁵	86,855	NA	387,223	36,107	8.5	4.87	4.46
1950	111,858	NA	463,230	36,564	7.3	4.47	4.14
1960	153,064	NA	592,807	39,965	6.3	4.13	3.87
1970 ⁶	203,088	NA	730,095	38,466	5.0	3.78	3.59

1. "Private residences" for 1890 and 1896, "private families" for 1900, "families" for 1910-1930, and "households" for 1940-1970. As defined for the 1960 and 1970 censuses, a household includes all the persons who occupy a group of rooms or a single room that constitutes a housing unit. The household definition used in 1940 and 1950 and the family definition used in 1900-1930 were somewhat narrower, treating a higher pro- portion of one-room quarters as group quarters than was the case in 1960 and 1970.

2. Includes inmates of institutions and persons living in barracks, dormitories, and other group quarters. Data for earlier years include sizeable numbers of persons in plantation quarters (26,745 persons in 3,421 buildings in 1890, 32,244 persons in 3,488 buildings in 1896, unspecified thereafter).

3. Total population divided by total households and group quarters, 1890-1930; total population divided by number of households, 1940-1970.

4. Includes population of the Midway Islands, not legally part of the territory of Hawaii.

5. Includes population of the Midway Islands and other minor outlying islands not legally part of the territory of Hawaii. Population in households based on twelve persons per household in households with eleven or more persons; population in group quarters computed as residual.

6. Excludes 1,352 persons not reported by household status.

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 78 and 124, and underlying data; U.S. Census of Population: 1970, Final Report PC(1)-B13, table 22.

TABLE 1.18 HOUSEHOLD AND FAMILY CHARACTERISTICS, 1950 TO 1970

Subject	1950	1960	1970 ¹
RELATIONSHIP TO HEAD OF HOUSEHOLD			
All persons	499,794	632,772	768,561
In households	463,230	592,807	730,095
Head of household	111,858	153,064	203,088
Wife of head	80,740	112,452	147,818
Child under 18 of head	156,395	226,103	250,208
Other child of head	] 96,483	87,858	[56,122
Other relative of head			[53,837
Not related to head	17,754	13,330	19,022
In group quarters	36,564	39,965	38,466
Inmate of institution	5,041	4,621	3,854
Military barracks and other	31,523	35,344	34,612
Persons per household	4.14	3.87	3.59
FAMILY CHARACTERISTICS			
Families	96,460	130,871	170,358
Husband-wife families	NA	113,164	147,818
Families with female head	NA	11,842	15,871
Other families	NA	5,865	6,669
Unrelated individuals	57,230	67,996	83,093
Persons per family	NA	4.29	3.98
Married couples	90,844	120,192	154,678
With own household	80,848	112,937	147,326
Without own household	9,996	7,255	7,352
Percent without own household	11.0	6.0	4.8

1. Excludes 1,352 persons not tabulated by household or family status.
 Source: U.S. Census of Population: 1960, Final Report PC(1)-13B, table 19, Final Reports PC(1)-13C, table 50, and PC(1)-13D, table 110; U.S. Census of Population: 1970, Final Reports PC(1)-B13, table 22, and PC(1)-C13, tables 52 and 57. The 1950 figure for unrelated individuals is corrected.

TABLE 1.19 CHURCH MEMBERSHIP, 1825 TO 1972
(Membership definitions differ from group to group and from survey to survey.)

Year	Total Population	Protestant	Roman Catholic	Mormon	Jewish	Buddhist	Shinto	Rest of Population ¹
1825	142,000	10	...	...	...	...	...	142,000
1835	111,100	749	...	...	...	...	...	110,351
1846	95,300	21,058	14,000	...	...	...	...	60,242
1853 ²	71,019	56,840	11,401	2,778	...	...	...	0
1884	80,578	29,685	20,072	3,576	84	...	...	27,161
1896	109,020	23,273	26,363	4,886	...	...	...	54,498
1909	188,316	11,991	35,000	8,162	...	33,900	...	99,263
1926	331,126	...	109,000	...	...	...	...	...
1954-55	522,376	32,700	200,000	17,000	...	62,200	21,800	188,676
1972	816,149	82,843	220,000	31,050	1,072	121,460	43,500	316,075
PERCENT								
1825	100.0	0.0	...	...	...	...	...	100.0
1835	100.0	0.7	...	...	...	...	...	99.3
1846	100.0	22.1	14.7	...	...	...	...	63.2
1853 ²	100.0	80.0	16.1	3.9	...	...	...	0
1884	100.0	36.8	24.9	4.4	0.1	...	...	33.7
1896	100.0	21.3	24.2	4.5	...	...	...	50.0
1909	100.0	6.4	18.6	4.3	...	18.0	...	52.7
1926	100.0	...	32.9	...	...	...	...	...
1954-55	100.0	6.3	38.3	3.3	...	11.9	4.2	36.1
1972	100.0	10.2	27.0	3.8	0.1	14.9	5.3	38.7

1. Includes groups for which membership was not reported.

2. Limited to Hawaiians and part Hawaiians; excludes 2,119 non-Hawaiians.

Source: Robert C. Schmitt, "Religious Statistics of Hawaii, 1825-1972," The Hawaiian Journal of History, vol. 7, 1973, pp. 41-47, and underlying data; Department of Geography, University of Hawaii, Atlas of Hawaii (The University Press of Hawaii, 1973), p. 125; Hawaii State Department of Health, "Vital Statistics and Population of Hawaii, 1900 to 1973," R&S Report, No. 5 (June 1974), table 3.

TABLE 1.20 COMPONENTS OF POPULATION CHANGE, 1850 TO 1976

Intercensal Period ¹	Net Change	Births ²	Deaths ²	Net Migration ³	Military Movement ⁴	Error of Closure ⁵
TOTAL POPULATION						
1850 to 1853	- 11,027	5,789	16,640	...	...	- 176
1853 to 1860	- 3,338	10,965	13,494	+ 22	...	- 831
1860 to 1866	- 6,841	6,324	10,273	+ 183	...	- 3,075
1866 to 1872	- 6,062	13,324	18,862	+ 1,835	...	- 2,359
1872 to 1878	+ 1,088	13,513	15,953	+ 6,613	...	- 3,085
1878 to 1884	+ 22,593	11,855	13,432	+27,350	...	- 3,180
1884 to 1890	+ 9,412	8,508	8,693	+12,694	...	- 3,097
1890 to 1896	+ 19,030	...	...	+19,482	...	- 452
1896 to 1900	+ 44,981	...	...	+44,877	...	+ 104
1900 to 1910	+ 37,873	29,506	27,582	+ 4,837	...	+31,112
1910 to 1920	+ 64,007	70,117	34,651	+11,668	...	+16,873
1920 to 1930	+112,419	118,708	43,047	+14,045	...	+22,713
1930 to 1940	+ 54,470	95,545	34,817	-14,842	...	+ 8,584
1940 to 1950	+ 77,024	123,919	34,831	-12,064	...	...
1950 to 1960 ⁶	+132,978	160,978	30,765	+ 2,765	...	...
1960 to 1970	+137,141	163,728	37,209	+10,622	...	...
1970 to 1976 ⁷	+116,708	97,791	26,292	+45,209	...	...
CIVILIAN POPULATION						
1900 to 1910	+ 36,510	29,506	27,582	+ 4,837	...	+29,749
1910 to 1920	+ 61,249	70,117	34,651	+11,668	...	+14,115
1920 to 1930	+100,494	118,708	43,047	+14,045	...	+10,788
1930 to 1940	+ 44,528	95,545	34,817	-14,842	...	- 1,358
1940 to 1950	+ 81,822	123,919	29,974	-12,123	...	...
1950 to 1960 ⁶	+ 99,665	160,978	31,202	-25,040	-5,071	...
1960 to 1970	+136,381	163,728	36,671	+12,915	-3,591	...
1970 to 1976 ⁷	+115,864	97,791	25,928	+40,821	+3,180	...

TABLE 1.20 (cont.)

1. For exact census dates, see table 1.2.
 2. Reported totals, unadjusted for underregistration (particularly serious before 1910) and missing years (1850, 1864, 1865, and 1890-1899). Civilian death totals for 1900-1940 include some military deaths.
 3. Data for 1850-1940 based on reported passenger arrivals and departures, unadjusted for incomplete coverage or missing years (1850-1859, 1864, and 1865). Passenger data for 1900-1910 limited to aliens; 1911-1928, to steerage passengers. Treatment of armed forces not specified before 1940. Data for 1940-1970 computed as residual; 1970-1976, estimated from symptomatic data.
 4. Net gain or loss to civilian population resulting from military inductions and separations.
 5. Unaccounted-for population change, resulting from underreporting of births, deaths, or net migration.
 6. The 1950-1960 figure for total deaths is inconsistent with the figure for civilian deaths.
 7. Provisional.
- Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 165, 167, 184-187, and 220; Hawaii State Department of Health, "Vital Statistics and Population of Hawaii, 1900 to 1973," R&S Report, No. 5 (June 1974), table 1, Annual Statistical Report for 1960-1975, and records; U.S. Bureau of the Census, "Components of Population Change, 1950 to 1960 . . .," Current Population Reports, series P-23, No. 7, Nov. 1962, p. 22; Hawaii State Department of Planning and Economic Development, Intercensal Population Estimates for Hawaii, 1930 to 1970 (Statistical Report 81, July 23, 1971), pp. 4, 5, 8, and 9, and unpublished estimates for 1970-1976.

TABLES IN SECTION 2

- 2.1 Births, deaths, and crude birth and death rates, 1848 to 1975
- 2.2 Selected measures of fertility, 1920 to 1970
- 2.3 Percent of births attended by physician in hospital, percent first born, and percent illegitimate, 1924 to 1975
- 2.4 Children ever born, 1890 to 1970
- 2.5 Fetal, infant, and maternal deaths, 1902 to 1975
- 2.6 Expectation of life at specified ages, 1878-1879 to 1969-1971
- 2.7 Deaths by age and sex, 1908 to 1972
- 2.8 Death rates by selected cause, 1908 to 1962
- 2.9 Epidemic mortality, 1804 to 1937
- 2.10 Accidents and natural disasters causing five or more deaths, 1779 to 1975
- 2.11 Marriages and divorces, 1829 to 1975
- 2.12 Marriage and divorce rates based on risk population, 1866 to 1970
- 2.13 Medical personnel, 1820 to 1976
- 2.14 Characteristics of all hospitals, 1909 to 1975, and The Queen's Hospital, 1859 to 1976
- 2.15 Active patients in leprosy facilities, 1866 to 1975
- 2.16 Admissions and inmates at Oahu Insane Asylum, 1866 to 1924, and Hawaii State Hospital, 1925 to 1976
- 2.17 Inmates present and admissions, for Waimano Training School and Hospital, 1921 to 1975
- 2.18 Tuberculosis cases and deaths, 1900 to 1975
- 2.19 Specified communicable diseases, 1900 to 1975

SECTION 2
VITAL STATISTICS, HEALTH, AND MEDICAL CARE

This section presents data on fertility, morbidity, mortality, marriage, divorce, medical personnel, and hospital facilities and use.

Most of the vital statistics cited here are on a place-of-occurrence basis. They thus include babies born in Hawaii to nonresidents, tourist deaths, and marriages uniting soldiers on rest-and-recuperation leave from Vietnam with their visiting mainland girl friends. Island residents having babies, being married, or dying while out of state are excluded. Place-of-residence data on these subjects did not become available until the 1930s.

Statistics on the pre-contact Hawaiians are limited to data from skeletal remains. According to Charles E. Snow's monograph on Early Hawaiians (1974), the average age at death estimated for adults buried at Mokapu, Oahu, was 30.45 years.

The earliest contemporary birth and death statistics for Hawaii were those collected by the American Protestant missionaries during the second quarter of the nineteenth century. Unfortunately, such data were compiled for only a few districts, and then for only a year or so.

The first comprehensive government data on births and deaths were statistics collected by the Department of Public Instruction in taking the 1849 and 1850 censuses. Beginning in 1851 and continuing through 1889, the department routinely registered births and deaths and published the figures, often by island and district, in its biennial reports.

From April 1876 forward, the Board of Health tabulated mortality data for Honolulu by age, sex, nationality, and cause of death. Birth statistics were added and coverage was extended to all parts of the territory in 1900. These data were regularly published in the annual and biennial reports of the Board (later Department) of Health. Similar tabulations appeared in various federal series: Mortality Statistics (beginning in 1915), Birth, Stillbirth, and Infant Mortality Statistics (from 1929), and Vital Statistics of the United States (from 1937). Robert Gardner has used the Board of Health mortality data to calculate Honolulu life tables for 1878-1879, 1883-1886, 1889-1892, and 1894-1898.

Coverage of births and deaths was obviously incomplete during many of the earlier years, and did not reach acceptable levels of accuracy until the second or third decades of this century. Hawaii was not admitted into the U.S.

Death Registration Area until 1917 and was excluded from the Birth Registration Area until 1929. The first all-island life tables computed for Hawaii were those based on 1919-1920 data.

Statistics on deaths by cause of death are particularly lacking in long-term comparability, not only because of serious underregistration in the early years but also because of major changes instituted from time to time in classification procedures.

Summary measures of fertility and mortality were limited by the availability of data. Prior to 1920, such measures were generally restricted to census ratios of children under five per 1,000 women of childbearing age, and crude birth and death rates. A question on number of children ever born to women ever married was included in the 1890 and 1896 censuses, but it was omitted in subsequent censuses and not restored to the schedule until 1950.

By 1920, however, improved registration procedures had made feasible the calculation of a number of additional measures: age-specific birth and death rates, general fertility rates, total fertility rates, gross and net reproduction rates, and life expectancy tables. (Crude birth and death rates are the annual numbers of events per 1,000 midyear population. The general fertility rate is the annual number of births per 1,000 women of childbearing age. The total fertility rate is the number of children 1,000 women will bear in their lifetime. Gross and net reproduction rates indicate the number of daughters that a group of 1,000 females starting life together would bear; the gross rate assumes that all of the women survive the childbearing period, while the net rate allows for mortality.) Although some of these rates and tables were published in reports of the Bureau of the Census, Board of Health, and other official agencies, their definitive exposition did not come until 1974 when the East-West Population Institute issued its monograph on The Demographic Situation in Hawaii, by Robert W. Gardner and Eleanor C. Nordyke.

Statistics on morbidity were first regularly collected and published in 1910, with the initiation of series on the numbers of cases of, and deaths from, selected communicable diseases. One of the most common of these diseases, tuberculosis, was given special attention with the development of the tuberculosis register. The Board of Health has reported data from both sources in its annual reports from 1911 to the present time. The Department of Health also has investigated morbidity and disability through its Hawaii Health Surveillance Program, using sample surveys conducted on Oahu in 1958-1959 and 1964-1967, and on all inhabited islands except Niihau beginning in 1969.

Statistics on marriages were collected by the American Protestant missionaries beginning in 1829, and by the Hawaiian government starting in 1845. Data from the latter source appeared initially in the annual reports of the Minister of the Interior and later in those of the Board of Education. After 1863 the publication of marriage statistics was suspended and not resumed until after annexation. From 1902 forward these data were included in the annual reports of the Board (later Department) of Health.

Divorce data were regularly published in the annual and biennial reports of the Chief Justice of the Supreme Court, beginning with data for 1848 and continuing to 1940. Responsibility for divorce statistics was assigned to the Department of Health in 1951, and since that time these data have been included in the department's annual reports. Since 1946 both marriage and divorce statistics for Hawaii have been issued in a federal publication, Vital Statistics of the United States.

All four types of vital statistics--birth, death, marriage, and divorce--are influenced to a considerable extent by the inclusion of military personnel and dependents. Recent studies have shown that military couples account for disproportionately high percentages of marriages and births, relatively few deaths, and a far-below-average share of interracial marriages.

Further information on the historical development of vital statistics in the islands can be found in Demographic Statistics of Hawaii: 1778-1965, by Robert C. Schmitt.

Tabulations on the numbers of physicians, dentists, nurses, and other health personnel practicing in the islands have been part of the Hawaiian and U.S. census reports since 1884, and data on the numbers of licensed professionals have appeared sporadically in Board of Health reports and other sources since 1897. Interpretation of these statistics is complicated by shifting practices with regard to the inclusion or exclusion of armed forces medical workers, student nurses, and licensed but inactive personnel.

Hospital statistics were first compiled for individual institutions as early as 1839, but systematic coverage on a statewide basis was not regularly undertaken until the 1920s. The first hospitals in the islands were small facilities maintained by the American, British, and French governments for their sick and injured seamen during the middle third of the nineteenth century. The earliest general hospital of any size, open to all, was The Queen's Hospital, established in 1859; now known as The Queen's Medical Center, it remains the largest civilian general hospital in Hawaii. Kalihi Hospital and Kalaupapa

Settlement were opened for lepers in 1865 and 1866. The Oahu Insane Asylum was established in 1866, was moved to a new site (in Kaneohe) in 1930, was renamed Territorial, and then State Hospital. The Home for Feeble-Minded Persons was opened in 1921 and was later renamed Waimano Training School and Hospital. Occupancy statistics have been collected and published for all of these institutions. The American Medical Association (AMA) initiated the first comprehensive listing of island hospitals in 1909, and published biennial and later annual directories from that time until 1954. Originally limited to data on the number of beds, these directories later added statistics on average census, admissions, occupancy rate, and average length of stay. A similar annual listing was undertaken by the American Hospital Association beginning in 1946. Hospital data compiled by the Hawaii State Department of Health have appeared regularly in the department's annual reports since 1960.

Major disruptions in hospital time series have occurred as a result of often-unannounced changes in the treatment of military hospitals, Waimano Training School and Hospital, and Kalaupapa Settlement. Sometimes the bed-counts for the two latter institutions have included only the small hospitals contained in each, while in other years the totals have included all residential cottages on the grounds as well. Military hospitals have often been excluded from state totals. It seems apparent, moreover, that the AMA survey omitted many hospitals before 1923.

Additional discussion of hospital statistics can be found in two publications of the Public Health Committee of the Chamber of Commerce of Honolulu, Hawaii's Hospitals, Past, Present and Future (1948) and Hospital Costs in Hawaii (1949), and in articles in the Hawaii Medical Journal for July-August 1949, March-April 1956, and January-February 1968.

Vital statistics and data on health and medical care for the nation as a whole are included in Historical Statistics of the United States, Colonial Times to 1970, Chapter B, and in annual editions of Statistical Abstract of the United States.

TABLE 2.1 BIRTHS, DEATHS, AND CRUDE BIRTH AND DEATH RATES, 1848 TO 1975
(Place of occurrence basis. Not adjusted for underregistration, known to have been extensive before 1930.)

Year ¹	Live Births	Deaths	Birth Rate ²	Death Rate ²	Year ¹	Live Births	Deaths	Birth Rate ²	Death Rate ²
1848	1,478	7,943	16.4	88.0	1894 ³	...	...	...	23.2
1849	1,422	4,320	16.6	50.5	1895 ³	...	...	...	26.5
1850	...	...	...	...	1896 ³	...	...	...	23.0
1851	2,424	5,792	29.6	70.6	1897 ³	...	...	...	21.5
1852	1,852	2,822	23.2	35.3	1898 ³	...	...	...	28.9
1853	1,513	8,026	19.8	105.1	1899 ³	...	...	...	32.3
1854	1,381	1,439	18.9	19.7	1900	1,026	2,376	6.7	15.4
1855	1,642	1,685	22.5	23.1	1901	2,058	3,029	13.2	19.5
1856	1,287	1,579	17.7	21.7	1902	2,350	2,578	14.9	16.4
1857	1,615	2,017	22.4	28.0	1903	2,526	2,657	15.5	16.3
1858	1,756	2,140	24.5	29.9	1904	2,510	2,783	14.9	16.6
1859	1,612	2,291	22.7	32.3	1905	2,609	2,686	15.6	16.1
1860	1,672	2,343	23.8	33.4	1906	2,830	2,854	17.0	17.1
1861	1,543	2,249	22.3	32.5	1907	3,574	3,065	20.5	17.5
1862	1,474	2,426	21.6	35.6	1908 ⁴	4,609	2,811	25.2	15.4
1863	1,594	2,657	23.8	39.7	1909 ⁴	4,536	2,801	24.1	14.9
1864	...	...	...	...	1910	4,472	3,194	23.1	16.5
1865	...	...	...	...	1911	4,776	3,102	24.3	15.8
1866	1,713	2,941	26.9	46.2	1912	5,420	3,128	26.1	15.1
1867	1,747	2,606	28.0	41.8	1913	6,128	3,543	28.1	16.2
1868	2,104	3,351	34.5	54.9	1914	6,971	3,682	30.7	16.2
1869	2,163	2,528	36.0	42.1	1915	7,719	3,447	33.3	14.9
1870	2,413	3,819	40.8	64.6	1916	7,989	3,879	33.6	16.3
1871	2,559	3,502	44.0	60.2	1917	9,095	3,769	36.4	15.1
1872	2,338	3,056	40.7	53.2	1918 ⁵	9,220	3,959	36.2	15.6
1873	2,372	3,009	42.1	53.4	1919	9,633	3,881	37.0	14.9
1874	2,217	2,770	40.2	50.2	1920 ⁶	9,950	4,601	38.2	17.6
1875	2,558	2,988	47.2	55.1	1921	10,649	3,921	39.2	14.4
1876	2,147	2,426	39.4	44.5	1922	11,171	4,354	39.3	15.3
1877	1,843	1,869	33.2	33.7	1923	11,724	4,644	39.1	15.5
1878-79	4,753	5,782	41.0	49.8	1924	12,911	4,020	41.8	13.0
1880-81	4,701	5,101	35.6	38.6	1925	12,602	4,111	38.7	12.6
1882-83	3,188	3,648	22.2	25.4	1926	12,282	3,886	37.1	11.7
1884-85	3,178	3,584	19.7	22.2	1927	11,821	4,037	35.0	12.0
1886-87	3,087	3,140	18.3	18.6	1928	11,662	4,124	33.2	11.7
1888-89	3,832	3,761	22.2	21.7	1929	11,235	4,383	31.2	12.2
1890 ³	...	...	...	30.6	1930 ⁷	10,803	3,864	29.4	10.5
1891 ³	...	...	...	30.5	1931	10,469	3,730	27.7	9.9
1892 ³	...	...	...	23.0	1932	10,500	3,670	27.3	9.5
1893 ³	...	...	...	24.1	1933	9,635	3,648	25.1	9.5

TABLE 2.1 (cont.)

Year ¹	Live Births	Deaths		Birth Rate ²		Death Rate ²	
		Total	Civilian ⁸	Total	Civilian ⁸	Total	Civilian ⁸
1934	9,313	3,455	...	24.2	...	9.0	...
1935	9,199	3,306	...	23.6	...	8.5	...
1936	8,594	3,434	...	21.7	...	8.7	...
1937	8,984	3,547	...	22.4	...	8.8	...
1938	9,066	3,229	...	22.1	...	7.9	...
1939	9,271	3,128	...	22.3	...	7.5	...
1940 ⁹	9,650	3,086	...	22.6	24.3	7.2	...
1941	10,124	5,351	2,973	22.0	24.6	11.6	7.2
1942	10,406	3,397	3,010	17.9	23.3	5.8	6.7
1943	11,638	3,343	2,902	17.9	25.9	5.1	6.5
1944	12,697	3,728	3,037	14.8	28.1	4.3	6.7
1945	12,299	3,396	2,829	15.1	26.7	4.2	6.2
1946	12,684	3,229	3,082	23.3	26.4	5.9	6.4
1947	14,589	3,219	3,118	27.7	29.9	6.1	6.4
1948	14,481	3,104	3,023	28.0	29.9	6.0	6.2
1949	14,249	3,020	2,965	27.9	29.6	5.9	6.2
1950 ¹⁰	14,054	2,919	2,883	28.2	29.4	5.9	6.0
1951	14,446	2,877	2,819	28.1	30.8	5.6	6.0
1952	15,596	2,887	2,831	30.1	33.9	5.6	6.2
1953	16,103	2,905	2,849	31.6	34.8	5.7	6.2
1954	16,191	3,000	2,934	32.0	34.6	5.9	6.3
1955	16,305	3,223	3,087	30.2	33.8	6.0	6.4
1956	17,122	3,143	3,038	30.7	34.2	5.6	6.1
1957	17,040	3,422	3,285	29.2	32.5	5.9	6.3
1958	16,710	3,185	3,072	27.6	30.4	5.3	5.6
1959	17,050	3,374	3,246	27.4	30.2	5.4	5.9
1960	17,193	3,593	3,540	26.8	29.5	5.6	6.1
1961	17,558	3,428	3,367	26.7	29.4	5.2	5.6
1962	17,932	3,575	3,512	26.2	29.7	5.2	5.8
1963	17,744	3,709	3,643	26.0	28.5	5.4	5.9
1964	17,284	3,696	3,638	24.7	27.6	5.3	5.8
1965	16,259	3,764	3,705	23.1	25.0	5.3	5.7
1966	14,943	3,839	3,770	21.0	22.8	5.4	5.7
1967	14,765	3,973	3,897	20.4	22.2	5.5	5.8
1968	14,595	4,250	4,192	19.9	21.5	5.8	6.2
1969	15,690	4,214	4,146	20.9	22.5	5.6	5.9
1970	16,467	4,197	4,125	21.3	22.8	5.4	5.7
1971	15,845	4,351	4,304	19.9	21.2	5.5	5.8
1972	15,413	4,483	4,433	18.8	20.0	5.5	5.8
1973	15,358	4,579	4,509	18.2	19.5	5.4	5.7
1974	15,528	4,598	4,549	18.2	19.5	5.4	5.7
1975	15,766	4,572	4,489	18.2	19.5	5.3	5.5

TABLE 2.1 (cont.)

1. Calendar years 1848-1877 and 1890 and thereafter; 24-month periods ended December 31, 1879, to December 31, 1889.
2. Per 1,000 resident population.
3. Data limited to city of Honolulu.
4. Calendar year data interpolated from fiscal year data.
5. Death registration was estimated to be 98 percent complete.
6. Birth registration was estimated to be 82 percent complete.
7. Birth registration was estimated to be 93 percent complete.
8. Excludes armed forces but not their dependents.
9. Birth registration was estimated to be 97.7 percent complete.
10. Birth registration was estimated to be 99.9 percent complete.

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 165-168; Hawaii State Department of Health, "Vital Statistics and Population of Hawaii, 1900 to 1973," R&S Report, No. 5 (June 1974), tables 1 and 2, Annual Statistical Report for 1960-1975, and records.

TABLE 2.2 SELECTED MEASURES OF FERTILITY, 1920 TO 1970

Measure of Fertility	1920	1930	1940	1950	1960	1970
Children under 5						
Per 1,000 women 15 to 44 ¹	780.6	767.3	454.9	569.1	602.9	414.3
Per 1,000 women 15 to 49 ²	720.1	705.0	417.8	523.5	546.3	365.5
Crude birth rate ³						
Unstandardized ⁴	38.2	29.4	22.6	28.2	26.8	21.3
Standardized ⁵	46.2	36.2	20.8	21.5	25.1	17.7
General fertility rate ⁶						
Unadjusted	201.5	172.1	109.5	125.0	128.0	96.4
Adjusted ⁷	245.7	185.0	112.1	125.2	128.0	96.4
Total fertility rate ⁸						
Unadjusted	5,797.0	5,154.0	3,432.5	3,317.5	3,887.0	2,729.0
Adjusted ⁷	7,070.5	5,542.5	3,205.0	3,321.0	3,887.0	2,729.0
Gross reproduction rate ⁹						
Unadjusted	2,814.1	2,481.7	1,516.4	1,633.8	1,883.2	1,318.7
Adjusted ⁷	3,432.3	2,668.8	1,551.5	1,635.5	1,883.2	1,318.7
Net reproduction rate ¹⁰						
Unadjusted	1,954.3	2,034.7	1,381.6	1,566.5	1,821.5	1,281.4
Adjusted ⁷	2,383.7	2,188.1	1,413.6	1,568.1	1,821.5	1,281.4
Birth rates by age of mother ¹¹						
15 to 19	91.5	71.8	53.3	58.7	75.5	62.6
20 to 24	334.2	261.9	180.5	200.9	284.3	173.8
25 to 29	357.8	280.6	184.0	195.8	221.0	169.8
30 to 34	296.1	232.0	111.8	126.0	125.1	91.7
35 to 39	204.3	160.1	75.2	64.5	54.8	38.5
40 to 44	112.6	88.2	32.9	17.3	15.8	8.8
45 to 49	17.6	13.9	3.3	1.0	0.9	0.6

TABLE 2.2 (cont.)

1. Earlier ratios were as follows (data before 1900 estimated): 1872, 454; 1878, 545; 1884, 570; 1890, 612; 1896, 727; 1900, 575.2; and 1910, 697.0.
 2. The ratio was 545.1 in 1900 and 653.0 in 1910.
 3. Annual births per 1,000 total resident population
 4. For annual rates, 1848-1975, see table 2.1
 5. Standardized on basis of the U.S. age distribution in 1960, and also adjusted for underregistration.
 6. Annual births per 1,000 women 15 to 44 years old.
 7. For underregistration.
 8. The total fertility rate is the sum of the age-specific birth rates of women over their reproductive span, as observed in a given year. It thus indicates the approximate magnitude of "completed family size," that is, the total number of children 1,000 women will bear in their lifetime.
 9. The total number of daughters that a group of 1,000 females starting life together would bear if all the initial group of females survived the childbearing period.
 10. The total number of daughters that a cohort of 1,000 newborn girl babies will bear during their lifetime assuming a fixed schedule of age-specific fertility rates and a fixed set of mortality rates.
 11. Annual births per 1,000 women in each age group, adjusted for underregistration.
- Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), p. 169; Robert W. Gardner and Eleanor C. Nordyke, The Demographic Situation in Hawaii (Papers of the East-West Population Institute, No. 31, June 1974), pp. 39 and 50.

TABLE 2.3 PERCENT OF BIRTHS ATTENDED BY PHYSICIAN IN HOSPITAL, PERCENT FIRST BORN, AND PERCENT ILLEGITIMATE, 1924 TO 1975
(Place of occurrence basis through 1973 and place of residence basis thereafter)

Year	Percent of Births			Year	Percent of Births		
	Attended by M.D. in Hospital ¹	First Born ²	Illegitimate ³		Attended by M.D. in Hospital ¹	First Born ²	Illegitimate ³
1924	...	...	1.42	1951	97.4	30.1	4.69
1925	...	...	1.22	1952	97.6	30.8	4.48
1926	...	...	1.69	1953	98.0	31.1	4.30
1927	...	...	1.86	1954	98.2	26.3	4.84
1928	...	...	2.31	1955	98.8	27.9	4.97
1929	...	...	2.55	1956	98.9	26.5	3.99
1930	...	...	2.93	1957	98.9	25.7	4.70
1931	10.0	...	3.73	1958	99.0	24.8	4.86
1932	16.0	...	4.19	1959	98.9	24.5	5.16
1933	23.0	...	5.13	1960	99.1	25.1	5.12
1934	34.2	...	5.38	1961	99.1	25.9	5.76
1935	37.0	...	5.26	1962	99.3	26.4	6.03
1936	44.2	...	5.82	1963	99.3	27.1	6.41
1937	50.1	...	5.77	1964	99.5	26.7	6.66
1938	57.0	...	5.96	1965	99.3	28.6	7.24
1939	63.5	...	6.19	1966	99.4	30.3	8.39
1940	69.5	...	5.83	1967	99.5	33.4	8.75
1941	76.6	...	5.32	1968	99.3	36.3	9.48
1942	82.4	...	5.54	1969	99.5	37.5	9.66
1943	87.6	...	6.18	1970	99.5	38.2	9.58
1944	90.1	...	6.90	1971	99.4	38.4	8.84
1945	90.2	...	7.43	1972	99.2	39.4	9.30
1946	91.8	...	7.13	1973	99.2	38.3	10.40
1947	93.7	...	5.73	1974	99.0	37.1	10.88
1948	95.2	...	5.39	1975	99.1	36.4	12.34
1949	95.7	...	5.21				
1950	97.1	29.8	4.97				

1. Years ended June 30, 1931 to 1948; calendar years, 1949 and thereafter. Data for 1931-1933 and 1935 partly estimated (by M. A. Taff). Not available before 1931.

2. Calendar year data. Not available before 1950.

3. Calendar year data. Not available before 1924.

Source: Hawaii State Department of Health, Annual Report (1934-1951); Annual Report, Statistical Supplement (1952-1975); "Vital Statistics and Population of Hawaii, 1900 to 1973," R&S Report, No. 5, June 1974; and records.

TABLE 2.4 CHILDREN EVER BORN, 1890 TO 1970

Age of Women and Year	All Women	Women Ever Married	Mothers ¹	Children Ever Born ¹			Per 1,000 Mothers
				Total	Per 1,000 Women	Per 1,000 Women Ever Married	
15 and over							
1890	19,891	16,595	10,664	46,100	2,318	2,778	4,323
1896	22,021	17,969	12,391	54,039	2,454	3,007	4,361
1960	188,842	150,451	132,612	462,682	2,450	3,075	3,489
1970	256,725	196,245	168,005	549,335	2,140	2,799	3,270
15 to 24							
1960	44,813	16,240	12,014	22,537	503	1,388	1,876
1970	69,037	22,904	13,504	21,642	313	945	1,603
25 to 34							
1960	46,963	42,198	37,597	105,676	2,250	2,504	2,811
1970	53,438	46,859	39,799	106,654	1,996	2,276	2,680
35 to 44							
1960	42,590	40,165	36,584	120,853	2,838	3,009	3,303
1970	48,168	45,224	41,874	141,507	2,938	3,129	3,379
45 and over							
1950 ²	37,620	36,045	31,260	164,370	4,566	4,775	5,258
1960	54,476	51,848	46,417	213,616	3,921	4,120	4,602
1970	86,082	81,258	72,828	279,532	3,247	3,440	3,838

1. Available only for census years and age groups reported in table. Omitted entirely from the 1900-1940 censuses and for women under 45 in 1950.

2. Data on mothers and children ever born (including computed ratios) exclude 1,620 women ever married not reporting number of children.

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 73, 78, and 126. U.S. Bureau of the Census, U.S. Census of Population: 1950, bull. P-C52, table 44; U.S. Census of Population: 1960, Final Report PC(1)-13D, table 113; U.S. Census of Population: 1970, Final Report PC(1)-D13, table 16.1.

TABLE 2.5 FETAL, INFANT, AND MATERNAL DEATHS, 1902 TO 1975
(Place of occurrence basis)

Calendar Year	Fetal Deaths, 20 Weeks and Over	Infant Deaths, Under 1 Year	Maternal Deaths	Deaths per 1,000 Live Births		
				Fetal ¹	Infant	Maternal
1902	77	633	24	32.8	269.4	10.2
1903	102	440	37	40.4	174.2	14.6
1904	98	268	47	39.0	106.8	18.7
1905	80	518	32	30.7	198.5	12.3
1906	95	793	38	33.6	280.2	13.4
1907	88	839	31	24.6	234.8	8.7
1908	114	728	41	23.7	158.0	8.9
1909	105	790	48	23.1	174.2	10.6
1910	126	1,013	47	28.2	226.5	10.5
1911	152	983	51	31.8	205.8	10.7
1912	168	1,033	53	31.0	190.6	9.8
1913	176	1,111	56	28.7	181.3	9.1
1914	205	1,244	47	29.4	178.5	6.7
1915	250	1,210	49	32.4	156.8	6.3
1916	266	1,259	65	33.3	157.6	8.1
1917	295	1,250	54	32.4	137.4	5.9
1918	315	1,280	78	34.2	138.8	8.5
1919	341	1,019	84	35.4	105.8	8.7
1920	352	1,083	87	35.4	108.8	8.7
1921	361	1,275	80	33.9	119.7	7.5
1922	389	1,500	86	34.8	134.3	7.7
1923	388	1,587	73	33.1	135.4	6.2
1924	420	1,296	63	32.5	100.4	4.9
1925	422	1,414	76	33.5	112.2	6.0
1926	389	1,157	64	31.7	94.2	5.2
1927	371	1,150	79	31.4	97.3	6.7
1928	351	973	82	30.1	83.4	7.0
1929	339	1,135	72	30.2	101.0	6.4
1930	333	889	67	30.8	82.3	6.2
1931	337	799	78	32.2	76.3	7.5
1932	322	799	62	30.7	76.1	5.9
1933	285	695	50	29.6	72.1	5.2
1934	243	699	52	26.1	75.1	5.6
1935	232	620	37	25.2	67.4	4.0
1936	211	627	37	24.6	73.0	4.3
1937	194	617	41	21.6	68.7	4.6
1938	225	530	34	24.8	58.5	3.8
1939	233	489	29	25.1	52.7	3.1
1940	190	422	23	19.7	43.7	2.4

TABLE 2.5 (cont.)

Calendar Year	Fetal Deaths			Deaths per 1,000 Live Births				
	Total	20 Weeks and Over ¹	Elective Abortions ²	Infant Deaths, Under 1 Year	Maternal Deaths	Fetal, 20 Weeks and Over	Infant	Maternal
1941	...	200	...	408	24	19.8	40.3	2.4
1942	...	209	...	406	30	20.1	39.0	2.9
1943	...	186	...	444	16	16.0	38.2	1.4
1944	...	206	...	389	27	16.2	30.6	2.1
1945	...	192	...	340	20	15.6	27.6	1.6
1946	...	200	...	389	17	15.8	30.7	1.3
1947	...	197	...	449	13	13.5	30.8	0.9
1948	...	195	...	415	16	13.5	28.7	1.1
1949	...	174	...	358	7	12.2	25.1	0.5
1950	...	175	...	335	12	12.5	23.8	0.9
1951	...	198	...	343	10	13.7	23.7	0.7
1952	591	222	...	331	12	14.2	21.2	0.8
1953	617	219	...	338	4	13.6	21.0	0.2
1954	793	238	...	363	7	14.7	22.4	0.4
1955	1,004	269	...	336	9	16.5	20.6	0.6
1956	1,126	245	...	384	5	14.3	22.4	0.3
1957	1,009	223	...	407	7	13.1	23.9	0.4
1958	921	213	...	385	5	12.7	23.4	0.3
1959	973	261	3	409	5	15.3	24.0	0.3
1960	1,026	261	3	399	5	15.2	23.2	0.3
1961	1,095	249	4	381	4	14.2	21.7	0.2
1962	1,223	234	9	369	5	13.0	20.6	0.3
1963	1,194	211	9	399	3	11.9	22.5	0.2
1964	1,200	223	13	342	2	12.9	19.8	0.1
1965	1,070	234	45	349	2	14.4	21.5	0.1
1966	899	172	15	282	3	11.5	18.9	0.2
1967	1,007	202	12	250	1	13.7	16.9	0.1
1968	1,114	209	11	277	3	14.3	19.0	0.2
1969	1,231	215	19	302	1	13.7	19.2	0.1
1970	4,287	340	2,741	315	3	20.6	19.1	0.2
1971	5,739	372	4,135	254	3	23.5	16.0	0.2
1972	6,162	352	4,547	270	2	22.8	17.5	0.1
1973	6,117	252	4,534	210	2	16.4	13.7	0.1
1974	5,764	299	4,158	236	4	19.3	15.3	0.3
1975	5,792	292	4,316	201	1	18.6	12.8	0.1

1. Calendar year data for 1915-1923, 1926, and 1927 estimated from fiscal year data.

2. Includes therapeutic, criminal, self-induced, and other elective abortions. Most legal restrictions on abortions were abolished as of March 11, 1970. Data have not been adjusted for underreporting, which was significant before 1970.

Source: Hawaii State Department of Health, "Vital Statistics and Population of Hawaii, 1900 to 1973," R&S Report, No. 5, June 1974; Annual Report, Statistical Supplement, 1952-1975; and records.

TABLE 2.6 EXPECTATION OF LIFE AT SPECIFIED AGES, 1878-1879 TO 1969-1971
(Average number of years of life remaining at beginning of specified years of age.)

Sex and Year	At Birth	Age 1	Age 20	Age 40	Age 60	Age 70
Both sexes						
1878-1879 ¹	21.88	NA	23.97	17.95	7.63	2.97
1883-1886 ¹	31.95	NA	28.98	16.85	9.31	3.79
1889-1892 ¹	33.65	40.99	32.11	21.25	11.69	6.57
1894-1898 ¹	36.89	43.61	33.05	21.00	9.83	5.47
1919-1920 ²	47.55	51.94	39.03	27.22	14.54	9.44
1929-1931 ²	54.68	59.12	44.04	28.16	14.51	9.00
1939-1940 ²	61.03	63.06	45.92	28.42	13.04	6.10
1949-1951 ²	69.52	70.30	52.28	33.64	17.60	11.53
1959-1961	71.55	72.22	53.91	34.99	18.42	11.91
1969-1971	73.60	73.96	55.57	36.70	19.83	13.01
Male						
1919-1920	47.80	52.55	39.48	26.52	14.09	8.83
1929-1931	53.09	58.31	43.46	27.21	13.90	8.73
1939-1940	59.46	61.79	44.86	27.40	12.46	5.87
1949-1951	67.76	68.77	50.86	32.41	16.79	10.96
1959-1961	69.79	70.64	52.41	33.65	17.28	11.27
1969-1971	71.02	71.51	53.23	34.55	18.23	11.75
Female						
1919-1920	47.30	51.32	38.58	27.93	14.98	10.05
1929-1931	56.28	59.93	44.63	29.11	15.12	9.26
1939-1940	62.60	64.32	46.98	29.44	13.62	6.34
1949-1951	71.27	71.84	53.71	34.87	18.42	12.10
1959-1961	74.01	74.50	56.09	36.97	20.04	12.92
1969-1971	76.79	76.96	58.47	39.39	21.78	14.32

1. Data limited to City of Honolulu; all-island data and breakdown by sex not available for these years.

2. Based on simple average of corresponding values for males and females, rather than on actual calculation for both sexes combined.

Source: 1878-1879 to 1894-1898 from unpublished life tables prepared by Robert Gardner of the East-West Population Institute; 1919-1920 to 1949-1951 from Robert W. Gardner and Eleanor C. Nordyke, The Demographic Situation in Hawaii (Papers of the East-West Population Institute, No. 31, June 1974), pp. 64-71; 1959-1961 and 1969-1971 from the U.S. Department of Health, Education, and Welfare, Public Health Service, National Center for Health Statistics, Hawaii State Life Tables: 1959-61 (June 1966), table 1, Hawaii State Life Tables: 1969-71 (June 1975), tables 1, 2 and 3, and unpublished tables by sex for 1959-1961.

TABLE 2.7 DEATHS BY AGE AND SEX, 1908 TO 1972
 (Residence basis, including armed forces. For 5-year periods centered on census years. Not adjusted for underregistration.)

Sex and Age (in years)	Percent Distribution										Annual Deaths per 1,000 Population										
	1908- 1912	1918- 1922	1928- 1932	1938- 1942	1948- 1952	1958- 1962	1968- 1972	1908- 1912	1918- 1922	1928- 1932	1938- 1942	1948- 1952	1958- 1962	1968- 1972	1908- 1912	1918- 1922	1928- 1932	1938- 1942	1948- 1952	1958- 1962	1968- 1972
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	16.1	17.3	11.0	7.6	6.0	5.5	5.6	16.1	17.3	11.0	7.6	6.0	5.5	5.6
Male	59.8	59.7	64.1	67.0	64.3	63.0	62.2	15.0	17.4	11.7	8.8	7.0	6.4	6.7	15.0	17.4	11.7	8.8	7.0	6.4	6.7
Under 1	16.7	16.0	13.9	8.1	7.0	6.6	3.8	185.1	160.1	115.4	61.5	32.2	26.4	20.9	185.1	160.1	115.4	61.5	32.2	26.4	20.9
1 to 4	5.4	5.0	4.6	2.0	1.4	0.8	0.5	17.8	14.7	9.4	3.9	1.6	0.8	0.7	17.8	14.7	9.4	3.9	1.6	0.8	0.7
5 to 14	2.2	2.4	2.3	1.9	1.1	1.0	0.7	4.1	3.9	2.2	1.4	0.7	0.5	0.4	4.1	3.9	2.2	1.4	0.7	0.5	0.4
15 to 24	5.2	4.5	4.7	5.3	2.2	2.0	2.9	7.5	7.6	3.8	3.0	1.3	1.2	1.5	7.5	7.6	3.8	3.0	1.3	1.2	1.5
25 to 44	13.7	11.8	11.0	12.2	7.9	5.4	5.3	8.0	10.7	6.6	5.0	2.6	2.0	2.3	8.0	10.7	6.6	5.0	2.6	2.0	2.3
45 to 64	10.4	13.6	16.8	18.6	18.7	18.4	19.2	18.9	22.3	22.1	18.8	13.6	11.1	11.3	18.9	22.3	22.1	18.8	13.6	11.1	11.3
65 to 74	3.2	3.6	6.8	11.7	13.5	13.0	13.5	60.1	59.9	64.8	55.8	46.6	42.5	37.8	60.1	59.9	64.8	55.8	46.6	42.5	37.8
75 and over	2.8	2.5	4.0	7.1	12.4	15.8	16.2	155.5	165.3	145.8	128.1	98.8	105.7	103.1	155.5	165.3	145.8	128.1	98.8	105.7	103.1
Unknown	0.2	0.3	0.0	0.1	0.1	-	0.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Female	40.2	40.3	35.9	33.0	35.7	37.0	37.8	18.1	17.0	10.0	6.0	4.7	4.3	4.4	18.1	17.0	10.0	6.0	4.7	4.3	4.4
Under 1	13.3	13.2	9.6	5.8	5.1	4.7	2.8	150.5	140.2	83.6	46.6	24.8	19.8	16.3	150.5	140.2	83.6	46.6	24.8	19.8	16.3
1 to 4	5.1	4.8	3.9	1.7	1.1	0.7	0.4	17.2	14.3	8.4	3.4	1.3	0.8	0.7	17.2	14.3	8.4	3.4	1.3	0.8	0.7
5 to 14	2.2	2.2	2.0	1.3	0.7	0.6	0.4	4.3	3.9	1.9	1.0	0.5	0.3	0.2	4.3	3.9	1.9	1.0	0.5	0.3	0.2
15 to 24	3.8	4.1	2.6	2.3	1.1	0.7	1.0	9.5	9.6	4.2	1.8	0.8	0.5	0.6	9.5	9.6	4.2	1.8	0.8	0.5	0.6
25 to 44	8.3	8.6	7.0	5.8	4.2	3.4	3.1	11.5	12.5	7.6	4.0	1.8	1.3	1.3	11.5	12.5	7.6	4.0	1.8	1.3	1.3
45 to 64	4.3	4.3	6.2	8.3	10.2	9.3	9.0	24.4	20.5	17.0	12.6	10.4	7.9	6.1	24.4	20.5	17.0	12.6	10.4	7.9	6.1
65 to 74	1.4	1.4	2.2	4.2	6.5	7.1	7.5	61.5	60.4	57.3	40.8	33.9	27.0	23.2	61.5	60.4	57.3	40.8	33.9	27.0	23.2
75 and over	1.7	1.5	2.4	3.6	6.8	10.5	13.6	158.8	157.0	146.0	116.4	88.2	83.3	75.0	158.8	157.0	146.0	116.4	88.2	83.3	75.0
Unknown	0.1	0.2	0.0	0.0	-	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...

1. Apparently excludes armed forces deaths of Pearl Harbor attack.
 Source: Hawaii State Department of Health, unpublished tabulations.

TABLE 2.8 DEATH RATES BY SELECTED CAUSES, 1908 TO 1962
(Rates are standardized by age according to the 1950 age distribution of Hawaii.)

Cause of Death	Code ¹	Average Annual Rate per 100,000 Population						
		1908-1912	1918-1922	1928-1932	1938-1942	1948-1952	1958-1962	
All causes	-	1,805.8	1,785.7	1,313.4	884.8	612.5	523.4	
Infective and parasitic diseases	-	362.3	299.2	180.4	105.0	31.4	6.4	
Tuberculosis, all forms	001-008	187.5	196.2	116.4	69.0	22.5	3.5	
Syphilis and its sequelae	010-019	28.0	24.9	20.7	10.4	4.0	0.4	
Typhoid fever	020-029	43.2	14.6	3.3	1.8	0	0.03	
Dysentery, all forms	040	28.2	7.2	2.1	0.4	0.5	0.1	
Septicaemia and Pyaemia	045-048	8.7	7.4	6.7	3.9	0.7	1.0	
Whooping cough	053	18.1	13.1	7.4	4.8	0.2	0	
Tetanus	056	7.4	5.4	5.1	2.4	0.9	0.1	
Acute poliomyelitis	061	1.3	1.1	0.5	0.9	0.6	0.2	
All other diseases classified as infective and parasitic	080-081	40.0	29.2	18.1	11.2	2.0	1.1	
Malignant neoplasms, including neoplasms of lymphatic and haema. tissues	-	55.9	80.5	88.5	84.5	91.2	89.1	
Malignant neo. of buccal cavity and pharynx	140-148	0.9	2.7	3.0	2.5	2.9	3.2	
Malignant neoplasm of stomach	151	24.9	36.0	36.6	28.3	22.1	15.6	
Malignant neo. of trachea, bronchus and not specified as secondary	162-163	0.3	0.6	2.7	5.6	10.0	14.4	
Malignant neoplasm of breast	170	2.5	2.5	2.5	3.2	3.6	4.3	
Malignant neoplasm of uterus	171-174	8.3	7.4	7.3	6.0	5.5	3.4	
Malignant neoplasm of prostate	177	0.5	0.5	1.0	1.2	1.9	2.2	
Malignant neo. of urinary organs	180-181	1.4	1.2	1.9	2.3	2.4	2.8	
Malignant neo. of other and unspecified sites	-	16.1	27.2	30.8	31.3	35.3	34.1	
Leukemia and aleukemia	204	0.8	1.7	1.8	2.6	4.2	4.4	
Other neoplasms of lym. and haema tissues	200-203 205	0.3	0.8	1.0	1.3	3.3	4.6	

TABLE 2.8 (cont.)

Cause of Death	Code ¹	Average Annual Rate per 100,000 Population									
		1908-1912	1918-1922	1928-1932	1938-1942	1948-1952	1958-1962				
Diabetes mellitus	260	5.9	9.1	10.5	11.4	14.3	12.9				
Non-meningococcal meningitis	340	48.1	13.3	4.6	4.4	2.1	1.4				
Major cardiovascular diseases	-	203.9	267.5	316.1	290.7	253.4	227.8				
Diseases of heart	-	130.3	144.5	199.4	204.5	182.1	168.6				
Active rheumatic fever and chronic rheumatic heart disease	400-402	20.5	34.0	19.4	9.0	7.6	5.9				
Hypertensive heart disease	410-416	0.1	2.2	14.0	29.3	62.2	38.6				
Arteriosclerotic heart disease, including coronary	440-443										
Non-rheumatic endocarditis and myocardial degeneration	420	2.9	6.7	18.9	59.1	80.5	105.0				
All other forms of heart disease	421-422	80.4	86.0	125.5	93.9	27.5	13.4				
Hypertension without mention of heart	430-434	26.4	15.7	21.6	13.1	4.3	5.7				
Vascular lesions affecting the central nervous system	444-447	0.4	0.9	1.0	4.1	6.6	3.5				
General arteriosclerosis	330-334	54.3	96.4	97.2	74.8	54.0	44.8				
Other diseases of arteries, arterioles, and capillaries	450	15.5	23.9	17.2	5.9	7.1	6.4				
Other diseases of cir. system	451-456	3.5	1.9	1.4	1.4	3.6	4.5				
Asthma	460-468	1.7	0.8	1.0	0.7	1.0	1.8				
Bronchitis	241	15.8	7.7	7.4	5.6	4.0	4.8				
Influenza and pneumonia (except pneumonia of newborn)	500-502	45.4	35.4	14.2	3.0	1.2	0.8				
Influenza	-	186.2	342.5	152.1	66.8	21.4	20.8				
Pneumonia, except of newborn	480-483	10.6	152.2	16.4	5.6	2.1	1.1				
	490-493	175.6	190.2	135.7	61.2	19.3	19.7				

TABLE 2.8 (cont.)

Cause of Death	Code ¹	Average Annual Rate per 100,000 Population					
		1908-1912	1918-1922	1928-1932	1938-1942	1948-1952	1958-1962
Ulcer of stomach and duodenum	540-541	8.3	7.9	9.6	9.3	4.3	3.9
Appendicitis	550-553	7.1	13.1	9.4	5.5	1.3	0.3
Intestinal obstruction and hernia	560-561	9.2	14.3	10.0	6.0	3.4	2.3
570							
Gastritis, duodenitis, enteritis, and colitis, except diarrhea of newborn	543	159.1	159.3	75.7	11.8	4.8	2.3
Cirrhosis of liver	571-572	16.4	12.6	9.8	6.4	6.6	6.9
Nephritis and nephrosis	581	77.9	90.3	56.1	31.1	14.6	7.2
590-594							
Deliveries and complications of pregnancy, childbirth, and the puerperium	640-689	22.3	28.5	18.2	6.3	2.3	1.0
750-759		13.5	14.1	15.1	14.0	14.0	13.0
Congenital anomalies	-	125.4	99.5	84.4	71.7	47.1	41.3
Certain diseases of early infancy							
Birth injuries, post-natal asphyxia, atelectasis	760-762	7.9	12.5	18.0	25.4	25.0	14.7
Infections of newborn	763-768	24.8	23.7	10.8	5.1	2.5	2.9
Other diseases peculiar to early infancy and immaturity unqualified	769-776	92.7	63.3	55.6	41.2	19.6	23.7
Symptoms and ill-defined conditions	780-795	136.4	19.2	18.1	5.8	9.3	3.3
All other diseases	Residual	204.0	146.6	126.5	64.6	32.7	31.1
Accidents	-	86.7	89.6	78.3	57.9	37.3	33.5
Motor vehicle accidents	810-825	1.9	17.9	24.8	18.0	13.5	13.6
830-835							
Other transport accidents	800-802	6.8	12.7	7.7	4.0	1.6	1.7
840-866							
Accidental falls	900-904	17.9	11.4	13.8	8.7	5.0	3.6
Accidental drowning and submersion	929	20.8	19.2	14.0	8.2	5.8	4.9
All other accidental causes	-	39.3	28.5	18.0	19.1	11.6	9.8

TABLE 2.8 (cont.)

Cause of Death	Code ¹	Average Annual Rate per 100,000 Population					
		1908-1912	1918-1922	1928-1932	1938-1942	1948-1952	1958-1962
Suicide	E963 E970-E979	12.2	27.5	21.9	17.3	10.8	9.0
Homicide	E964 E980-E985	2.2	7.1	5.6	4.9	4.0	2.9

1. Coded according to the 1955 revision of the International Classification of Diseases.
 Source: Hawaii State Department of Health, Mortality Trends in Hawaii, 1908-1962 (R&S Report, No. 2, April 1973).

TABLE 2.9 EPIDEMIC MORTALITY, 1804 TO 1937

Year	Disease	Deaths ¹
1804	"okuu" (cholera?)	<15,000
1818	"catarrhs and fevers"	60
1825	unnamed	"Great"
1826	influenza	"Thousands"
1839	mumps	"Great numbers"
1848-1849	measles, whooping cough, influenza	10,000
1853	smallpox	5,000-6,000
1857	influenza, dengue	"Many"
1870-1871	scarlet fever	"Great"
1878-1880	whooping cough	68
1881	smallpox	282
1888	whooping cough	104
1889-1890	measles, dysentery	26
1895	cholera	64
1899-1900	bubonic plague	61
1918-1920	influenza	1,700
1928-1929	cerebrospinal meningitis	68
1936-1937 ²	measles	205

1. Excludes deaths primarily resulting from famine; for data, see Robert C. Schmitt, "Famine Mortality in Hawaii," The Journal of Pacific History, vol. 5 (1970), pp. 109-115.

2. Most recent of record as of September 1976.

Source: Robert C. Schmitt, "The Okuu--Hawaii's Greatest Epidemic," Hawaii Medical Journal, vol. 29, No. 5, May-June 1970, pp. 359-364.

TABLE 2.10 ACCIDENTS AND NATURAL DISASTERS CAUSING FIVE OR MORE DEATHS:
1779 TO 1975

Category or Year	All Disasters		Worst Disaster	
	Number	Deaths	Year or Category	Deaths
All categories, 1779-1975	130	5,764	1941	2,500
Natural disasters	13	765	1790	400
Tsunami	5	287	1946	159
Flood, wind, or earth movement	7	78	1868	31
Volcano	1	400	1790	400
Fire or explosion	6	219	1944	163
Transportation ¹	104	2,108	1830	250
Marine	53	1,514	1830	250
Air	43	549	1955	66
Railroad	1	5	1916	5
Motor vehicle	7	40	1944, 1969	7
War ²	1	2,500	1941	2,500
Assault, murder, or riot	6	172	1790	100+
1779-1789	1	34	Assault	34
1790-1799	4	512	Volcano	400
1800-1809	1	14	Marine	14
1810-1819	1	5	Marine	5
1820-1829	-	-	-	-
1830-1839	3	271	Marine	250
1840-1849	5	91	Marine	37
1850-1859	3	80	Marine	70
1860-1869	4	303	Marine	210
1870-1879	3	22	Marine	11
1880-1889	7	57	Marine	13
1890-1899	3	26	Marine	14
1900-1909	7	365	Marine	140
1910-1919	7	84	Marine	25
1920-1929	5	118	Marine	48
1930-1939	7	66	Marine	25
1940-1949	31	3,151	Pearl Har.	2,500
1950-1959	16	274	Air	66
1960-1969	10	183	Tsunami	61
1970	1	5	Auto	5
1971	3	35	Air	24
1972	2	28	Marine	20
1973	2	11	Air	6
1974	4	29	Air	11
1975	-	-	...	-

TABLE 2.10 (cont.)

1. Includes ships or aircraft that sank, crashed or vanished elsewhere, if Hawaii was their next (or last) port of call, or if Hawaii was the first land reached by survivors.

2. Includes the Pearl Harbor attack but excludes the wars of the late eighteenth and early nineteenth centuries and the Battle of Midway.

Source: Robert C. Schmitt, "Catastrophic Mortality in Hawaii," The Hawaiian Journal of History, vol. 3 (1969), pp. 66-86, and "Catastrophic Mortality in Hawaii, 1969-1976" (typescript filed in Hawaiian Historical Society Library, September 21, 1976).

TABLE 2.11 MARRIAGES AND DIVORCES, 1829 TO 1975

Year	Marriages ¹		Divorces ²		
	Total	Per 1,000 Population	Total	Per 1,000 Population	Per 100 Marriages
1829	1,317	...	...	...	...
1830	...	...	...	...	...
1831 ³	1,678	...	...	...	...
1832	1,610	12.4	...	...	...
1833	1,290	10.4	...	...	...
1834	1,125	9.5	...	...	...
1835	1,546	13.6	...	...	...
1836	1,358	12.5	...	...	...
1837	1,082	10.1	...	...	...
1838	1,259	11.9	...	...	...
1839	1,143	10.9	...	...	...
1840	1,221	11.8	...	...	...
1841	1,314	12.9	...	...	...
1842	924	9.2	...	...	...
1843	994	10.0	...	...	...
1844	1,314	13.4	...	...	...
1845	1,831	19.0	...	...	...
1846	1,763	18.5	...	...	...
1847	1,435	15.2	...	...	...
1848	...	...	--	0	...
1849	1,810	21.1	1	0.0	0
1850	...	...	7	0.1	...
1851	1,771	21.6	] 81	0.5	2
1852	1,493	18.7			
1853	1,954	25.6	31	0.4	2
1854	2,128	29.2	87	1.2	4
1855	933	12.8	78	1.1	8
1856	930	12.8	85	1.2	9
1857	1,623	22.5	106	1.5	7
1858	1,060	14.8	58	0.8	5
1859	1,130	15.9	54	0.8	5
1860	1,075	15.3	] 173	1.2	9
1861	906	13.1			
1862	596	3.7	] 127	0.9	10
1863	726	10.9			
1864-65	...	...	52	0.4	...
1866-67	...	...	101	0.8	...
1868-69	...	...	152	1.3	...
1870-71	...	...	76	0.7	...
1872-73	...	...	18	0.2	...

TABLE 2.11 (cont.)

Year	Marriages ¹			Divorces ²		
	Total	Per 1,000 Population	Percent Inter-racial	Total	Per 1,000 Population	Per 100 Marriages
1874-75	...	...	...	7	0.1	...
1876-77	...	...	...	39	0.4	...
1878-79	...	...	...	228	2.0	...
1880-81	...	...	...	158	1.2	...
1882-83	...	...	...	174	1.2	...
1884-85	...	...	...	107	0.7	...
1886-87	...	...	...	108	0.6	...
1888-89	...	...	...	96	0.6	...
1890-91	...	...	...	97	0.5	...
1892-93	...	...	...	101	0.5	...
1894	...	...	...	71	0.7	...
1895	...	...	...	68	0.7	...
1896	...	...	...	77	0.7	...
1897	...	...	...	66	0.6	...
1898	...	...	...	53	0.4	...
1899	...	...	...	38	0.3	...
1900	...	...	...	48	0.3	...
1901	...	...	...	85	0.5	...
1902	1,155	7.3	...	56	0.4	5
1903	1,184	7.3	...	62	0.4	5
1904	1,125	6.7	...	89	0.5	8
1905	1,223	7.3	...	109	0.7	9
1906	1,264	7.6	...	87	0.5	7
1907	2,143	12.3	...	271	1.6	13
1908	1,875	10.3	...	131	0.7	7
1909	1,799	9.6	...	223	1.2	12
1910	2,065	10.7	...	197	1.0	10
1911	2,673	13.6	...	284	1.4	11
1912	3,223	15.5	...	352	1.7	11
1913	3,184	14.6	...	337	1.5	11
1914	2,769	12.2	11.5	324	1.4	12
1915	2,705	11.7	...	389	1.7	14
1916	2,778	11.7	...	379	1.6	14
1917	2,635	10.5	...	383	1.5	15
1918	2,398	9.4	...	557	2.2	23
1919	2,013	7.7	...	525	2.0	26
1920	2,127	8.2	...	570	2.2	27
1921	2,338	8.6	...	562	2.1	24
1922	2,493	8.8	18.0	555	2.0	22
1923	2,795	9.3	...	560	1.9	20
1924	3,354	10.9	...	557	1.8	17

TABLE 2.11 (cont.)

Year	Marriages ¹			Divorces ²		
	Total	Per 1,000 Population	Percent Inter- racial	Total	Per 1,000 Population	Per 100 Marriages
1925	2,736	8.4	21.9	627	1.9	23
1926	2,617	7.9		618	1.9	24
1927	2,626	7.8		676	2.0	26
1928	2,737	7.8	21.3	595	1.7	22
1929	2,565	7.1		563	1.6	22
1930	2,443	6.6		529	1.4	22
1931	2,629	7.0	21.6	598	1.6	23
1932	2,726	7.1		527	1.4	19
1933	2,621	6.8		541	1.4	21
1934	2,838	7.4	20.0	595	1.5	21
1935	2,985	7.7		690	1.8	23
1936	3,292	8.3		730	1.8	22
1937	3,556	8.9	24.6	815	2.0	23
1938	3,868	9.4	24.2	862	2.1	22
1939	3,963	9.5	22.6	866	2.1	22
1940	5,355	12.5	25.0	946	2.2	18
1941	6,066	13.2	23.9	1,147	2.5	19
1942	7,093	12.2	25.7	1,517	2.6	21
1943	4,984	7.7	29.1	1,610	2.5	32
1944	4,882	5.7	31.9	1,574	1.8	32
1945	4,978	6.1	32.2	1,530	1.9	31
1946	5,945	10.9	27.1	1,453	2.7	24
1947	5,846	11.1	28.8	1,178	2.2	20
1948	5,671	11.0	29.5	1,388	2.7	24
1949	5,316	10.4	29.9	1,052	2.1	20
1950	5,575	11.2	29.7	1,173	2.4	21
1951	5,860	11.4	30.6	1,185	2.3	20
1952	5,743	11.1	31.5	1,300	2.5	23
1953	5,633	11.0	30.5	1,287	2.5	23
1954	5,362	10.6	31.2	1,270	2.5	24
1955	5,431	10.1	31.3	1,343	2.5	25
1956	5,158	9.2	35.1	1,305	2.3	25
1957	4,897	8.4	34.4	1,182	2.0	24
1958	4,727	7.8	37.6	1,228	2.0	26
1959	4,958	8.0	37.3	1,378	2.2	28
1960	5,237	8.2	37.3	1,270	2.0	24
1961	5,298	8.0	36.1	1,556	2.4	29
1962	5,484	8.0	37.7	1,471	2.2	27
1963	5,750	8.4	38.6	1,515	2.2	26

TABLE 2.11 (cont.)

Year	Marriages ¹			Divorces ²		
	Total	Per 1,000 Population	Percent Inter- racial	Total	Per 1,000 Population	Per 100 Marriages
1964	5,790	8.3	38.3	1,690	2.4	29
1965	6,071	8.6	38.1	1,111	1.6	18
1966	5,792	8.2	37.7	897	1.3	15
1967	7,345	10.2	33.5	1,451	2.0	20
1968	9,021	12.3	33.8	1,865	2.5	21
1969	9,891	13.2	33.7	2,314	3.1	23
1970	10,599	13.7	33.7	2,589	3.3	24
1971	9,734	12.2	38.7	3,691	4.6	38
1972	9,750	11.9	38.6	3,891	4.7	40
1973	9,776	11.6	40.6	4,170	4.9	43
1974	9,649	11.3	40.1	4,111	4.8	43
1975	9,673	11.1	39.6	4,265	4.9	44

1. Place of occurrence basis. Data for 1829-1844 are unofficial counts limited to marriages performed in Protestant churches and refer to 12-month periods ended in May, June, or July. Data are incomplete for most years prior to 1864, and are totally unavailable for 1864-1901. Interracial marriage data refer to four-year periods ended June 30, 1916, 1924, 1928, and 1934; the two-year period ended June 30, 1930; one-year periods ended June 30, 1935 to 1947; and calendar years 1948 and thereafter. Total marriages and rates for 1845 and succeeding years refer to calendar years.

2. Place of occurrence basis. Totals include divorce cases tried in Superior Court, 1848-1850, and all final divorces granted, 1851 and later years. Data for 1874-1897 estimated from incomplete reports. Data exclude interlocutory decrees, established in 1965 and abolished in 1971.

3. Including churches not reported, estimated total was 1,937.

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 209-212; Hawaii State Department of Health, "Vital Statistics and Population of Hawaii, 1900 to 1973," R&S Report, No. 5, June 1974; Hawaii State Department of Health, Statistical Report (annual, 1966-1975), and records. Rates for 1832-1847, not shown in the source, are based on the population estimates listed herein in table 1.3.

TABLE 2.12 MARRIAGE AND DIVORCE RATES BASED ON RISK POPULATION, 1866 TO 1970

Census Year	Females 15 Years Old and Over ¹		Marriages ²		Divorces ²	
	Unmarried ³	Married ⁴	Number	Rate ⁵	Number	Rate ⁶
1866	5,137	15,470	...	...	50	3
1872	5,142	12,682	...	...	9	1
1878	4,411	11,789	...	...	114	10
1884	5,385	12,835	...	...	54	4
1890	5,394	14,497	...	...	48	3
1896	6,387	15,634	...	...	72	5
1900	6,773	24,048	...	...	43	2
1910	9,667	31,380	2,112	218	210	7
1920	14,616	45,550	2,070	142	548	12
1930	26,059	53,948	2,504	96	546	10
1940	51,669	66,569	4,659	90	906	14
1950	58,995	94,520	5,446	92	1,112	12
1960	65,156	128,528	5,098	78	1,324	10
1970	98,016	166,596	7,312	75	2,452	15

1. Females 14 years old and over for 1940-1970.
 2. Annual averages for two-year periods centering on each census date. Place of occurrence basis. Marriage data for 1969-1970 exclude marriages of nonresident brides.

3. Single, widowed, or divorced.

4. Includes separated persons.

5. Per 1,000 unmarried females 15 (or 14) years old and over.

6. Per 1,000 married females 15 (or 14) years old and over.

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 214-215 and underlying data; U.S. Census of Population: 1970, Final Report PC(1)-B13, table 22; Hawaii State Department of Health, Annual Report, Statistical Supplement for 1969 and 1970.

TABLE 2.13 MEDICAL PERSONNEL, 1820 TO 1976

Specified Medical and Health Workers in Hawaii ¹					
Year	Physicians and Surgeons ²	Dentists	Registered Nurses ³	Pharmacists	Veterinarians
1820	1	--	...	...	...
1830	2	--	...	...	...
1840	6	--	...	...	...
1853	17	1	...	...	...
1872	47	...	...	...	...
1884	29	4	9	23	2
1896	90	...	...	...	...
1900	109	21	14	...	6
1910	128	22	165	...	14
1920	160	41	251	...	6
1930	255	132	707	...	12
1940	341	196	1,080	76	20
1950	493	256	1,278	148	26
1960	717	378	2,091	156	29
1970	961	401	2,919	217	54

Year	Licensed Physicians ⁴	Year	Licensed Physicians ⁴	Year	Licensed Physicians ⁴	Year	Licensed Physicians ⁴
1897	76	1933	244	1956	519	1968	903
1910	122	1937	267	1957	548	1969	930
1919	133	1940	337	1958	576	1970	989
1920	155	1945	353	1959	600	1971	1,049
1921	141	1950	443	1963	743	1972	1,070
1924	163	1952	459	1964	766	1973	1,203
1926	175	1953	472	1965	801	1974	1,309
1928	195	1954	479	1966	845	1975	1,415
1930 ⁵	206	1955	511	1967	875	1976	1,546

TABLE 2.13 (cont.)

1. Data for 1930 and earlier years refer to "gainful workers" or "persons gainfully occupied," either in civilian life or the armed forces, and may include persons not currently employed. Data for 1940 and later years refer to employed persons, excluding members of the armed forces.

2. Listed as "physicians and surgeons" in 1820-1853, 1884, and 1900-1960, "licensed physicians" in 1872, "doctors" in 1896, and "physicians, medical and osteopathic" in 1970.

3. Listed as "nurses" in 1884, "trained nurses" in 1900-1930, "trained nurses and student nurses" in 1940, "professional nurses" in 1950 and 1960, and "registered nurses" in 1970. Student nurses, included only in 1940, numbered 274 in 1950 and 129 in 1960.

4. Physicians licensed and living in Hawaii. Includes those in the armed forces or inactive.

5. Also reported as 255.

Source: Robert C. Schmitt, "Health Personnel in Hawaii, 1820-1974," Hawaii Medical Journal, vol. 34, No. 2, February 1975, pp. 53-55; "Census of the Hawaiian Islands, Taken December 27th, 1872" (broadside); Department of Public Instruction, Report of the General Superintendent of the Census, 1896, pp. 72-73; Hawaii State Department of Health, Annual Report, Statistical Supplement for 1959 (p. 65) and 1975 (p. 8), and records.

TABLE 2.14 CHARACTERISTICS OF ALL HOSPITALS, 1909 TO 1975, AND THE QUEEN'S HOSPITAL, 1859 TO 1976

Year	Civilian Hospitals Registered by AMA, Excluding Those Treating Leprosy and Mental Deficiency ¹						The Queen's Hospital ²	
	Number of Hospitals	Beds	Admissions	Average Daily Census	Percent Occu-pancy	Average Stay ³ (days)	Average Stay (days)	Operating Cost per Patient Day (dollars)
1859-61	...	...	...	...	...	...	41.8	0.83
1871-73	...	...	...	...	...	...	66.2	0.42
1873-75	...	...	...	...	...	...	66.0	0.43
1875-77	...	...	...	...	...	...	71.5	0.52
1877-79	...	...	...	...	...	...	59.4	0.61
1903	...	...	...	...	...	...	33.7	1.78
1905-06	...	...	...	...	...	...	...	1.93
1909	15	775	...	...	...	...	...	...
1911	17	830	...	...	...	...	21.3	2.08
1912	...	...	...	...	...	...	20.6	2.06
1913	...	...	...	...	...	...	20.1	2.26
1914	17	1,045	...	...	...	...	20.1	2.36
1915	...	...	...	...	...	...	16.9	2.67
1916	17	1,097	...	...	...	...	17.5	2.78
1917	...	...	...	...	...	...	16.5	2.85
1918	17	1,097	...	...	...	...	16.2	2.98
1919	...	...	...	...	...	...	14.5	3.60
1920	...	...	...	...	...	...	13.0	4.20
1921	15	1,084	...	...	...	...	12.5	4.46
1922	...	...	...	...	...	...	13.6	4.10
1923	49	2,335	...	...	...	...	12.5	4.19
1924	...	...	...	...	...	...	12.4	4.58
1925	42	2,387	...	...	...	...	12.2	4.61
1926	...	...	...	...	...	...	11.2	4.53
1927	42	2,897	...	...	...	...	10.8	4.77
1928	42	2,845	...	...	...	...	9.1	5.09
1929	41	2,871	...	2,080	72	...	8.7	5.21
1930	35	2,816	...	2,220	79	...	9.3	5.22
1931	36	2,968	31,053	2,212	75	10.7	8.5	5.45
1932	39	3,308	35,769	2,451	74	10.7	8.2	5.73
1933	38	3,327	35,233	2,445	73	10.3	8.2	5.36
1934	41	3,342	36,387	2,491	75	10.0	8.7	5.38
1935	41	3,359	38,062	2,515	75	10.2	9.0	5.47
1936	40	3,479	43,690	2,713	78	9.9	8.6	5.84
1937	40	3,618	45,493	2,811	78	10.0	8.9	6.09
1938	42	3,678	47,524	2,936	80	9.9	9.2	5.45
1939	42	3,833	49,766	2,977	78	9.4	8.5	6.37
1940	50	4,057	52,984	3,037	75	8.9	8.3	6.20
1941	48	4,026	55,253	3,184	79	9.5	8.7	6.35
1942	46	4,389	52,596	3,114	71	9.5	8.4	7.15

TABLE 2.14 (cont.)

Civilian Hospitals Registered by AMA, Excluding Those Treating Leprosy and Mental Deficiency ¹							The Queen's Hospital ²	
Year	Number of Hospitals	Beds	Admissions	Average Daily Census	Percent Occu-pancy	Average Stay ³ (days)	Average Stay (days)	Operating Cost per Patient Day (dollars)
1943	45	4,222	59,814	3,201	76	8.5	8.4	8.45
1944	43	4,208	57,003	3,313	79	8.9	8.4	9.89
1945	43	4,308	58,949	3,333	77	8.4	8.3	10.46
1946	43	4,424	60,626	3,389	77	8.5	8.8	12.52
1947	41	4,687	65,198	3,541	76	8.3	9.2	17.11
1948	41	4,782	64,821	3,530	74	8.1	8.3	20.65

All Hospitals Listed by AHA, Including Military, and Those Treating Leprosy and Mental Deficiency ⁴							The Queen's Hospital ²	
Year	Number of Hospitals	Beds	Admissions	Average Daily Census	Percent Occu-pancy	Average Stay ³ (days)	Average Stay (days)	Operating Cost per Patient Day (dollars)
1948	43	7,450	83,881	5,029	67.7	7.2	8.3	20.65
1949	42	6,721	72,836	4,722	70.3	7.8	7.9	20.29
1950	38	6,699	...	...	74.7	7.4	7.3	21.16
1951	37	6,860	...	...	78.1	7.5	6.8	21.78
1952	33	7,303	...	...	...	...	7.2	22.72
1953	33	7,246	...	...	...	...	7.2	23.88
1954	34	7,366	82,340	5,783	78.5	8.2	7.2	26.12
1955	35	7,119	86,407	5,448	76.5	6.9	7.1	26.89
1956	35	6,535	89,076	4,728	72.3	6.4	6.7	27.76
1957	32	6,229	92,768	4,658	74.8	7.5	6.7	28.44
1958	32	6,112	94,771	4,571	74.8	6.7	6.7	30.72
1959	33	5,902	88,071	4,406	74.7	7.6	6.6	34.72
1960	32	6,724	97,890	4,883	72.6	6.4	6.5	37.90

TABLE 2.14 (cont.)

Civilian Hospitals Listed by Department of Health, Including Those Treating Leprosy and Mental Deficiency ⁵							The Queen's Hospital ²	
Year	Number of Hospitals	Beds	Admissions	Average Daily Census	Percent Occu- pancy	Average Stay ³ (days)	Average Stay (days)	Operating Cost per Patient Day (dollars)
1960	34	5,087	83,327	3,626	71	15.9	6.5	37.90
1961	33	5,343	83,061	3,811	71	16.7	6.6	40.00
1962	33	5,264	91,093	3,936	75	15.8	6.3	44.59
1963	34	5,280	82,383	3,850	73	17.1	6.4	48.89
1964	34	5,202	80,920	3,834	74	17.3	6.9	51.50
1965	34	5,208	85,795	3,606	69	15.3	7.0	53.39
1966	34	4,844	82,489	3,687	76	16.3	7.5	61.85
1967	32	5,408	80,264	4,197	78	19.1	7.5	61.93
1968	31	5,447	81,771	4,170	79	18.7	7.8	66.48
1969	31	5,035	83,635	3,951	79	17.3	8.5	71.65
1970	31	5,021	88,861	3,848	77	15.8	7.9	82.04
1971	31	4,641	90,696	3,721	80	15.0	7.5	95.17
1972	31	4,252	89,797	3,148	74	12.8	7.8	113.65
1973	30	4,304	94,464	3,033	70	12.0	7.0	133.43

Civilian Hospitals Listed by Department of Health, Excluding Those Treating Leprosy and Mental Deficiency ⁵							The Queen's Hospital ²	
Year	Number of Hospitals	Beds	Admissions	Average Daily Census	Percent Occu- pancy	Average Stay ³ (days)	Average Stay (days)	Operating Cost per Patient Day (dollars)
1974	25	2,399	96,576	1,583	66	5.8	6.7	154.17
1975	25	2,321	95,459	1,539	66	5.9	6.4	178.39
1976	...	...	...	...	...	...	6.5	217.53

TABLE 2.14 (cont.)

1. All hospitals registered or listed by the American Medical Association (AMA), exclusive of military hospitals, leprosy hospitals, and institutions for the aged, the mentally deficient, and similar groups. Data for years prior to 1923 exclude many plantation hospitals and other small institutions; for example, the 1909 tabulation omits approximately fourteen hospitals established prior to that time but not listed by the AMA until later. Data refer to either the calendar year or most recent statistical year.

2. Renamed The Queen's Medical Center in 1967. Data refer to the 690-day period from August 1, 1859 to June 20, 1861, biennial periods ended in June or July, 1873 to 1879, the calendar year 1903, the 18-month period ended December 31, 1906, calendar years 1911 through 1946, the 6-month period ended June 30, 1947, and fiscal years ended June 30, 1948 and thereafter.

3. AMA data (1931-1948) limited to general hospitals; American Hospital Association data (1948-1960) limited to short-term general and other special hospitals; Department of Health data (1960 and later years) based on all hospitals listed, including long-term institutions.

4. All hospitals listed by the American Hospital Association, including military hospitals, leprosy hospitals, and institutions for mental deficiency. Data refer to the 12-month period ended September 30 or to the fiscal year closest to that period.

5. All hospitals listed by the Hawaii State Department of Health; excludes military hospitals but includes institutions for leprosy and mental deficiency. Hawaii State Hospital excluded for 1972 but included in other years. Year-to-year fluctuations in these data are often attributable to inconsistent treatment of beds and patients in residential cottages at Kalaupapa Settlement (included in 1960-1964 and 1967-1972 but excluded in 1965, 1966, and 1973) and Waimano Training School and Hospital (excluded through 1966 and included 1967-1973).

Source: American Medical Association, American Medical Directory for 1909 (p. 1257), 1911 (pp. 1323-1324), 1914 (pp. 1559-1560), 1916 (pp. 1644-1645), 1918 (pp. 1694-1695), 1921 (p. 1623), 1923 (p. 1709), 1925 (p. 1705), and 1927 (pp. 1734-1735); Raymond G. Nebelung and Robert C. Schmitt, Hawaii's Hospitals, Past, Present and Future (1948), pp. 29-38; Journal of the American Medical Association, vol. 140, No. 1, May 7, 1949, pp. 96-97; Hospitals, annual guide issue, 1949-1961; Robert C. Schmitt, "Medical Costs in Hawaii, 1859-1967," Hawaii Medical Journal, vol. 27, No. 3, January-February 1968, pp. 236-239; The Queen's Medical Center, records; Hawaii State Department of Health, Statistical Report (annual, 1960-1975).

TABLE 2.15 ACTIVE PATIENTS IN LEPROSY FACILITIES, 1866 TO 1975

Leper Settlement, Molokai ¹					Leper Settlement, Molokai ¹				
Year	Admis- sions	Deaths	Census, End of Period	Kalihi Hospital: Census ²	Year	Admis- sions	Deaths	Census, End of Period	Kalihi Hospital: Census ²
1866	142	36	106	29	1887	220	108	685	86
1867	37	24	107	...	1888	558	236	995	116
1868	112	27	185	43	1889	301	149	1,144	...
1869	125	59	244	...	1890	184	154	1,174	49
1870	27	57	214	14	1891	142	204	1,110	...
1871	181	52	343	...	1892	109	136	1,083	12
1872	105	63	385	17	1893	211	151	1,143	...
1873	477	142	711	...	1894	137	155	1,125	4
1874	90	141	644	17	1895	106	141	1,090	19
1875	213	149	702	...	1896	146	113	1,123	...
1876	96	119	673	...	1897	124	139	1,108	7
1877	157	129	698	...	1898	82	113	1,076	...
1878	237	111	824	...	1899	61	104	1,031	3
1879	37	194	665	...	1900	105	138	992	...
1880	51	151	565	...	1901	94	177	909	...
1881	196	129	632	...	1902	78	109	878	...
1882	70	111	591	92	1903	114	101	876	...
1883	300	150	741	145	1904	92	107	860	16
1884	108	167	680	168	1905	94	95	857	18
1885	103	142	641	...	1906	64	84	837	19
1886	42	101	577	...	1907	76	88	810	8

Year	Leper Settlement, Molokai ¹				Kalihi Hospital ²			
	New Admis- sions	Other Admis- sions ³	Deaths	Census, End of Period	New Admis- sions	Other Admis- sions ³	Deaths	Census, End of Period
1908		21	30	790	...	...	...	9
1909 ⁴		11	63	722		38	2	20
1910	11	37	90	620	48	3	3	31
1911	--	33	61	591	66	2	6	57
1912	1	90	64	618	152	--	7	106
1913	--	113	49	682	72	--	13	42
1914	--	67	74	666	33	2	5	19
1915	3	46	62	638	68	--	1	30
1916	2	55	66	629	75	1	2	44
1917	2	32	63	587	50	2	3	55
1918	2	87	67	608	80	4	6	35
1919	--	60	57	610	113	2	6	64

TABLE 2.15 (cont.)

Year	Kalaupapa Settlement ¹				Kalihi Hospital ²			
	New Admissions	Other Admissions ³	Deaths	Census, End of Period	New Admissions	Other Admissions ³	Deaths	Census, End of Period
1920	1	--	53	564	84	4	5	116
1921	--	--	50	481	108	7	5	132
1922	1	--	43	439	83	23	4	207
1923	--	92	40	472	73	16	7	145
1924	--	49	36	485	72	17	7	139
1925	--	75	45	506	73	26	6	130
1926	--	43	38	510	71	21	3	150
1927	--	40	41	497	52	14	1	157
1928	--	49	50	496	42	33	--	164
1929	--	40	80	448	62	23	5	177
1930	--	98	36	510	47	19	4	113
1931	--	4	50	457	61	21	2	166
1932	--	33	44	430	54	14	3	162
1933 ⁵	1	...	65	434	59	...	...	153
1934	1	113	59	459	58	28	4	107
1935	--	26	50	435	36	6	2	114
1936	--	55	60	427	38	18	5	98
1937	--	49	50	407	49	21	2	98
1938	--	46	46	403	47	6	1	82

Year	All Institutions ⁶			Census, End of Period ⁶		
	New Admissions	Reactivated	Deaths	Kalaupapa Settlement ¹	Kalihi Hospital ²	Hale Mohalu ⁷
1939	35	...	42	379	88	--
1940	36	...	55	360	78	--
1941	30	...	36	359	60	--
1942	22	...	42	372	22	--
1943	33	...	32	362	28	--
1944	26	...	35	350	27	--
1945	14	...	29	318	31	--
1946	19	...	33	301	30	--
1947	25	...	33	291	33	--
1948	24	...	16	283	33	--
1949 ⁸	18	...	16	243	29	--
1949 ⁹	23	--	13	206	--	57
1950	18	3	7	180	--	76

TABLE 2.15 (cont.)

Year	All Institutions ⁶			Census, End of Period ⁶	
	New Admissions	Reactivated	Deaths	Kalaupapa Settlement ¹	Hale Mohalu ⁶
1951	13	4	7	160	85
1952	12	3	4	158	94
1953	10	4	2	159	97
1954	10	3	5	148	94
1955	18	1	8	137	85
1956	9	10	6	90	90
1957	3	4	3	82	76
1958	6	9	3	78	71
1959	3	5	4	81	63
1960	10	4	4	81	54
1961	9	4	5	79	59
1962	6	3	4	72	56
1963	12	7	2	71	68
1964	6	3	6	59	71
1965	10	2	2	59	74
1966	6	8	3	56	78
1967	10	5	2	56	77
1968	10	4	7	52	71
1969	4	1	2	43	31
1970	4	6	2	30	23
1971	9	7	--	29	23
1972	10	4	2	26	23
1973	11	6	2	15	19
1974	3	--	--	8	5
1975	--	--	1	1	4

1. Kalaupapa Settlement, located on the north shore of Molokai, was initially referred to as the Leper Settlement, Molokai, the Leper Settlement, Kalawao, and the Leprosarium, Molokai. It received its first patients in January 1866. Data are for calendar years 1866 to 1908, the six-month period ended June 30, 1909, fiscal years ended June 30, 1910 to 1949, and calendar years 1949 and thereafter.

2. Also known as Kalihi Receiving Station, Kalihi Hospital was opened on a site in Kalihi-Kai, Honolulu, on November 13, 1865. It was replaced successively by the Leper Detention Station at King Street and Nuuanu Avenue in 1875 and the Branch Hospital, Kakaako, on December 12, 1881. It was reestablished on the original site in Kalihi-Kai on June 21, 1889, where it remained in use until the opening of Hale Mohalu in October 1949. Data for 1882-1887 refer to Branch Hospital, Kakaako. Data include patients admitted for examination and subsequently discharged as nonleprous as well as those found to be active. Specific dates and periods for these statistics are March 2, 1866, April 1, 1868 to 1884, November 12, 1887, March 31, 1888 to 1894, December 31, 1895 to 1904, June 30, 1905 to 1908, and fiscal years ended June 30, 1909 to 1949.

TABLE 2.15 (cont.)

3. Includes patients recommitted after temporary release or full discharge, transferred from another leprosy facility, or returned from another jurisdiction or escape.

4. Six-month period.

5. Death total for Kalaupapa includes deaths at Kalihi Hospital.

6. Fiscal years ended June 30, 1939 to 1949, and calendar years thereafter.

7. Opened October 1949.

8. Fiscal year ended June 30.

9. Calendar year.

Source: Report of the President of the Board of Health for 1866-1909; Annual Report of the Superintendent, Board of Hospitals and Settlement for 1932-1938; Department of Health, Division of Hospitals and Settlement, typed tables dated December 6, 1949, February 9, 1950, and December 4, 1950, in State Archives file (Judd, L. M., Kalaupapa, Miscellaneous Reports, 1947-1951); Annual Report, Department of Health, Statistical Supplement for 1953-1975; and records.

TABLE 2.16 ADMISSIONS AND INMATES AT OAHU INSANE ASYLUM, 1866 TO 1924, AND HAWAII STATE HOSPITAL, 1925 TO 1976

Year ¹	Patients Present			Year ¹	Admissions		Patients Present	
	Admissions	Average	End of Period		Total	First	Average	End of Period
1866-1868 ²	62	...	29	1923	115	...	411	432
1868-1870 ³	40	...	32	1924	138	...	452	470
1870-1872 ³	43	...	32	1925 ⁹	146	...	485	501
1872-1874 ³	36	...	28	1926	141	...	502	519
1874-1876 ³	47	...	19	1927 ¹⁰	144	131	521	498
1876-1878 ³	52	...	30	1928	154	128	510	526
1878-1880 ³	45	...	36	1929	180	162	542	570
1880-1882 ³	51	...	45	1930 ¹⁰	236	208	560	595
1882-1884 ³	49	...	56	1931 ¹⁰	267	206	602	640
1884-1886 ⁴	31	...	82	1932	253	204	673	706
1886-1888 ⁵	116	...	64	1933	226	179	702	718
1888-1890 ⁴	56	...	70	1934	253	208	728	761
1890-1892 ⁴	77	...	75	1935	235	195	764	776
1892-1894 ⁴	75	...	70	1936	273	234	800	816
1894-1895 ⁶	57	...	85	1937	285	243	823	854
1896-1897 ⁷	98	...	111	1938	303	233	871	878
1898-1899 ⁷	107	...	136	1939	287	230	865	891
1900 ⁸	57	...	155	1940	289	218	901	913
1901	...	...	156	1941	354	295	953	965
1902	66	...	155	1942	332	225	983	1,003
1903	71	...	166	1943	275	243	1,014	1,050
1904	76	...	177	1944	225	211	1,098	1,123
1905	60	...	167	1945	267	242	1,102	1,075
1906	99	...	192	1946	339	311	1,131	1,146
1907	90	202	217	1947	347	292	1,163	1,159
1908	82	199	220	1948	417	353	1,071	1,068
1909	92	208	215	1949	436	368	1,070	1,058
1910	94	225	246	1950	509	426	1,088	1,055
1911	100	249	267	1951	477	398	1,081	1,063
1912	91	273	277	1952	516	394	1,111	1,132
1913	119	288	309	1953	507	362	1,149	1,186
1914	116	307	310	1954	426	313	1,171	1,180
1915	90	322	331	1955	435	325	1,190	1,219
1916	96	336	337	1956	396	278	1,215	1,208
1917	102	...	347	1957	360	261	1,214	1,228
1918	92	...	340	1958	378	276	1,234	1,241
1919	117	...	376	1959	347	221	1,210	1,176
1920	108	...	368	1960	389	257	1,173	1,170
1921	120	385	378	1961	449	289	1,152	1,176
1922	126	390	414	1962	471	307	1,139	1,128

TABLE 2.16 (cont.)

Year ¹	Admissions		Patients Present		Year ¹	Admissions		Patients Present	
	Total	First	Average	End of Period		Total	First	Average	End of Period
1963	456	279	1,060	1,017	1972	726	480	371	260
1964	430	294	998	931	1973	761	367	229	235
1965	465	264	886	765	1974	869	402	251	297
1966	484	286	798	790	1975	894	404	269	290
1967	437	266	726	662	1976	1,008	484	273	232
1968	536	307	622	578					
1969	791	521	584	590					
1970	1,052	714	577	564					
1971	1,015	691	568	421					

1. Year ended June 30 unless otherwise specified.
 2. September 1866 (when Oahu Insane Asylum was opened) to March 31, 1868. The Asylum was authorized by the Legislature in 1862.
 3. Two-year period ended March 31.
 4. Fifteen-month period ended March 31.
 5. Seventeen-month period ended March 31.
 6. Twenty-one month period ended December 31.
 7. Two-year period ended December 31.
 8. Calendar year.
 9. Name changed to Territorial Hospital during the year ended June 30, 1925.
 10. The first patients were transferred from the old School Street site to the new hospital in Kaneohe during the year ended June 30, 1927; the last group, on March 30, 1931. Most, however--541 patients and 50 employees--were moved on January 6, 1930.
- Source: Report of the Board of Health, 1868-1940; Report of the Minister of the Interior, 1880-1892; Annual Report of the Department of Institutions, 1940-1959; Hawaii State Department of Health, Statistical Report, 1960-1970, and records; Hawaii State Hospital, records.

TABLE 2.17 INMATES PRESENT AND ADMISSIONS, FOR WAIMANO TRAINING SCHOOL AND HOSPITAL, 1921 TO 1975

Year Ended June 30	First Admissions ¹	Inmates Present, June 30 ²	Average Number Present ³	Year Ended June 30	First Admissions ¹	Inmates Present, June 30 ²	Average Number Present ³
1921 ⁴	46	NA	NA	1951	26	641	649
1922	34	41	NA	1952	25	669	NA
1923 ⁵	22	96	NA	1953	41	687	NA
1924	24	114	NA	1954	3	687	687
1925	40	126	NA	1955	40	709	718
1926	27	142	NA	1956	19	715	718
1927	32	191	NA	1957	12	739	737
1928	28	207	NA	1958	45	770	754
1929	13	206	115	1959	59	820	797
1930	18	189	190	1960	46	833	NA
1931	9	193	194	1961 ⁷	36	822	NA
1932	19	201	190	1962	35	821	NA
1933	27	215	210	1963	62	841	NA
1934	8	219	221	1964	80	836	841
1935	7	222	221	1965	70	836	852
1936	90	295	271	1966	49	815	826
1937	62	333	329	1967	47	819	798
1938	29	357	329	1968	42	802	790
1939	20	364	368	1969	53	743	764
1940	34	370	364	1970	82	753	747
1941 ⁶	16	375	363	1971	49	761	749
1942	37	388	384	1972	36	723	741
1943	21	397	397	1973	35	705	717
1944	30	414	412	1974	37	696	694
1945	149	535	500	1975	17	638	660
1946	106	581	569				
1947	47	611	612				
1948	64	655	NA				
1949	38	653	NA				
1950	16	647	665				

1. For most years, excludes returns from community placement, parole, or Hawaii State Hospital, and transfers from other institutions. For some years, however, treatment of these groups was unspecified.

2. Data for 1960-1963 refer to December 31. For most years, excludes population on leave or escaped. For some years, however, treatment of these groups was unspecified.

3. For most years, excludes population on leave or escaped. For some years, however, treatment of these groups was unspecified.

4. Established by the 1919 territorial legislature and formally opened, as the Home for Feeble-Minded Persons, on March 27, 1921.

5. Renamed Waimano Home by action of the 1923 legislature.

6. Control shifted to the Department of Institutions in 1941.

7. On July 10, 1961, renamed Waimano Training School and Hospital, and control transferred to the Department of Health.

TABLE 2.17 (cont.)

Source: Report of the Governor of Hawaii to the Secretary of the Interior, 1921-1941; Annual Report of the Department of Institutions, 1945-1959; R. G. Nebelung and R. C. Schmitt, Hawaii's Hospitals, Past, Present and Future (1948), pp. 46-65; Statistical Report, Department of Health, 1961-1963; Department of Health, Mental Health Register, Waimano Training School and Hospital for fiscal years 1971-1972 and 1972-1973; Department of Health, Mental Health Division, records; Waimano Training School and Hospital, records.

TABLE 2.18 TUBERCULOSIS CASES AND DEATHS, 1900 TO 1975

Year ¹	New Cases Reported		Deaths	Active Cases Remaining on TB Register, End of Year
	Total	Active and Probably Active		
1900	NA	NA	249	--
1905	NA	NA	302	--
1910 ²	NA	NA	330	--
1915 ²	719	719	350	1,101
1920 ²	1,056	1,056	531	944
1925 ²	924	924	409	1,529
1930 ²	1,060	1,060	379	2,325
1935 ²	687	687	307	2,302
1940 ²	717	717	266	1,474
1945 ²	840	840	271	1,907
1950	743	339	114	1,106
1955	569	364	33	1,019
1960	462	293	13	701
1965	534	280	25	365
1970	733	270	13	312
1971	828	328	13	315
1972	894	315	7	289
1973	741	303	8	307
1974	899	364	3	365
1975	869	338	5	326

1. Calendar years unless otherwise specified.

2. Year ended June 30.

Source: Board of Health, Report, 1905-1950; Department of Health, Statistical Report, 1955-1975, and records.

TABLE 2.19 SPECIFIED COMMUNICABLE DISEASES, 1900 TO 1975
(Rates per 100,000 total resident population.)

Year	Mortality Rates		Morbidity Rates				
	Leprosy	Tubercu- losis	Leprosy	Tubercu- losis	Gonorrhoea	Syphilis	Influenza
1900	55.1	161.5	65.5	...	...	...	...
1901	115.7	210.9	60.4	...	...	...	...
1902	50.8	177.2	52.7	...	...	...	449.1
1903	28.3	172.8	73.8	...	...	...	423.0
1904	33.3	198.8	58.3	...	...	...	...
1905	38.4	190.7	58.8	...	...	...	...
1906	34.8	201.3	40.7	...	...	...	...
1907	32.0	196.9	37.2	...	...	...	...
1908	22.4	176.3	40.0	...	...	...	...
1909	23.9	183.2	5.8	...	...	...	...
1910	35.7	170.8	31.1	...	...	...	...
1911	4.6	194.2	33.5	238.9	...	...	...
1912	24.1	175.1	87.3	210.3	...	...	...
1913	22.0	156.1	37.5	242.2	...	...	...
1914	26.0	181.2	27.3	277.3	...	...	...
1915	16.8	150.7	30.7	310.6	...	...	...
1916	19.4	180.2	32.8	397.0	...	...	...
1917	28.0	188.3	21.6	359.8	...	...	...
1918	24.4	186.7	34.2	368.2	...	...	...
1919	21.5	181.6	42.2	390.5	...	...	4,799.8
1920	21.1	203.7	30.7	395.0	...	...	6,677.9
1921	20.2	158.6	43.8	369.4	...	...	481.3
1922	13.4	159.0	30.3	311.7	21.8	15.1	203.7
1923	18.0	139.6	24.4	323.9	26.4	11.0	635.0
1924	14.9	125.0	24.0	325.0	33.3	22.3	379.7
1925	14.1	119.3	22.7	301.3	27.0	23.0	123.0
1926	12.4	116.9	22.3	364.8	24.2	24.8	314.1
1927	12.7	121.0	19.9	314.9	20.2	27.6	65.8
1928	22.5	123.5	12.5	334.7	35.0	29.3	34.2
1929	11.4	110.4	18.3	275.2	29.7	33.9	371.8
1930	13.6	103.0	13.3	288.1	...	...	44.0
1931	11.1	100.4	16.4	309.6	...	...	52.2
1932	16.9	93.5	18.2	274.5	...	...	244.9
1933	16.9	98.2	17.4	219.3	1.0	5.7	1,734.2
1934	13.8	82.2	15.4	199.0	...	150.1	871.4
1935	15.9	74.7	11.3	176.4	1.3	158.6	44.7
1936	14.4	84.8	11.9	209.3	0	...	2,894.7
1937	10.2	79.3	14.0	214.3	81.3	140.5	319.3
1938	11.7	65.4	12.0	191.7	275.6	221.2	1,158.9
1939	13.2	66.6	8.9	188.8	208.6	235.7	129.7
1940	10.0	60.1	8.9	167.1	180.2	180.2	32.0
1941	10.4	56.4	6.7	161.1	239.9	176.6	3,661.4
1942	4.6	47.8	4.6	131.6	219.2	152.9	50.3
1943	5.5	37.9	6.3	165.0	215.7	174.2	660.0
1944	3.4	34.7	3.8	130.5	208.2	116.3	815.3

TABLE 2.19 (cont.)

Year	Mortality Rates		Morbidity Rates				
	Leprosy	Tubercu- losis	Leprosy	Tubercu- losis	Gonorrhoea	Syphilis	Influenza
1945	4.1	36.5	2.9	127.9	232.0	114.9	471.0
1946	6.1	54.5	5.1	233.4	246.2	173.4	3,293.5
1947	3.8	45.2	6.3	281.2	272.5	190.4	4.8
1948	2.3	33.8	6.0	263.4	261.3	140.6	4.8
1949	1.2	21.7	6.1	130.9	192.4	106.4	1,097.2
1950	0.6	22.9	6.8	137.0	158.6	67.5	526.3
1951	1.0	13.6	4.5	107.1	114.3	53.9	180.1
1952	0.2	13.7	4.1	119.8	144.2	32.1	178.6
1953	0.2	8.4	4.5	114.7	67.1	35.7	1,957.5
1954	0.6	8.7	4.0	96.9	71.4	17.8	154.7
1955	0.9	6.1	5.0	105.5	85.3	31.3	97.2
1956	0.2	6.3	2.7	103.7	93.6	18.8	281.6
1957	0.2	2.9	2.2	78.5	82.0	21.7	3,791.2
1958	0.2	5.8	3.0	76.5	94.2	25.8	340.0
1959	0	2.7	1.0	57.4	84.4	20.6	1,510.9
1960	0.3	2.0	3.1	72.0	51.4	9.5	499.6
1961	0.9	3.5	1.8	72.0	60.9	13.4	119.0
1962	0.6	3.4	1.8	62.6	46.1	20.2	91.7
1963	0.1	2.9	3.2	55.0	48.7	21.0	192.9
1964	0.4	3.7	1.4	40.0	82.4	28.1	527.5
1965	0.3	3.6	3.0	37.4	80.8	19.9	176.5
1966	0.6	4.1	2.3	36.9	78.4	24.2	323.4
1967	0.3	2.1	1.8	48.6	94.8	18.5	84.8
1968	0.8	2.9	2.7	41.7	120.5	13.3	408.2
1969	0.3	2.4	1.2	40.8	132.8	11.6	185.4
1970	0.6	1.8	2.1	34.9	193.0	11.9	171.3
1971	0	2.6	4.1	41.3	248.3	10.4	413.1
1972	0.1	1.6	5.5	38.6	254.9	12.3	171.8
1973	0	1.5	5.2	36.0	286.3	13.1	821.6
1974	0	0.8	3.4	43.1	345.2	8.9	69.0
1975	0.1	1.4	3.5	68.3	361.4	15.5	84.2

TABLE 2.19 (cont.)

Morbidity Rates -- continued							
Year	Chickenpox	Measles	German Measles	Mumps	Pertussis	Shigella	Typhoid
1900	...	...	...	...	...	...	...
1901	...	...	...	...	...	...	...
1902	2.5	0	0	0	...	407.2	95.9
1903	44.3	19.1	0.6	0.6	...	239.2	113.8
1904	...	...	...	...	...	...	...
1905	...	...	...	...	...	...	...
1906	...	...	...	...	...	...	...
1907	...	...	...	...	...	...	...
1908	...	...	...	...	...	...	192.7
1909	...	...	...	...	...	...	145.5
1910	34.7	63.7	...	...	45.0	...	187.3
1911	33.5	308.0	...	...	158.6	...	133.7
1912	59.3	37.1	...	...	54.0	...	72.8
1913	40.3	123.6	...	...	47.6	...	97.5
1914	26.0	44.5	...	...	59.1	...	91.2
1915	49.7	24.6	...	...	97.2	...	66.1
1916	36.2	1,158.6	...	...	51.8	...	54.7
1917	34.8	82.4	...	...	56.4	...	80.4
1918	...	0	...	...	...	...	106.1
1919	40.3	157.8	...	...	13.1	...	51.8
1920	46.4	151.9	...	...	0.8	...	75.9
1921	47.8	204.2	...	...	23.9	...	61.1
1922	47.8	115.4	...	...	96.4	...	88.3
1923	39.7	738.2	...	...	224.7	...	55.4
1924	75.1	63.1	...	...	85.5	...	54.1
1925	69.6	154.9	...	...	33.4	...	31.6
1926	93.9	109.3	...	...	15.7	...	22.6
1927	56.0	439.1	...	68.2	155.7	...	44.8
1928	90.8	64.9	...	65.5	30.5	...	31.3
1929	55.5	117.9	...	43.8	429.8	...	20.8
1930	110.6	162.6	...	50.3	68.0	1.6	25.8
1931	68.6	397.1	...	102.2	4.8	4.5	23.8
1932	105.2	514.8	...	22.9	20.8	2.3	19.0
1933	132.8	5.2	...	48.4	386.0	1.3	31.5
1934	129.1	7.3	0	233.7	313.0	2.9	17.2
1935	157.4	12.3	...	71.4	145.5	1.5	17.5
1936	108.8	21.0	...	66.1	140.4	0	9.8
1937	213.3	3,413.1	...	237.8	29.2	1.7	11.2
1938	177.8	252.2	...	113.7	249.0	1.0	14.6
1939	317.3	23.6	...	397.6	435.6	1.7	14.2
1940	149.6	35.3	18.9	114.5	379.5	0	13.1
1941	194.8	668.4	191.6	33.7	70.5	15.7	15.0
1942	78.9	126.6	41.6	34.0	109.6	13.7	20.8
1943	222.7	23.1	45.7	461.6	235.7	35.9	1.4
1944	168.3	110.4	19.1	368.2	102.7	80.7	0.8

TABLE 2.19 (cont.)

Morbidity Rates -- continued							
Year	Chickenpox	Measles	German Measles	Mumps	Pertussis	Shigella	Typhoid
1945	147.9	1,273.5	34.3	122.1	11.0	54.6	1.0
1946	144.7	365.6	244.8	50.8	1.7	20.0	1.7
1947	444.9	21.7	37.2	118.2	117.1	14.1	0.6
1948	339.1	19.0	37.3	669.8	205.6	15.1	0.8
1949	424.0	1,067.8	33.9	188.8	3.3	16.8	0.6
1950	306.0	16.9	17.1	30.9	7.0	19.9	0.2
1951	392.8	1,572.0	113.0	38.3	1.9	14.6	0
1952	481.1	1,033.3	108.2	798.3	8.3	16.2	0
1953	353.0	27.8	45.9	739.5	26.7	34.1	0
1954	498.8	116.9	33.0	34.4	22.6	8.1	0
1955	548.3	1,254.2	53.6	113.9	4.8	74.9	0.2
1956	330.5	1,047.3	93.6	386.3	1.4	57.3	0
1957	561.5	761.2	33.0	403.6	0.2	6.7	0.7
1958	290.1	80.1	79.5	347.6	0.8	40.6	0.2
1959	276.5	749.6	166.9	163.2	4.7	16.9	0.3
1960	235.4	775.3	9.4	258.1	0	13.6	0
1961	258.4	33.2	7.6	109.3	0.2	58.4	0.5
1962	317.5	464.5	29.0	107.4	0.1	16.1	0.3
1963	359.0	531.0	11.4	380.8	0.3	17.0	0.3
1964	258.1	132.6	132.7	572.4	0.9	41.0	0
1965	336.9	575.4	475.3	84.1	0.1	37.7	0
1966	297.6	23.7	22.4	112.5	0	73.5	1.1
1967	121.7	33.1	49.3	441.1	0.1	58.4	0.4
1968	168.8	4.1	39.3	139.7	0	24.6	0
1969	220.6	7.1	150.5	83.6	0.5	42.5	1.5
1970	217.0	26.5	26.7	215.6	0.1	213.8	0.6
1971	184.5	66.9	23.5	117.8	0	56.3	0.6
1972	252.3	11.6	7.5	38.7	0.1	16.2	0.6
1973	183.9	2.6	3.6	33.6	0	14.9	0.1
1974	90.8	7.7	2.2	9.4	0.1	11.5	0.5
1975	244.3	7.4	2.5	6.9	0.1	15.8	0.5

Source: Hawaii State Department of Health, Research and Statistics Office, Communicable Diseases in Hawaii (R&S Report, no. 11, June 1976), pp. 16-19.

TABLES IN SECTION 3

- 3.1 Place of birth and residence, 1853 to 1970
- 3.2 Nativity and parentage, 1900 to 1970
- 3.3 Citizenship, 1900 to 1970
- 3.4 Alien population, 1927 to 1976
- 3.5 Residence five years earlier, 1950 to 1970
- 3.6 Immigrant arrivals, 1852 to 1899
- 3.7 Naturalization, 1843 to 1906
- 3.8 Immigrant aliens admitted, emigrant aliens departed, and persons naturalized, 1900 to 1975
- 3.9 Steerage arrivals and departures, 1905 to 1934, and Filipino arrivals, 1922 to 1946
- 3.10 Intended residents arriving in Hawaii from the Mainland United States, 1950 to 1976
- 3.11 Net migration, 1860 to 1976
- 3.12 Interstate movement of job-seekers, 1949 to 1976

SECTION 3 Migration

This section contains tables on place of birth of the population; nativity and parentage; citizenship; place of residence five years earlier; in-, out-, and net migration; naturalization; and the interstate movement of workers.

Most of the data in this section refer to interstate and international migration. The only statistics on interisland migration (for example, from Maui to Oahu) are those on place of residence five years previously.

The Hawaiian government began to compile data on migration and naturalization during the middle of the nineteenth century. All of the Hawaiian censuses, from the first relatively complete count in 1849 to the last in 1896, included questions on the nationality of the foreign-born population. Immigrant arrivals were tallied by country of origin, beginning with the first organized movement in 1852. From 1860 forward, data were collected on passenger arrivals and departures, thus permitting the computation of net de facto migration. Records of naturalization were initiated in 1843. All of these series were maintained in a reasonably consistent manner until the end of Hawaiian independence. Beginning in 1850, moreover, they were supplemented by statistics on Hawaii-born residents of the mainland United States, published in the decennial U.S. census.

Annexation resulted in several changes in these series as well as in new types of data. The U.S. census, now extended to Hawaii, included questions on state or country of birth, parentage, citizenship, and (beginning in 1950) place of residence five years prior to the census date. Statistics on the alien population were published, often on an annual basis, by the Board of Health from 1927 until 1948 and by the U.S. Immigration and Naturalization Service (INS) beginning in 1940. Other data issued annually by INS and its predecessor agencies included immigrant aliens admitted (beginning in 1900), emigrant aliens departed (1907 to 1957), and persons naturalized (starting in 1906). Statistics on steerage arrivals and departures were compiled from 1905 until 1934.

A few additional series were initiated after World War II. One of the most useful was a continuing survey of passengers arriving aboard westbound civilian aircraft and ships, conducted by the Hawaii Visitors Bureau (HVB) with the cooperation of the Board of Agriculture and Forestry (now Department of Agriculture). Instituted by the HVB late in 1950 as a means of obtaining data

on the number and characteristics of tourists and other visitors, this survey proved as well to be an excellent source for information on intended residents. A second survey of value for migration analysis was one begun by the Department of Labor and Industrial Relations in 1949; this continuing study provided annual data on the number of mainland workers filing claims for unemployment insurance and registered for work with the Hawaii State Employment Service, and the number of Hawaii workers seeking work and filing for benefits on the mainland.

Annual estimates of net migration continued to appear, but on a different basis than heretofore. Since 1860, the Hawaiian government had compiled data on passenger arrivals and departures; the difference between the two figures indicated the extent of net in- or out-migration. By 1960, however, such direct procedures no longer provided an accurate measure of net migration. The volume of passenger movement to and from the islands had become so great that a relatively small error (in relative terms) in one component, if not exactly matched by a similar error in the other component, could seriously distort the computed net figure. Consequently the annual estimates of net migration based on symptomatic data, computed by the Bureau of the Census as part of its intercensal and postcensal population estimates, appear to provide a more accurate set of data for the 1960s and 1970s than the earlier basis.

Most statistics on migration are in fact subject to incomplete coverage, misreporting, and other deficiencies. Census tabulations on state or country of birth and residence five years earlier have been marred by high non-response rates. Trend data were affected by the treatment of Filipinos as native born before 1946 and foreign born thereafter. The alien address reports program of the INS, the chief source for annual data on the alien population, apparently misses not only many aliens illegally in Hawaii but also some of those legally present. Annual immigration totals published by the INS similarly fail to catch illegal movements, the extent of which is unknown. The HVB survey omits intended residents arriving from Asia and the South Pacific or aboard military ships and aircraft, and is moreover subject to considerable nonresponse. Combining data from the HVB and INS migration surveys overcomes some of these problems, but at the cost of occasional double-counting, and with the continued omission of persons from American Samoa and other Pacific areas outside the statistical reporting system. The annual estimates of net migration, as mentioned previously, are at best rough approximations, and data on out-migration are extremely limited. All of these

series are, moreover, subject to serious distortion because of the inclusion of large numbers of military personnel and dependents, whose presence often swamps the totals for civilian migrants.

Statistics on migration appear in a variety of publications. Data from both the Hawaiian and U.S. censuses were published in the official reports of those enumerations. Nineteenth century statistics on immigration and naturalization were recorded in annual or biennial reports of the Bureau of Immigration, the Minister of the Interior, the Minister of Finance, and the Supreme Court. More recent statistics on immigration, emigration, naturalization, and the alien population have appeared in the annual reports of the INS and its predecessor agencies. The Hawaii State Department of Planning and Economic Development publishes annual reports on Hawaii's In-Migrants (which present estimates of gross migration) and The Population of Hawaii (with estimates of net migration). All of these series have been described in Demographic Statistics of Hawaii: 1778-1965.

Statistics on migration for the nation as a whole are summarized in Historical Statistics of the United States, Colonial Times to 1970, chapter C.

TABLE 3.1 PLACE OF BIRTH AND RESIDENCE, 1853 TO 1970

Year	Living in Hawaii, Born in:											Living in Mainland U.S., Born in Hawaii ²	
	Total Population of Hawaii	Hawaii		Mainland U.S. ³	U.S. Outlying Areas ⁴	U.S., State Not Reported	China	Japan	Korea	Philip-pines	Portu-gal ⁵		All Other ⁶
		71,310	692											NA
1853	73,138	71,310	692	--	--	--	364	NA	NA	5	86	681	533
1860	69,800	NA	NA	--	--	--	NA	NA	NA	NA	NA	NA	435
1866	62,959	NA	NA	--	--	--	NA	NA	NA	NA	NA	NA	524
1872	56,897	52,380	889	--	--	--	1,938	NA	NA	NA	395	1,295	729
1878	57,985	48,455	1,276	--	--	--	5,916	NA	NA	NA	436	1,902	1,067
1884	80,578	46,272	2,066	--	--	--	17,939	116	NA	NA	9,377	4,808	1,219
1890	89,990	48,117	1,928	--	--	--	15,301	12,360	NA	NA	8,602	3,682	1,304
1896	109,020	53,237	2,266	--	--	--	19,382	22,329	NA	NA	8,232	3,574	1,306
1900	154,001	58,931	4,238	52	--	--	21,741	56,234	NA	NA	6,512	6,293	1,307
1910	191,909	86,483	5,688	3,614	--	--	14,486	59,800	4,172	2,372	7,585	7,709	3,741
1920	255,912	136,349	10,816	2,778	--	--	11,164	60,690	3,498	18,728	5,794	6,095	10,551
1930	368,336	214,517	29,834	2,776	--	--	7,477	48,425	2,977	52,672	3,713	5,945	19,457
1940	423,330	278,506	54,224	2,209	--	--	4,868	37,362	2,454	35,778	2,397	5,532	23,723
1950	499,794	355,574	65,640	1,960	--	--	3,625	30,808	1,772	33,832	1,508	5,075	51,955
1960	632,772	421,168	128,992	4,965	8,750	--	3,541	24,658	1,124	28,649	764	10,161	115,070
1970	768,559	455,060	178,531	17,286	42,087	--	4,663	19,685	2,063	33,175	411	15,598	179,735

1. Includes persons living on the Midway Islands, 1910-1940, and other minor outlying islands, 1940, reported with Hawaii for census purposes. The revised 1970 census total was 769,913.
2. Estimated by interpolation for 1853, 1866-1884, and 1896. The actual numbers enumerated in the decennial U.S. censuses were 588 in 1850, 584 in 1870, and 1,147 in 1880.
3. Data for 1940 and 1950 include persons born abroad or at sea of native U.S. parents.
4. Chiefly American Samoa and Puerto Rico. Data for 1900-1930, 1960, and 1970 also include persons born abroad or at sea of native U.S. parents: unspecified in 1900 and 1910, 141 in 1920, 357 in 1930, 2,738 in 1960, and 13,272 in 1970.
5. Figure for 1853 includes Portugal, Spain, Spanish America, Brazil, and the "Western and Cape de Verde Islands."
6. Includes foreign-born not reporting country of birth.

TABLE 3.1 (cont.)

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 74, 75, 121, 122, and 183, and underlying data; U.S. Census of Population: 1970, Final Report PC(1)-D13, tables 140 and 141, and Final Report PC(2)-2A, table 2.

TABLE 3.2 NATIVITY AND PARENTAGE, 1900 TO 1970
(Persons born in the Philippine Islands were classified as native until 1946, and as foreign born thereafter.)

Year	Total Population	Native		Foreign Parentage ¹	Foreign Born
		Total	Native Parentage		
1900	154,001	63,221	38,067	25,154	90,780
1910	191,909	98,157	47,347	50,810	93,752
1920	255,912	168,671	79,242	89,429	87,241
1930	368,336	299,799	161,708	138,091	68,537
1940	423,330	370,717	NA	NA	52,613
1950	499,769	423,153	NA	NA	76,616
1960	632,772	563,872	390,188	173,684	68,900
1970	768,559	692,964	512,387	180,577	75,595

1. Includes persons of mixed parentage: 9,423 in 1910, 16,350 in 1920, and 31,145 in 1930; not shown separately for other years.

Source: Twelfth Census ... 1900, Population, Part II, pp. xxix and xxxii; Fifteenth Census ... 1930, Outlying Territories and Possessions, p. 48; Sixteenth Census ... 1940, Population, 2d Series, Hawaii, p. 5; U.S. Census of Population: 1950, bull. P-C52, table 29; U.S. Census of Population: 1960, Final Report PC(1)-13C, table 38; U.S. Census of Population: 1970, Final Report PC(1)-D13, table 142.

TABLE 3.3 CITIZENSHIP, 1900 TO 1970
 (Persons born in the Philippine Islands were classified as native until 1946 and foreign born thereafter.)

Year	Total Population ¹	Citizen		Alien ²	Foreign Born, Citizenship Not Reported
		Native	Naturalized		
Males 21 and over					
1900	79,607	13,064	1,199	63,636	1,708
1910	83,996	18,186	2,562	62,916	332
1920	90,522	37,096	2,498	50,734	194
All persons					
1920	255,912	168,671	4,566	82,302	373
1930	368,336	299,799	5,260	63,109	168
1940	423,330	370,717	5,553	47,060	
1950	499,769	423,153	10,171	65,610	835
1960	632,772	563,872	NA	NA	NA
1970	768,561	694,983	30,566	43,012	--

1. Totals differ slightly from final official census counts for 1910-1950 and 1970.

2. Includes persons having first papers: for males age 21 and over, 736 in 1900, 425 in 1910, and 471 in 1920; for all persons, 518 in 1920, 828 in 1930, 397 in 1940, and not reported thereafter.

Source: Twelfth Census ... 1900, Population, Part II, p. ccxviii; Thirteenth Census ... 1910, Abstract of the Census ... with Supplement for Hawaii, p. 581; Fourteenth Census ... 1920, Bulletin, Population, Hawaii, Composition and Characteristics of the Population, p. 4; Fifteenth Census ... 1930, Outlying Territories and Possessions, p. 6; Sixteenth Census ... 1940, Population, Second Series, Hawaii, p. 7; U.S. Census of Population: 1950, bull. P-C52, table 32; U.S. Census of Population: 1960, Final Report PC(1)-13C, table 38; U.S. Census of Population: 1970, Final Report PC(1)-D13, table 143.

TABLE 3.4 ALIEN POPULATION, 1927 TO 1976

Year	All nationalities	Canada	China ¹	Japan ²	Korea	Philippines	United Kingdom	All Others ³
Board of Health Reports ⁴								
1927	115,802	...	10,777	52,964	2,896	44,976	...	4,189
1928	120,491	...	10,252	51,348	2,818	51,870	...	4,203
1929	121,072	...	9,586	49,659	2,750	54,693	...	4,384
1934	97,335	...	5,349	42,067	2,673	43,561	...	3,685
1935	92,792	...	5,030	40,617	2,596	40,885	...	3,664
1936	89,065	...	4,727	39,127	2,525	39,072	...	3,614
1937	85,759	...	4,411	37,852	2,409	37,713	...	3,374
1938	83,300	...	4,283	36,955	2,352	36,609	...	3,101
1939	80,334	...	4,028	35,681	2,276	35,481	...	2,868
1940 ⁵	77,704	...	3,777	34,661	2,206	34,491	...	2,569
1940 ⁶	81,813	...	4,589	36,678	2,337	35,498	...	2,711
1941	78,142	...	4,351	35,183	2,253	34,010	...	2,345
1947	75,623	...	2,661	32,135	1,815	37,260	...	1,752
1948	74,020	...	2,350	31,640	1,750	35,290	...	2,990
Alien Address Reports ⁷								
1940	91,447	295	4,981	38,223	2,491	38,340	500	6,617
1943	89,578	...	...	...	...	...	...	...
1951	66,181	191	...	...	...	...	322	...
1953 ⁸	63,366	...	...	...	...	...	...	...
1954 ⁸	59,912	278	...	...	...	...	310	...
1955	57,686	...	...	...	...	...	...	...
1956	56,571	...	...	...	...	...	...	...
1957	54,976	...	...	...	...	...	...	...
1958	52,984	...	...	...	...	...	...	...
1959	52,389	...	...	...	...	...	...	...
1960	51,316	717	...	18,832	...	...	363	...
1961	50,101	975	...	17,949	...	...	652	...
1962 ⁹	49,196	956	...	16,857	...	...	607	...
1963	48,025	1,147	1,506	19,182	680	21,624	831	3,055
1964	47,616	1,299	1,351	18,459	751	21,724	965	3,067
1965	46,352	1,464	1,383	18,047	880	20,449	973	3,156
1966	45,794	1,573	1,368	17,780	893	19,678	1,006	3,496
1967	46,998	1,511	1,499	16,975	914	21,315	1,192	3,592
1968	47,882	1,487	1,640	16,388	944	22,159	1,402	3,862
1969	49,642	1,666	1,750	15,850	1,005	23,410	1,557	4,404
1970	53,003	1,568	2,213	15,351	1,138	26,311	1,548	4,874

TABLE 3.4 (cont.)

Year	All nationalities	Canada	China ¹	Japan ²	Korea	Philippines	United Kingdom	All Others ³
1971	57,187	1,641	2,167	15,099	1,483	29,116	1,949	5,732
1972	60,898	1,710	2,421	15,271	2,154	31,210	2,253	5,879
1973	63,034	1,818	2,446	15,125	2,906	32,183	2,395	6,161
1974	64,430	1,735	2,277	14,981	3,753	32,414	2,607	6,663
1975	65,339	1,659	2,591	14,555	4,726	31,439	2,516	7,853
1976	68,164	1,738	2,730	13,844	5,427	31,961	2,632	9,832

1. Data after 1948 include Taiwan.

2. Includes Ryukyu Islands.

3. Data from Board of Health reports include Canada and United Kingdom, not shown separately.

4. As of July 1. Classified by race rather than place of birth or citizenship. These estimates were published by the Territorial Board of Health with no indication of source or method; according to a former departmental statistician, the estimates were based on data supplied by the U.S. Immigration and Naturalization Service.

5. Estimate published in 1940 report and presumably consistent with data for earlier years.

6. Revised estimate for 1940 published in 1941 report, after release of 1940 census results, and presumably consistent with data for later years.

7. Aliens who reported under the alien address program, usually in the first part of the year.

8. Excludes aliens in temporary status.

9. Data by nationality (but not the State total) exclude aliens in temporary status.

Source: Report of the Chief Justice of the Supreme Court ... 1927-1928, p. 69; Board of Health, Annual Report for 1928-1948; U.S. Immigration and Naturalization Service, Annual Report for 1943-1973, annual tabular releases, and records.

86 TABLE 3.5 RESIDENCE FIVE YEARS EARLIER, 1950 TO 1970

Census Date (April 1)	Hawaii Residents on Census Date by Place of Residence 5 Years Earlier ¹					Mainland on Census Date, Hawaii 5 Years Earlier
	Population 5 Years Old and Over	Same House as Census Date	Different House, Same County ²	Different County, Same State ²	Different State in U.S.		Moved, Residence Not Reported
1950	435,135	202,100	141,020	22,320	61,320	8,375
1960	551,781	240,895	175,971	15,281	94,768	5,464
1970	697,840	320,579	161,800	13,347	125,732	42,864
						3

1. Data for 1950 refer to place of residence on August 14, 1945 (V-J Day), approximately 4.6 years prior to the census date.

2. Islands rather than counties were specified in the 1950 census.

3. Mobility data for mainland residents in 1950 referred to place of residence as of April 1, 1949, one year prior to the census date. Persons who were Hawaii residents in 1949 and mainland residents in 1950 numbered 26,460.

Source: U.S. Census of Population: 1950, bull. P-B52, table 17, and Advance Reports, series PC-14, No. 17, table 12; U.S. Census of Population: 1960, Final Report PC(1)-C13, table 42, and Final Report PC(2)-2B, table 16; U.S. Census of Population: 1970, Final Report PC(2)-2E, tables 1 and 4.

TABLE 3.6 IMMIGRANT ARRIVALS, 1852 TO 1899
 (Data for Europeans limited to those who came to Hawaii under the
 auspices of the Bureau of Immigration, and as a part of some
 organized scheme of immigration.)

Year	All Nation- alities	Chinese	Germans	Japanese	Portuguese	South Sea Islanders	Others ¹
1852	293	293	--	--	--	--	--
1853	64	64	--	--	--	--	--
1854	12	12	--	--	--	--	--
1855	61	61	--	--	--	--	--
1856	23	23	--	--	--	--	--
1857	14	14	--	--	--	--	--
1858	13	13	--	--	--	--	--
1859	171	171	--	--	--	--	--
1860	21	21	--	--	--	--	--
1861	2	2	--	--	--	--	--
1862	13	13	--	--	--	--	--
1863	8	8	--	--	--	--	--
1864	9	9	--	--	--	--	--
1865	654	615	--	--	--	39	--
1866	117	117	--	--	--	--	--
1867	214	210	--	--	--	4	--
1868	199	51	--	148	--	--	--
1869	204	78	--	--	--	126	--
1870	327	305	--	--	--	22	--
1871	248	223	--	--	--	25	--
1872	61	61	--	--	--	--	--
1873	48	48	--	--	--	--	--
1874	69	62	--	--	--	7	--
1875	151	151	--	--	--	--	--
1876	1,283	1,283	--	--	--	--	--
1877	557	557	--	--	--	--	--
1878	2,858	2,464	--	--	180	214	--
1879	4,549	3,652	--	--	419	478	--
1880	3,547	2,422	--	--	332	793	--
1881	5,722	3,898	124	--	840	245	615
1882	3,927	1,367	183	--	2,356	21	--
1883	9,262	4,295	826	--	3,812	329	--
1884	4,363	2,693	18	--	1,532	120	--
1885	5,194	2,924	25	1,946	278	21	--
1886	1,784	338	--	979	467	--	--
1887	1,429	--	--	1,429	--	--	--
1888	4,554	--	--	4,211	343	--	--
1889	2,035	--	--	2,035	--	--	--
1890	3,764	--	--	3,764	--	--	--

TABLE 3.6 (cont.)

Year	All Nationalities	Chinese	Germans	Japanese	Portuguese	South Sea Islanders	Others ¹
1891	6,271	478	--	5,793	--	--	--
1892	3,129	--	--	3,129	--	--	--
1893	4,158	95	--	4,063	--	--	--
1894	5,428	1,414	--	3,647	367	--	--
1895	3,270	1,067	--	2,203	--	--	--
1896	8,656	4,140	--	4,516	--	--	--
1897	3,122	2,137	227	758	--	--	386
1898	10,274	--	--	9,888	--	--	--
1899	19,932	24	--	19,908	--	--	--

1. Norwegians (615 in 1881), Galicians (372 in 1898), and Americans (14 in 1898). The source also reports 223 Norwegians for 1881.

Source: Report of the President of the Bureau of Immigration to the Legislative Assembly of 1886, pp. 267-268, 273, and 278; Labor Problems in Hawaii. Hearings Before the Committee on Immigration and Naturalization, House of Representatives, 67th Congress, 1st Session ... June 21 to June 30 and July 7, 1921, p. 542.

TABLE 3.7 NATURALIZATION, 1843 TO 1906

(Number of aliens granted Hawaiian citizenship prior to annexation and U.S. citizenship thereafter. Excludes persons granted "letters patent of denization" and "special rights of citizenship," both of which conferred the privileges of Hawaiian citizenship without affecting the recipients' native citizenship or allegiance. For data on aliens naturalized after October 1, 1906, see table 3.8.)

Period ¹	Aliens Naturalized	Period ¹	Aliens Naturalized
1843-1846 ²	350	1874-1876 ⁷	37
1846-1847 ³	92	1876-1878 ⁷	26
1847-1848 ³	58	1878-1880 ⁷	35
1848-1849 ³	84	1880-1882 ⁷	43
1849-1850 ³	109	1882-1884 ⁷	8
1850-1851 ³	151	1884-1886 ⁷	35
1851-1852 ³	130	1886-1888 ⁷	32
1852 ⁴	74	1888-1890 ⁷	46
1853	119	1890-1892 ⁷	117
1854	124	1892 ⁹	154
1855	141	1893	1
1856-1857 ⁵	220	1894 ¹⁰	3
1858-1859 ⁵	166	1894-1898 ¹¹	12
1860-1861 ⁵	137	1899	1
1860-1862 ⁶	33	1900	249
1862-1864 ⁶	20	1901	81
1864-1866 ⁶	21	1902	375
1866-1868 ⁶	33	1903	58
1868-1870 ⁷	127	1904	266
1870-1872 ⁷	99	1905	--
1872-1874 ⁷	8	1906 ¹³	--

1. Calendar years or biennial periods unless otherwise specified.
2. Between the Restoration and March 31, 1846. The earliest oath of allegiance on record is dated December 10, 1838, but accurate statistics are unavailable before 1843.
3. Year ended March 31.
4. April 1 to December 31.
5. Two-year period ended December 31.
6. Two-year period ended on unspecified date. Data limited to Chinese.
7. Two-year period ended March 31.
8. Not available.
9. August 9 to December 31.
10. January 1 to May 11.
11. May 12, 1894 to December 31, 1898.
12. Not available, but it is known that regular naturalization proceedings were generally supplanted by "special rights of citizenship" between the 1893 revolution and annexation; see Maude Jones, Naturalization in Hawaii (typescript in State Archives, 1934).
13. January 1 to September 30.

Source: Report of the Minister of the Interior for 1846-1862 and 1880-1899; Report of the Minister of Finance for 1870-1878; State Archives, Naturalization Record Book, Aug. 9, 1892-May 11, 1894; Report of the Chief Justice of the Supreme Court for 1898-1906.

TABLE 3.8 IMMIGRANT ALIENS ADMITTED, EMIGRANT ALIENS DEPARTED, AND PERSONS NATURALIZED, 1900 TO 1975

Years Ended June 30	Immigrant Aliens Admitted ¹					Portuguese	Spanish	All Others ⁵	Emigrant Aliens Departed ²	Persons Naturalized ³
	Total	Chinese ⁴	Japanese	Korean	Portuguese					
1901	1,826	1,094	338	4	85	2	303	NA	NA	
1902	9,914	297	9,125	12	35	--	445	NA	NA	
1903	14,581	573	13,045	515	12	1	435	NA	NA	
1904	9,108	415	6,590	1,884	12	--	207	NA	NA	
1905	11,978	205	6,692	4,892	3	--	186	NA	NA	
1906	9,445	106	9,051	98	5	--	185	NA	NA	
1907	24,588	8	20,865	9	1,328	2,251	127	NA	5	
1908	10,516	27	9,153	8	1,115	18	195	4,116	21	
1909	1,932	58	1,679	2	1	10	182	1,986	33	
1910	4,186	91	1,239	7	864	1	1,984	2,267	35	
1911	3,885	130	1,883	8	548	868	448	1,422	39	
1912	6,654	114	2,816	17	1,114	2,156	437	907	44	
1913	5,837	143	4,062	45	228	1,043	316	682	57	
1914	5,622	129	3,817	92	13	1,362	209	747	59	
1915	2,934	111	2,625	78	2	3	115	561	7	
1916	3,194	119	2,797	80	2	--	196	394	58	
1917	3,607	141	3,178	116	6	4	162	405	94	
1918	3,100	101	2,856	78	--	--	65	674	123	
1919	2,619	72	2,384	66	--	--	97	511	8	
1920	2,578	107	2,138	45	1	--	287	659	170	
1921	2,632	161	2,153	41	9	1	267	1,434	113	
1922	2,800	275	2,212	58	4	4	247	1,342	130	
1923	2,565	304	1,989	53	3	7	209	442	152	
1924	3,186	293	2,635	75	2	2	179	451	97	
1925	471	68	274	7	--	--	122	561	87	
1926	227	30	61	9	--	--	127	206	71	
1927	226	36	70	10	--	--	110	634	91	
1928	132	18	25	--	--	--	89	510	107	
1929	191	21	58	7	--	--	105	230	140	
1930	209	22	61	4	--	--	122	391	74	

TABLE 3.8 (cont.)

Years Ended June 30	Immigrant Aliens Admitted ¹										Persons Naturalized ³
	Total	Chinese ⁴	Japanese	Korean	Portuguese	Spanish	All Others ⁵	Emigrant Aliens Departed ²			
1931	174	21	68	--	1	--	84	256			98
1932	132	18	57	1	--	3	53	192			220
1933	83	NA	NA	NA	NA	NA	NA	290			201
1934	65	NA	NA	NA	NA	NA	NA	197			246
1935	82	NA	NA	NA	NA	NA	NA	2,748			240
1936	71	NA	NA	NA	NA	NA	NA	1,866			258
1937	100	NA	NA	NA	NA	NA	NA	1,346			358
1938	91	NA	NA	NA	NA	NA	NA	1,441			279
1939	133	NA	NA	NA	NA	NA	NA	1,600			217
1940	98	NA	NA	NA	NA	NA	NA	1,132			245
1941	126	NA	NA	NA	NA	NA	NA	1,740			561
1942	59	NA	NA	NA	NA	NA	NA	80			347
1943	--	NA	NA	NA	NA	NA	NA	--			689
1944	6	NA	NA	NA	NA	NA	NA	--			840
1945	2	NA	NA	NA	NA	NA	NA	--			257
1946	65	NA	NA	NA	NA	NA	NA	44			514
1947	276	NA	NA	NA	NA	NA	NA	1,450			593
1948	736	NA	NA	NA	NA	NA	NA	67			1,442
1949	1,542	NA	NA	NA	NA	NA	NA	1,053			1,362
1950	179	NA	NA	NA	NA	NA	NA	1,283			1,087
1951	294	NA	NA	NA	NA	NA	NA	630			512
1952	702	NA	NA	NA	NA	NA	NA	695			526
1953	613	NA	NA	NA	NA	NA	NA	348			760
1954	821	NA	NA	NA	NA	NA	NA	514			3,143
1955	951	NA	NA	NA	NA	NA	NA	333			2,741
1956	1,087	123	329	NA	NA	NA	635	165			1,865
1957	1,384	112	522	NA	NA	NA	750	485			1,287
1958	1,407	91	484	NA	NA	NA	832	NA			1,220
1959	1,616	153	435	NA	NA	NA	1,028	NA			1,111
1960	1,619	101	360	NA	NA	NA	1,158	NA			2,377

TABLE 3.8 (cont.)

Years Ended June 30	Immigrant Aliens Admitted ¹							Emigrant Aliens Departed ²	Persons Naturalized ³
	Total	Chinese ⁴	Filipino	Japanese	Korean	Portuguese	All Others ⁵		
1961	1,762	123	530	349	NA	NA	760	NA	1,668
1962	2,048	109	776	348	NA	NA	815	NA	1,534
1963	1,767	121	569	314	NA	NA	763	NA	1,629
1964	1,623	96	455	281	NA	NA	791	NA	1,542
1965	1,721	92	447	261	NA	NA	921	NA	1,319
1966	3,070	322	1,352	344	NA	NA	1,052	NA	1,625
1967	3,825	327	2,147	382	NA	NA	969	NA	1,902
1968 ¹⁰	4,693	238	3,033	186	91	1	1,144	NA	1,601
1969	5,199	389	3,181	317	284	14	1,014	NA	1,607
1970	9,013	423	6,426	363	596	--	1,205	NA	2,658
1971	6,055	271	3,704	409	568	4	1,099	NA	2,135
1972	6,765	392	3,764	603	868	1	1,137	NA	2,389
1973	6,881	455	3,179	544	1,305	NA	1,398	NA	2,099
1974	6,549	429	3,418	464	1,127	2	1,109	NA	2,833
1975 ¹¹	7,012	555	2,913	587	1,476	1	1,480	NA	3,094

1. Reporting Hawaii as their State of intended future permanent residence. By country of birth. Excludes Filipinos prior to July 4, 1946.
2. Reporting Hawaii as their last permanent residence. Excludes Filipinos prior to July 4, 1946.
3. Certificates of naturalization issued to Hawaii residents.
4. Includes Taiwanese.
5. Includes all nationalities not shown separately.
6. Nine-month period for persons naturalized.
7. Two totals shown in source, 66 and 68.
8. Two totals shown in source, 40 and 778.
9. Data on immigrant aliens admitted and emigrant aliens departed are based on port of entry or departure rather than State of intended future permanent residence or last permanent residence.
10. Data for Japanese and Koreans cover only the six-month period ended December 31, 1967.
11. Immigrant data exclude approximately 2,000 Vietnam refugees still in parole status at end of year.

TABLE 3.8 (cont.)

Source: Immigration Commission, Statistical Review of Immigration: 1820-1910; Report of the Commissioner-General of Immigration for 1903-1912; Annual Report of the Commissioner of Naturalization for 1907-1912 and 1921-1929; Reports of the Department of Labor for 1913-1920; Annual Report of the Commissioner-General of Immigration for 1921-1931; Annual Report of the Secretary of Labor for 1932-1940; Statistical Abstract of the United States for 1934-1946; Annual Report of the Immigration and Naturalization Service for 1943 and later years; U.S. Immigration and Naturalization Service, records.

TABLE 3.9 STEERAGE ARRIVALS AND DEPARTURES, 1905 TO 1934, AND FILIPINO ARRIVALS, 1922 TO 1946

Year	Steerage Arrivals ¹						Steerage Departures ¹	Filipino Arrivals ²
	All Nationalities	Chinese	Filipino	Japanese	Portuguese	Others		
1905	8,778	137	--	6,069	--	2,572	15,265	...
1906	19,687	150	--	18,187		1,350	18,283	...
1907	19,112	162	220	14,975		3,755	11,843	...
1908	5,243	281	--	4,202		760	5,298	...
1909	4,233	393	809	1,310		1,721	5,366	...
1910	4,243	201	1,941	718		1,383	3,188	...
1911	6,765	583	2,209	2,248	601	1,124	6,786	...
1912	9,837	512	3,038	3,500	862	1,925	6,356	...
1913	15,086	586	5,749	5,015	362	3,374	7,783	...
1914	9,342	552	3,199	4,562	208	821	8,050	...
1915	5,760	385	1,244	3,180	112	839	6,697	...
1916	7,441	563	1,752	4,195	180	751	6,211	...
1917	8,343	471	2,932	4,029	159	752	7,202	...
1918	7,321	306	2,676	3,886	35	418	8,885	...
1919	7,435	288	2,747	3,952	17	431	7,401	...
1920	8,127	426	3,504	3,631	8	558	8,709	...
1921	8,224	563	3,304	3,753	46	558	11,966	...
1922	15,766	1,333	8,713	4,491	105	1,124	10,464	8,713
1923	12,686	1,342	7,348	3,501	90	405	8,335	6,539
1924	12,609	1,129	6,440	4,373	54	613	10,231	5,955
1925	13,954	519	11,696	1,182	115	442	8,408	10,592
1926	7,925	336	5,053	2,150	61	325	11,603	5,085
1927	10,961	762	7,096	2,512	105	486	12,357	6,953
1928	15,809	457	11,968	3,112	93	179	11,850	12,704
1929	11,483	426	7,730	3,104	84	139	12,040	9,773
1930	12,054	631	7,561	3,642	107	113	10,644	7,763
1931	...	...	...	...	...	...	...	6,389
1932	8,933	753	4,105	3,089	132	854	11,697	...
1933	3,630	464	466	2,281	66	353	12,949	...
1934	3,408	624	363	2,279	28	114	9,502	...
1935-45	...	...	...	...	...	...	...	...
1946	...	...	...	...	...	...	...	7,365

1. Calendar years 1905 to 1909 and 1928 to 1930; six-month period ended June 30, 1910; years ended June 30, 1911 to 1927 and 1932 to 1934. Data for 1905-1910 identified as "Immigration, Honolulu." Figures for 1930-1934 also refer to Honolulu.

2. Filipino U.S. citizens arriving in Hawaii in years ended June 30, 1922 to 1931, and Filipinos admitted under the Tydings-McDuffy Philippine Independence Act in 1946.

Source: Fourth Report of the Commissioner of Labor on Hawaii, 1910, p. 60; Report of the Governor of Hawaii to the Secretary of the Interior (annual, 1919-1934); Annual Report of the Commissioner General of Immigration ... 1931, p. 261; Annual Report of the Board of Health, 1946, p. 36.

TABLE 3.10 INTENDED RESIDENTS ARRIVING IN HAWAII FROM THE MAINLAND UNITED STATES, 1950 TO 1976

Calendar Year	Number Arriving, by Military Status ¹						Persons per Party	High Status Workers (percent)	Median Age (years)	From West Coast (percent)
	Total	Military Personnel	Military Dependents	Other Civilians	Persons per Party	High Status Workers (percent)				
Unadjusted: ⁴										
1950	1,310	...	...	...	1.59	...	...	...	...	...
1951	5,853	64	5,789	...	1.48	61.1	...	...	48.2	...
1952	6,684	44	6,640	...	1.48	54.8	23.5	...	42.1	...
1953	6,472	20	6,452	...	1.53	57.1	23.7	...	44.2	...
1954	5,852	44	5,808	...	1.58	64.0	23.5	...	40.7	...
1955	8,332	628	7,704	...	1.64	57.9	23.0	...	39.7	...
1956	11,268	1,840	9,428	...	1.79	59.0	23.2	...	38.1	...
1957	16,676	2,668	14,008	...	2.10	57.3	22.5	...	31.3	...
1958	16,412	2,440	13,972	...	2.12	56.9	22.4	...	36.3	...
1959	18,374	2,506	15,868	...	1.67	57.1	23.6	...	37.7	...
1960	15,030	2,088	12,942	10,446	1.50	57.1	24.6	...	40.4	...
1961	16,720	3,146	3,128	11,680	1.49	59.0	23.6	...	39.8	...
1962	21,070	3,092	6,298	11,854	1.71	64.1	24.0	...	35.7	...
1963	20,200	2,893	5,453	11,854	1.67	68.9	22.9	...	37.7	...
1964	24,030	5,042	6,037	12,951	1.55	63.4	23.4	...	31.7	...
Adjusted: ⁴										
1964	27,446	5,782	6,899	14,765	1.55	63.4	23.4	...	31.7	...
1965	28,973	9,697	5,732	13,544	1.43	65.3	23.2	...	30.7	...
1966	32,031	9,655	5,640	16,736	1.43	67.3	23.8	...	34.3	...
1967	44,117	14,496	8,702	20,919	1.43	59.9	23.8	...	33.4	...
1968	42,236	12,655	7,619	21,962	1.43	68.3	24.1	...	38.8	...
1969	41,162	12,198	8,336	20,628	1.45	61.9	24.0	...	41.2	...
1970	40,073	8,561	7,129	24,383	1.44	65.6	24.4	...	42.8	...
1971	41,562	9,355	8,649	23,558	1.48	64.2	24.3	...	38.6	...
1972	44,388	10,267	11,637	22,484	1.57	64.7	24.1	...	35.1	...
1973	36,886	9,200	6,180	21,506	1.40	61.6	24.2	...	39.1	...
1974	37,007	9,421	8,744	18,842	1.53	67.4	24.2	...	42.4	...
1975	39,233	10,006	10,887	18,340	1.58	67.3	23.6	...	35.1	...
1976	40,512	10,936	10,462	19,114	1.55	67.1	24.3	...	34.1	...

TABLE 3.10 (cont.)

1. Excludes passengers on military aircraft or ships. Intended residents not reporting military status have been included with "other civilians" through 1960 and distributed on a prorata basis thereafter.
 2. Party heads classified as professional, technical, business, managerial, or official as a percent of all party heads reporting civilian occupations.
 3. Persons from California, Oregon, or Washington State as a percent of all persons reporting previous residence.
 4. For passengers not reporting migration status. Before 1960, nonresponse was small and apparently limited, for most cases, to passengers in transit.
 5. October 15 to December 31.
 6. Provisional.
- Source: Hawaii Visitors Bureau, About Hawaii Visitors (March 1951); Hawaii State Department of Planning and Economic Development, Hawaii's In-Migrants (annual).

TABLE 3.11 NET MIGRATION, 1860 TO 1976

Year	Net mi- gration ¹	Year	Net mi- gration ¹	Net Migration ¹		
				Year	Total	Civilian ²
1860	+ 22	1900 ⁴	+ 4,642	1939 ⁶	- 1,421	...
1861	+ 46	1901 ⁵	- 1,424	1940 ⁶	...	+ 2,618
1862	+ 36	1902 ⁶		1941 ⁶	...	+ 4,699
1863 ³	- 123	1903 ⁶	+ 4,530	1942 ⁶	...	+ 30,119
1864	...	1904 ⁶		1943 ⁶	...	- 2,913
1865	...	1905 ⁶	- 4,145	1944 ⁶	...	+ 3,814
1866	+ 224	1905 ⁷	- 2,664	1945 ⁶	...	- 15,923
1867	+ 76	1906	+ 1,404	1946 ⁶	...	+ 3,192
1868	+ 163	1907	+ 7,269	1947 ⁶	...	- 4,947
1869	+ 279	1908	- 55	1948 ⁶	...	+ 3,473
1870	+ 401	1909	- 1,133	1949 ⁶	...	- 21,499
1871	+ 873	1910 ⁸	+ 1,055	1950 ⁶	...	- 21,912
1872	+ 43	1911 ⁶	- 21	1951 ⁶	...	- 15,531
1873	- 42	1912 ⁶	+ 3,481	1952 ⁶	...	- 16,417
1874	- 25	1913 ⁶	+ 7,303	1953 ⁶	...	- 11,094
1875	+ 196	1914 ⁶	+ 1,292	1954 ⁶	...	- 8,012
1876	+ 2,054	1915 ⁶	- 937	1955 ⁶	...	+ 1,265
1877	+ 1,218	1916 ⁶	+ 1,230	1956 ⁶	...	+ 4,473
1878	+ 3,212	1917 ⁶	+ 1,141	1957 ⁶	...	+ 9,641
1879	+ 6,245	1918 ⁶	- 1,564	1958 ⁶	...	+ 10,369
1880	+ 3,665	1919 ⁶	+ 34	1959 ⁶	...	+ 955
1881	+ 4,302	1920 ⁶	- 582	1960 ⁶	...	+ 3,332
1882	+ 2,877	1921 ⁶	- 3,742	1961 ⁶	+ 7,056	+ 465
1883	+ 7,452	1922 ⁶	+ 5,302	1962 ⁶	+ 10,178	- 5,858
1884	+ 2,809	1923 ⁶	+ 4,351	1963 ⁶	- 15,324	+ 4,160
1885	+ 3,552	1924 ⁶	+ 2,378	1964 ⁶	+ 3,743	- 8,389
1886	+ 1,627	1925 ⁶	+ 5,546	1965 ⁶	- 9,603	+ 10,306
1887	+ 903	1926 ⁶	- 3,679	1966 ⁶	- 5,230	- 5,113
1888	+ 2,143	1927 ⁶	- 1,446	1967 ⁶	+ 1,146	+ 1,439
1889	+ 1,305	1928 ⁹	+ 3,949	1968 ⁶	+ 1,370	+ 4,822
1890	+ 3,164	1929 ⁶	+ 867	1969 ⁶	+ 5,060	+ 7,086
1891	+ 4,965	1930 ⁶	+ 1,080	1970 ⁶	+ 13,017	+ 6,922
1892	+ 1,166	1931 ⁶	+ 1,560	1971 ⁶	+ 10,221	+ 12,163
1893	+ 1,915	1932 ⁶	- 1,133	1972 ⁶	+ 11,423	+ 9,289
1894	+ 2,637	1933 ⁶	- 8,240	1973 ⁶	+ 11,667	+ 4,141
1895	+ 3,454	1934 ⁶	- 6,578	1974 ⁶	- 496	+ 1,106
1896	+ 7,127	1935 ⁶	- 1,990	1975 ⁶	+ 2,872	+ 1,387
1897	+ 4,875	1936 ⁶	- 176	1976 ⁶	+ 6,967	+ 9,694
1898	+ 9,916	1937 ⁶	- 1,336			
1899	+ 23,662	1938 ⁶	+ 2,238			

TABLE 3.11 (cont.)

1. Net in-migration is indicated by a plus sign (+); net out-migration, by a minus sign (-). Data prior to July 1950 based on passenger arrivals and departures (including transients), without adjustment for "error of closure" in intercensal population estimates; estimates from July 1950 forward based in whole or part on symptomatic data for migration of resident population, with "error of closure" distributed. Data for 1901-1905 limited to Chinese, Japanese, and Korean aliens; 1906-1910, to all aliens; and 1911-1928, to steerage passengers. Treatment of armed forces not specified before 1940. Data not available for October 1863-December 1865 (all passengers); June 14-30, 1900 (arrivals); and July 1939-March 1960 (armed forces). Variant figures based on different sources exist for July 1910-June 1939 and April 1950-March 1970.

2. Excluding military personnel but including their dependents. Hawaii residents entering or leaving the armed forces treated as migrants from July 1939 to June 1950.

3. January 1-September 30 only.

4. January 1-June 14 only.

5. July 1, 1900 to June 30, 1901 for arrivals; June 14, 1900 to June 30, 1901 for departures.

6. Fiscal year ended June 30.

7. July 1-December 31 only. The calendar 1905 total for all aliens combined was -6,487.

8. January 1-June 30 only.

9. Estimate for fiscal year ended June 30, 1928, based on average for calendar 1927 (+3,939) and calendar 1928 (+3,959).

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 184-187; Hawaii State Department of Planning and Economic Development, Intercensal Population Estimates for Hawaii, 1930 to 1970 (Statistical Report 81, July 23, 1971), pp. 8-9, and unpublished estimates for 1970-1976. Data for 1940, 1948, and 1950 have been revised.

TABLE 3.12 INTERSTATE MOVEMENT OF JOB-SEEKERS, 1949 TO 1976

Year	Island Workers on the Mainland ¹	Mainland Workers in Hawaii ²	Ratio ³	Year	Island Workers on the Mainland ¹	Mainland Workers in Hawaii ²	Ratio ³
1949	1,030	711	69	1965	2,257	3,411	151
1950	966	1,105	114	1966	1,859	2,655	143
1951	377	1,139	302	1967	2,196	3,102	141
1952	455	1,667	366	1968	2,014	2,896	144
1953	576	1,775	308	1969	2,652	3,600	136
1954	907	1,698	187	1970	5,078	6,062	119
1955	665	1,812	272	1971 ⁴	6,215	6,908	111
1956	686	1,617	236	1972 ⁴	6,124	5,994	98
1957	1,100	1,813	165	1973	5,255	6,116	116
1958	1,547	2,219	143	1974	5,924	6,988	118
1959	1,280	2,126	166	1975	7,607	8,785	115
1960	1,716	2,595	151	1976	7,458	8,334	112
1961	2,863	3,235	113				
1962	2,966	3,594	121				
1963	2,683	3,787	141				
1964	2,572	3,705	144				

1. Interstate liable initial claims (UI and Supp.), excluding UCFE and Supp. and UCX. Covers Hawaii workers seeking work and filing for benefits on the mainland.

2. Interstate agent initial claims (UI and Supp.), excluding UCFE and Supp. and UCX. Covers mainland workers filing claims for unemployment insurance and registered for work with the Hawaii State Employment Service.

3. Interstate agent initial claims as a percent of interstate liable initial claims. Ratios under 100 suggest a net out-migration of workers.

4. Excludes extended claims, authorized for the period from October 1971 to December 1972. Including extended (as well as regular) claims; interstate liable claims numbered 6,386 in 1971 and 7,255 in 1972; and interstate agent claims, 6,950 in 1971 and 6,368 in 1972.

Source: Hawaii State Department of Labor and Industrial Relations, records.

TABLES IN SECTION 4

- 4.1 Labor force status, by sex, 1878 to 1970
- 4.2 Labor force status, by age and sex, 1910 to 1970
- 4.3 Employment status, annual averages, 1940 to 1975
- 4.4 Gainful workers, by occupation or industry, 1866 to 1930
- 4.5 Labor force characteristics, 1940 to 1970
- 4.6 Employment by industry, 1940 to 1975
- 4.7 Earnings of persons in the experienced labor force, by sex, 1940 to 1970
- 4.8 Nongovernmental employment and payrolls covered by the Hawaii Employment Security Law, 1939 to 1975
- 4.9 Average annual payroll per employee in specified industries, 1899 to 1972
- 4.10 Hours and earnings in specified industries, 1909 to 1975
- 4.11 Hours and earnings in specified occupations, 1843 to 1975
- 4.12 Average pay rates for selected job classifications in private industry, 1947 to 1976
- 4.13 Membership in labor unions, 1906 to 1973
- 4.14 Strikes and work stoppages, 1940 to 1975
- 4.15 Industrial accidents, deaths, and insurance payments, 1918 to 1975

SECTION 4

Labor

This section presents statistics on the size and composition of the labor force, employment by occupation and industry, hours and earnings, union membership, strikes and work stoppages, and industrial accidents.

Other sections contain many related series. Section 2 includes data on health personnel; section 3, on worker mobility; section 6, on personal income; section 7, on consumer income; section 8, on the unemployment insurance fund and employee retirement systems; section 9, on teachers and their compensation; section 13, on agricultural workers and wages; section 14, on fishermen and miners; section 16, on manufacturing employment; section 20, on employment in retail and wholesale trade, hotels, and other services; section 22, on employing units and employment; section 25, on government workers; and section 26, on the armed forces.

The earliest labor statistics for Hawaii date from the second quarter of the nineteenth century in the form of scattered references to employment and wages on the first sugar plantations. Prior to Cook's arrival, and for many years thereafter, Hawaiians pursued their traditional activities as alii, kahuna, warriors, farmers, and fishermen, quite beyond statistical measurement (although James Shoemaker many years later attempted retrospectively to estimate their approximate numbers; see the Bank of Hawaii's 1964 report on Hawaii: Income, Expenditures and Investment for Island Growth, p. 4). In 1825, however, a short-lived sugar plantation was established in Manoa Valley on Oahu, and in 1835 a far more successful plantation was put into operation at Koloa, Kauai. In both cases contemporary observers made note of prevailing employment levels and wage rates, the first such references in island literature.

Notwithstanding the rapid growth of the sugar industry after these pioneering ventures, statistical coverage of labor and wages continued to be extremely limited over the next three decades.

The first systematic, large-scale survey of Hawaiian labor appears to have been the 1866 census count of employment in four occupations: "professionalists," "agriculturalists," "mechanics," and "laborers." No combined total for these categories was shown, and it seems safe to assume that persons employed in a number of other activities were simply omitted. The same is probably true of the 1872 census, when the number of categories was expanded to nine.

The earliest census to provide data for all employed persons was the one conducted in 1878. Four occupations were listed: "mechanics," "agricul-

turalists," "contract laborers," and "other occupations." Like the 1866 and 1872 counts, the published tabulations included data by island and district but not by age, race, or sex.

Thereafter, census detail on employment characteristics expanded considerably. The 1884 census reported island and district totals for each of four basic occupations--the same as those named in 1878--and further presented all-island data by ethnic stock for each of 139 occupations. Tabulations by sex as well as by nationality appeared for the first time in 1890, with data shown for eleven occupational classes. The 1896 census, the last taken by the Hawaiian government, published totals for fifteen occupations, by both nationality and sex.

The usefulness of these nineteenth century census data is unfortunately limited by frequent changes in terminology and the unavailability of definitions for the occupational terms used.

The first census conducted by the U.S. government in Hawaii was the 1900 count. This census, like all the decennial enumerations through 1930, included statistics on persons 10 years of age and over "engaged in gainful occupations." A later bulletin stated: "The term 'gainful workers,' in census usage, includes all persons who usually follow a gainful occupation, although they may not have been employed when the census was taken. It does not include women doing housework in their own homes, without wages, and having no other employment, or children working at home, merely on general household work, on chores, or at odd times on other work." The 1900 census presented tabulations by sex for more than 350 occupations. Further breakdowns by age and race were added for the 1910, 1920, and 1930 reports. Geographic detail was, however, quite limited.

In 1940 the "labor force" concept replaced that of "gainful worker." The total labor force, under the definition adopted at this time, included all persons 14 years old and over who were either members of the armed forces, employed, or unemployed but seeking work. Employed persons comprised all civilians who were either at work (either as paid employees or in their own business or profession, on their own farm, or who worked 15 hours or more as unpaid workers on a family farm or in a family business) or were with a job from which they were temporarily absent. Unemployed persons were those who were neither at work nor temporarily absent from a job, were looking for work, and were available to accept a job. The civilian labor force consisted of the employed plus the unemployed. Most labor force tabulations in the 1970 census were restricted to persons 16 years old and over.

The 1940 and subsequent censuses classified employed persons by occupation, industry, and class of worker. "Occupation" referred to the kind of work performed, such as professional or technical, managerial, sales, or unskilled labor. "Industry" pertained to the kind of business in which the person worked, for example, agriculture, construction, retail trade, or professional services. Four "classes of worker" were identified: private wage or salary workers, government workers, self-employed workers, and unpaid family workers. Prior to 1940, census reports made no mention of class of worker and, under the term "occupation," often commingled occupational and industrial categories.

The questions on employment status, occupation, industry, and class of worker in the 1940 and succeeding censuses were supplemented by queries on weeks worked, labor mobility, place of work, means of transportation, and earnings. These data were cross-tabulated by age, race, sex, marital status, school attendance, educational attainment, and other characteristics. Labor force characteristics were shown for counties, urban places, and census tracts.

Changes in definitions and coverage, most evident in 1900 and 1940 but present to a lesser degree in other years, make it exceedingly difficult to trace long-term trends in the size and composition of the labor force.

Another problem encountered in using census statistics is their infrequent collection, coming at six-year intervals before annexation and decennially thereafter. The first instance of an intercensal survey did not occur until 1937, when Hawaii was included in the National Unemployment Census.

Several efforts were made during the depression of the 1930s to estimate the extent of unemployment, but with limited success. These studies are described in an article by the present author, "Unemployment Rates in Hawaii During the 1930's," published in The Hawaiian Journal of History for 1976.

This lack of continuing statistics was finally overcome in 1939, largely as a byproduct of social security and unemployment compensation coverage. From their inception, these social insurance programs required most employers and workers to make regular payments to federal agencies, and further provided for the registration and compensation of many unemployed persons. The data thereby obtained on taxable payrolls and insured unemployment were immediately recognized as a useful source of information for ongoing estimates of the labor force.

Such monthly and annual estimates have been issued by the Territorial (later State) Department of Labor and Industrial Relations since the 1940s.

Information on workers covered by the Hawaii Employment Security Law is taken from employers' reports on taxable payrolls, classified by industry group. These data are used in a federally required report (ES-202) on employment, payrolls, and contributions, and in an annual summary, Employment and Payrolls in Hawaii, published in its present format since 1951. The number of self-employed persons, unpaid family workers, and others not covered by the law is estimated from census data and national surveys. The unemployment rate is computed from monthly totals on the insured unemployed, combined with estimates of the number of job seekers no longer receiving unemployment compensation. The resulting estimates of civilian labor force, civilian employment by industry group, and unemployment have appeared in a succession of monthly and annual releases by the Department of Labor and Industrial Relations, under various titles, since 1946, and the series on employment by industry has been extended back to 1940. Employment and payroll data from the same source were used in a 1953 publication of the U.S. Department of Commerce, Income of Hawaii, which contained annual statistics for the years from 1939 to 1952.

A similar series has been developed by the U.S. Bureau of the Census from employers' reports on social security contributions. Published under the title County Business Patterns, irregularly beginning in 1946 and annually since 1964, these bulletins present county data, in extensive kind-of-business detail, on March employment, first-quarter payrolls, and number of reporting units by employment-size class.

These sources have in the past produced employment estimates that differed considerably from corresponding decennial census counts. The reports based on covered employment, Employment and Payrolls and County Business Patterns, have, of course, had a more limited coverage than the census, which includes the self-employed and unpaid family workers as well as regular wage and salary workers. In the ES-202 tabulations, moreover, persons on the payroll of more than one establishment during the reference week are counted for each establishment. The latter source thus provides data on jobs rather than on persons. In an area with a significant number of multiple job holders, such as Hawaii, the use of these data to estimate total employment greatly overstates the size of the labor force and understates the unemployment rate. In recognition of this problem, estimating methods were extensively revised in the early 1970s so as to provide monthly labor force estimates more directly comparable to data obtained from the decennial census. Beginning with data for 1976, these estimates were derived directly from household survey data

instead of through manipulation of statistics on covered workers and unemployment.

The annual reports on Employment and Payrolls in Hawaii present data not only on total covered employment and taxable payrolls, but also on the annual average wage or salary payment per worker in each industry. Similar calculations can be made from data published in the periodic economic censuses conducted by the U.S. Bureau of the Census: the Census of Manufactures for 1899, 1909, 1919, 1939, 1954, 1958, 1963, 1967, and 1972, and the Census of Business for 1948, 1954, 1958, 1963, 1967, and 1972. (The 1939 Census of Business did not provide payroll data for Hawaii.)

Statistics on annual earnings of persons in the experienced labor force have been tallied in the decennial Census of Population since 1940, although not in a consistent fashion. The 1940 and 1950 tabulations included members of the armed forces and excluded earnings other than wage and salary receipts, while the 1960 and 1970 data excluded armed forces and reported total earnings.

Systematic surveys of average weekly hours, average hourly earnings, and average weekly or monthly earnings have been conducted since the turn of the century. Data were compiled by the U.S. Bureau of Labor Statistics (BLS) in 1900-1901, 1902, 1905, 1910, and 1915 for a wide range of occupations and published in Report of the Commissioner of Labor on Hawaii for 1901, 1902, 1905, 1910, and 1915. Similar statistics for 1929-1930, 1938-1939, and 1947, classified by industry rather than occupation, were published by BLS in Labor Conditions in the Territory of Hawaii, 1929-1930, Labor in the Territory of Hawaii, 1939, and The Economy of Hawaii in 1947. Since 1961, the Department of Labor and Industrial Relations has published monthly and annual averages on hours and earnings for major industrial groups. Comprehensive statistics on wage and salary rates (but not total earnings or hours) were published by the Hawaii Employers Council for office workers for 1947-1952 and for a considerably expanded list of occupations thereafter, under the title Pay Rates in Hawaii. This annual report includes occupational definitions and data cross-tabulated by industry and county.

Long-term series on wage rates are also available for certain industries or occupations. Annual data on the average daily earnings of nonsupervisory employees in the sugar industry go back uninterruptedly to 1924, and extend in a less continuous or consistent fashion as far back as 1826. Incomplete chronologies on monthly or annual salaries have been published for island school teachers, Honolulu policemen, and the chief executive. Some of these

data, along with related series, appear in an article by Robert C. Schmitt, "Statistics on Income in Hawaii, 1825-1966," in Hawaii Historical Review, Selected Readings (1969).

Statistics on labor union membership are much more fragmentary than data on other aspects of Hawaiian labor. The first charter for a union in Hawaii was granted in 1884, but until the mid-1930s, island unions remained few in number, small in membership, and limited in power. Except for an incomplete 1906 estimate, no membership figures are available prior to 1935. Data for the years from 1935 to 1949 are more plentiful, but obviously lacking in precision; some of the estimates are highly contradictory, and few if any of the totals appear to have been based on firm figures. Since statehood, however, more reliable information has become available, from both the Hawaii Employers Council, which published estimates for 1964 and 1973, and the U.S. Bureau of Labor Statistics, which has compiled data biennially since 1964. The Hawaii Employers Council data appear in Research Reports published in 1950 (for the 1935-1949 period), 1964, and 1974; the BLS data, in various bulletins of the Bureau and also in Statistical Abstract of the United States.

Statistics on strikes and work stoppages are an even more recent development, first becoming available for 1940. Data on the number of stoppages, man-days lost, and man-days lost as a percent of available working time have been compiled by the Hawaii Employers Council and published from time to time in their Research Report series, beginning with estimates for 1940. Similar estimates have been prepared annually since 1960 by the U.S. Bureau of Labor Statistics, which has issued them in BLS bulletins and also in the Statistical Abstract. Inasmuch as the first recorded strike in Hawaii occurred in 1841, when sugar workers demanded a doubling of their 12 1/2 cent daily wage, it is evident that most of the labor disputes in Hawaiian history are beyond statistical analysis.

Data on industrial safety go back to 1918, when the territory began compilation of annual statistics on industrial accidents and deaths and disability insurance payments. In recent decades, these records have been maintained and published by the Department of Labor and Industrial Relations.

Statistics on labor for the nation as a whole appear in Historical Statistics of the United States, Colonial Times to 1970, chapter D.

TABLE 4.1 LABOR FORCE STATUS, BY SEX, 1878 TO 1970

Year	Labor Force, 14 Years Old and Over			Percent of Population, 14 and Over, in Labor Force		
	Both Sexes ¹	Female		Both Sexes ¹	Female	
		Male ¹	Total ¹		Married ²	Total ¹	Married^{2}
1878	24,795	NA	NA	59.4	NA	NA
1884	39,541	NA	NA	68.1	NA	NA
1890	41,073	38,930	2,143	61.8	83.6	10.8
1896	55,294	51,705	3,589	70.2	91.0	16.3
1900	90,172	84,047	6,125	74.5	94.0	19.3
1910	100,900	89,719	11,181	73.3	94.0	26.5
1920	111,613	97,439	14,174	66.0	91.0	22.8
1930	154,086	136,400	17,686	63.7	86.1	21.2
1940	188,232	151,648	36,584	62.4	82.7	30.9
1950	207,952	157,088	50,864	59.2	79.4	33.1
1960	265,707	188,071	77,636	62.3	81.2	39.9
1970	346,859	223,935	122,924	62.6	77.4	46.5

1. Ages covered not specified for 1878-1896; percent in labor force for those years based on population 15 years old and over. Data for 1900-1930 based on "gainful workers." Total for 1900 includes a few workers 10 to 13 years old; percent based on population 14 and over. Data for all years include armed forces as members of labor force.

2. Gainfully occupied married women 15 years old and over, 1920 and 1930; married women 14 years old and over, husband present, in labor force, 1950 and 1960; married women 16 years old and over, husband present, in labor force, 1970.

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 77 and 127, and underlying data; U.S. Census of Population: 1970, Final Report PC(1)-C13, tables 46 and 53.

TABLE 4.2 LABOR FORCE STATUS, BY AGE AND SEX, 1910 TO 1970

Sex and Age	1910 ¹	1920	1930	1940	1950	1960	1970
LABOR FORCE²							
Male, all ages	89,719	97,439	136,400	151,648	157,088	188,071	223,935
14 to 17 years	...	3,362	2,844	3,526	1,765	5,036	6,117
18 to 24 years	...	18,814	37,092	38,911	31,081	38,680	50,976
25 to 34 years	...] 47,617 [	41,305	47,313	46,544	44,900	51,132
35 to 44 years	...		24,125	29,898	38,856	45,234	45,056
45 to 64 years	...	25,392	28,033	28,243	35,507	50,763	65,736
65 years and over	...	2,183	2,972	3,678	3,335	3,458	4,918
Age not reported	...	71	29	79	--	--	--
Female, all ages	11,181	14,174	17,686	36,584	50,864	77,636	122,924
14 to 17 years	...	1,479	1,934	2,107	916	2,276	3,831
18 to 24 years	...	3,697	4,732	11,500	14,563	12,739	26,530
25 to 34 years	...] 7,065 [	4,694	9,198	15,426	20,446	27,640
35 to 44 years	...		3,471	7,271	10,185	22,257	28,540
45 to 64 years	...	1,839	2,723	6,172	9,252	18,672	34,480
65 years and over	...	87	131	324	522	1,246	1,903
Age not reported	...	7	1	36	--	--	--
PERCENT OF POPULATION IN LABOR FORCE							
Male, all ages ³	94.0	91.0	86.1	82.7	79.4	81.2	77.4
14 to 17 years	...	40.2	21.9	18.7	10.8	21.6	19.6
18 to 24 years	...	93.5	89.3	87.8	80.9	88.8	83.9
25 to 34 years	...] 98.6 [	97.0	97.2	94.8	96.3	94.5
35 to 44 years	...		96.8	96.7	95.8	97.1	96.2
45 to 64 years	...	94.7	90.7	88.3	86.6	89.7	89.0
65 years and over	...	65.1	55.0	43.0	26.9	23.0	22.0
Female, all ages ³	26.5	22.8	21.2	30.9	33.1	39.9	46.5
14 to 17 years	...	19.9	15.6	11.5	5.7	10.2	13.0
18 to 24 years	...	27.3	29.4	42.3	46.9	44.7	56.0
25 to 34 years	...] 23.3 [	21.8	34.0	35.8	43.5	51.7
35 to 44 years	...		21.6	36.2	39.4	52.3	59.3
45 to 64 years	...	19.7	18.2	29.2	31.5	45.3	53.8
65 years and over	...	6.0	5.9	7.4	6.5	9.4	8.7

TABLE 4.2 (cont.)

1. Age classes used in the 1910 census differed from those in later censuses. Data for 1910 were as follows:

Age	Labor Force		Percent	
	Male	Female	Male	Female
14 and 15 years	776	304	29.6	13.1
16 to 20 years	7,402	1,434	83.6	24.1
21 to 44 years	63,803	8,339	98.6	30.4
45 years and over	17,738	1,104	91.9	16.9

2. "Gainfully occupied" before 1940. Includes members of the armed forces for all years.

3. Includes persons with age not reported.

Source: Fourteenth Census of the United States: 1920, Population, Hawaii, Occupation Statistics, table 5; Sixteenth Census of the United States: 1940, Population, Second Series, Characteristics of the Population, Hawaii, table 10; U.S. Census of Population: 1960, Final Report PC(1)-13C, table 54; U.S. Census of Population: 1970, Final Report PC(1)-D13, table 164.

TABLE 4.3 EMPLOYMENT STATUS, ANNUAL AVERAGES, 1940 TO 1975

Definition and Calendar Year	Civilian Labor Force	Civilian Employment	Workers in Labor Disputes	Unemployment	
				Number	Percent
OLD DEFINITION¹					
1940	162,763	155,531	NA	7,232	4.4
1941	179,568	173,068	NA	6,500	3.6
1942	215,885	213,455	NA	2,430	1.1
1943	218,501	216,615	NA	1,886	0.9
1944	214,522	212,922	NA	1,600	0.7
1945	210,368	208,868	NA	1,500	0.7
1946	190,297	188,165	NA	2,132	1.1
1947	191,695	188,742	NA	2,953	1.5
1948	193,467	184,020	NA	9,447	4.9
1949	194,776	173,340	NA	21,436	11.0
1950	187,773	170,075	NA	17,698	9.4
1951	191,678	183,129	271	8,278	4.3
1952	194,067	185,639	6	8,422	4.3
1953	196,142	186,437	163	9,542	4.9
1954	197,376	185,514	103	11,759	6.0
1955	199,276	189,291	61	9,924	5.0
1956	204,082	195,075	--	9,007	4.4
1957	207,564	199,831	--	7,733	3.7
1958 ²	210,399	199,793	3,090	7,606	3.6
1958 ³	211,540	201,370	3,090	7,080	3.4
1959	222,980	216,140	--	6,840	3.1
1960	235,140	228,050	--	7,090	3.0
1961	242,850	232,910	--	9,940	4.1
1962	246,180	234,420	160	11,600	4.7
1963	250,880	238,630	230	12,020	4.8
1964	257,630	247,560	20	10,050	3.9
1965	269,020	259,680	90	9,250	3.4
1966	281,880	272,730	30	9,120	3.2
1967	293,400	282,940	260	10,200	3.5
1968	306,780	297,030	870	8,880	2.9
1969	326,700	317,130	750	8,820	2.7
1970	350,030	337,050	520	12,460	3.6
NEW DEFINITION⁴					
1970	311,150	297,110	5	14,040	4.5
1971	325,330	304,680	5	20,640	6.3
1972	338,670	313,950	5	24,710	7.3
1973	351,670	327,590	5	24,080	6.8
1974	359,070	331,930	5	27,140	7.6
1975 ⁶	356,440	330,760	5	25,680	7.2

TABLE 4.3 (cont.)

1. Based on jobs rather than persons; persons holding more than one job were accordingly counted more than once. Data for 1958-1970 are revised estimates and are not strictly comparable to estimates for earlier years.

2. Unrevised and comparable to earlier years.

3. Revised and comparable to later years.

4. Based on persons rather than jobs; a person holding more than one job is accordingly counted only once.

5. Included in civilian employment. Annual averages were as follows: 1970, 520; 1971, 110; 1972, 160; 1973, 670; 1974, 2,180; and 1975, 180.

6. Preliminary.

Source: Hawaii State Department of Labor and Industrial Relations, Labor Force Estimates (monthly and annual), and records.

TABLE 4.4 GAINFUL WORKERS, BY OCCUPATION OR INDUSTRY, 1866 TO 1930

Occupation ¹	1866	1872	1878	1884	1890	1896
All occupations	...	...	24,795	39,541	41,073	55,294
Professional workers	512	582	...	...	638	1,224
Farmers ²	8,258	9,670	8,763	10,968	5,377	7,570
Fishermen	...	...	...	...	841	1,345
Mariners	...	...	...	...	464	755
Merchants and traders	...	728	...	...	1,238	1,485
Clerks and salesmen	...	...	...	...	716	1,356
Mechanics	1,146	2,115	2,606	3,919	2,802	2,265
Drivers and teamsters	...	...	...	...	555	546
Laborers ³	5,025	4,772	7,871	12,351	25,466	34,438
Other occupations	...	...	5,555	12,303	2,976	4,310

Occupation ¹	1900	1910	1920	1930 ⁴
All gainful workers, 10 years old and over	90,172	101,194	111,882	154,262
Agriculture	55,931	54,742	54,803	61,811
Forestry and fishing	1,194	1,587	1,441	1,775
Extraction of minerals	36	282	169	178
Manufacturing and mechanical industries	8,205	15,345	18,194	23,018
Transportation and communication	] 6,850 [	6,723	7,781	9,602
Trade		5,831	7,343	10,572
Soldiers, sailors, and marines	245	1,608	4,366	16,291
Public service (not elsewhere classified)	...	1,234	1,916	3,761
Professional service	1,742	2,601	4,117	8,230
Domestic and personal service	6,391	9,434	8,466	13,070
Clerical occupations	...	1,807	3,286	5,954
Laborers (industry not specified)	9,578	...	...	...

1. Coverage and terminology in employment statistics varied widely during the period covered by this table, and comparability between successive censuses was frequently quite limited. In 1866 and 1872, statistics were apparently restricted to persons in specified occupations, and full coverage of employed persons was not undertaken until 1878. No age limits were specified for the occupational tabulations prior to 1900, although in practice relatively few workers under 15 years of age appear to have been included. From 1900 to 1930, tabulations were restricted to gainful workers 10 years old and over. Relatively few were 10 to 13 years old: 294 in 1910, 269 in 1920, and 176 in 1930.

2. Reported as "agriculturalists" in 1866-1884, "farmers, planters, and ranchers" in 1890, and "farmers, agriculturalists, rice planters, coffee planters, and ranchers" in 1896.

3. Reported as "laborers" in 1866, 1890, and 1896, "plantation laborers" in 1872, and "contract laborers" in 1878 and 1884.

4. Includes 2,738 unemployed "salary and wageworkers," out of the 138,926 gainful workers on salary, wage, or commission.

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 77 and 127, and underlying data.

TABLE 4.5 LABOR FORCE CHARACTERISTICS, 1940 TO 1970

Subject	1960 Definitions			1970 Definitions		
	1940	1950	1960	1960	1970	1970
EMPLOYMENT STATUS						
Population, 14 years old and over	301,686	351,375	426,495	426,495	553,755	553,755
Labor force	188,232	207,952	265,707	265,707	346,859	346,859
Armed Forces	27,000	22,856	47,267	47,267	49,825	49,825
Civilian labor force	161,232	185,096	218,440	218,440	297,034	297,034
Employed ¹	153,796	167,571	209,370	209,370	287,810	287,810
Unemployed ¹	7,436	17,525	9,070	9,070	9,224	9,224
Not in labor force	113,454	143,423	160,788	160,788	206,896	206,896
MAJOR OCCUPATION GROUP						
Employed, 14 years old and over	153,796	167,571	209,370	209,370	287,810	287,810
Professional, technical, and kindred workers	11,289	16,408	25,299	25,299	42,579	42,579
Managers and administrators, except farm ²	10,762	13,967	17,795	17,795	23,995	23,995
Sales workers	8,054	10,750	13,554	13,554	18,324	18,324
Clerical and kindred workers	10,171	20,862	30,412	30,412	49,234	49,234
Craftsmen, foremen, and kindred workers	16,519	25,995	33,276	33,276	40,694	40,694
Operatives, except transport	17,785	25,129	29,455	29,455	19,646	19,646
Transport equipment operatives	14,601	12,560	12,997	12,997	8,431	9,275
Laborers, except farm	3,617	4,397	3,433	3,433	13,603	12,930
Farmers and farm managers	42,443	16,853	10,143	10,143	3,436	1,411
Farm laborers and foremen	10,212	16,298	20,685	20,685	10,284	7,126
Service workers, except private household	7,770	3,284	4,582	4,582	21,694	37,714
Private household workers	573	1,068	7,739	7,739	4,563	1,961
Occupation not reported					7,739	22,921

TABLE 4.5 (cont.)

Subject	1960 Definitions		1970 Definitions	
	1940	1950	1960	1970
INDUSTRY				
Agriculture, forestry, and fisheries	54,629	31,806	15,982	15,981
Mining	256	167	133	133
Construction	10,817	11,653	19,882	19,882
Manufacturing: Durable goods	2,509	5,713	7,777	7,781
Manufacturing: Nondurable goods	12,945	15,761	25,845	25,842
Trans., communications, other public utilities	8,515	13,450	16,734	16,734
Wholesale and retail trade	21,816	31,455	39,142	39,142
Finance, insurance, and real estate	2,112	3,950	7,807	7,814
Business and repair services	3,016	3,573	4,635	4,625
Personal services	15,067	10,812	14,285	14,289
Entertainment and recreation services	1,487	2,442	2,394	2,394
Professional and related services	11,647	17,321	26,356	27,002
Public administration	7,569	18,436	22,464	21,817
Industry not reported	1,411	1,032	5,934	5,934
CLASS OF WORKER ³				
Private wage and salary workers	113,551	111,036	144,602	NA
Government workers	18,553	34,400	46,078	NA
Self-employed workers	15,967	19,192	17,009	NA
Unpaid family workers	5,725	2,943	1,681	NA
				200,912
				70,547
				12,832
				1,265

1. The 1940 figure includes 2,326 persons on public emergency work.

2. In 1960, designated "managers, officials, and proprietors, except farm."

3. In 1970, the tabulations was limited to the 285,556 workers 16 years old and over.

Source: U.S. Census of Population: 1960, Final Report PC(1)-13C, tables 53, 56, 59, and 62; U.S. Census of Population: 1970, Final Report PC(1)-C13, tables 46, 47, and 56.

TABLE 4.6 EMPLOYMENT BY INDUSTRY, 1940 TO 1975
 (Annual averages. Excludes armed forces. Based on jobs rather than persons; a person holding more than one job is accordingly counted once for each job.)

Industry	1940	1944	1950	1955	1960	1965	1970	1975
Total employment	155,531	212,922	170,075	189,291	228,050	259,680	330,790	376,720
Contract construction	7,581	6,913	8,798	9,768	17,600	17,920	25,740	28,180
Manufacturing	20,694	25,062	24,708	24,567	25,770	24,520	25,540	23,920
Sugar mills	NA	NA	8,813	8,241	6,390	5,610	5,030	4,450
Pineapple canneries	NA	NA	7,530	7,428	6,990	5,750	4,790	6,850
Other food processing	NA	NA	NA	2,783	3,560	3,910	3,660	NA
Other manufacturing	NA	NA	8,365	6,115	8,830	9,250	12,060	12,620
Transportation, communication, utilities	6,874	10,088	11,206	10,709	14,780	16,380	24,060	25,360
Trade	17,590	21,723	27,092	32,842	42,720	50,650	69,340	84,410
Wholesale	NA	NA	NA	NA	11,560	12,860	16,110	16,260
Retail	NA	NA	NA	NA	31,160	37,790	53,230	68,150
Finance, insurance, real estate	1,945	2,186	3,429	4,568	9,240	13,280	18,160	23,290
Services and miscellaneous	6,172	9,616	15,271	19,631	29,310	38,850	57,230	71,980
Hotels	NA	NA	NA	NA	4,330	6,310	13,380	19,030
Other services and miscellaneous	NA	NA	NA	NA	24,980	32,540	43,850	52,950
Government	17,797	74,805	33,140	39,731	49,510	57,840	73,640	81,980
Federal	8,304	65,083	18,891	22,676	27,010	29,690	33,380	30,530
State	9,493	9,722	7,955	9,897	14,620	18,880	30,600	38,700
Local	NA	NA	6,294	7,158	7,880	9,270	9,660	12,750
Agriculture	52,391	41,710	27,235	28,028	13,790	12,550	12,170	11,040
Sugar	34,442	20,941	14,080	12,670	8,240	7,010	5,900	5,190
Pineapple	7,159	9,302	4,637	4,933	4,160	4,040	3,600	3,600
Other	10,790	11,467	8,518	10,425	1,390	1,500	2,680	5,850
Self-employed and unpaid family workers ¹	24,487	20,819	19,196	19,447	25,330	27,690	24,910	26,560
Non-agricultural	NA	NA	NA	NA	19,930	23,400	NA	NA
Agricultural	NA	NA	NA	NA	5,400	4,290	NA	NA

1. Data for 1970 and later years are not directly comparable to data for earlier years.

Source: Hawaii State Department of Labor and Industrial Relations, Labor Force Estimates (annual) and records.

TABLE 4.7 EARNINGS OF PERSONS IN THE EXPERIENCED LABOR FORCE, BY SEX, 1940 TO 1970

Wage or Salary Income, 1940 and 1950, or Earnings, 1960 and 1970, Received in Previous Year	1940 ¹		1950 ¹		1960 ²		1970 ²	
	Male	Female	Male	Female	Male	Female	Male	Female
Total	151,040	36,220	153,595	50,760	140,895	76,466	173,075	120,643
Without earnings	15,378	9,477	21,660	10,715	4,133	7,662	3,537	7,674
\$1 to \$99	3,299	2,173	1,035	790				
\$100 to \$399	31,654	9,790	4,025	3,970	9,943	15,018	16,588	13,776
\$400 to \$799	52,050	7,035	5,715	5,030				
\$800 to \$999	13,201	1,241	3,095	1,820				
\$1,000 to \$1,999	23,135	4,720	30,450	11,185	8,540	11,927	10,675	11,743
\$2,000 to \$2,999	6,235	869	39,500	8,815	15,567	15,315	12,547	11,409
\$3,000 to \$3,999					25,499	11,880	14,262	16,338
\$4,000 to \$4,999	3,079	121	34,500	7,275	21,679	7,349	10,675	15,444
\$5,000 to \$5,999					18,492	4,446	12,547	12,905
\$6,000 to \$6,999	1,338	13	6,160	355	13,615	1,518	14,334	10,222
\$7,000 to \$9,999			2,045	55	14,132	987	42,940	14,844
\$10,000 to \$14,999			925	50	9,295	364	39,085	5,139
\$15,000 and over	1,671	781	4,485	700	--	--	19,107	1,149
Not reported								
Median earnings	\$659	\$520	\$2,504	\$1,772	\$4,353	\$2,407	\$8,059	\$4,208

1. Experienced labor force (including armed forces), 14 years old and over, by wage or salary income received in previous year. Median based on persons reporting wages or salary of \$100 or more.
2. Experienced civilian labor force (excluding armed forces), 14 years old and over (for 1960) or 16 years old and over (for 1970), by earnings received in previous year. Medians based on persons reporting earnings.

Source: U.S. Census of Population: 1950, bull. P-C52, table 69; U.S. Census of Population: 1960, Final Report PC(1)-13C, table 68; U.S. Census of Population: 1970, Final Report PC(1)-D13, tables 170, 177, 188, and 189.

TABLE 4.8 NON-GOVERNMENTAL EMPLOYMENT AND PAYROLLS COVERED BY THE HAWAII EMPLOYMENT SECURITY LAW, 1939 TO 1975
(Excludes governmental workers, self-employed workers, and unpaid family workers, agricultural workers insured under the self-financed program, and certain other groups.)

Year	Total Covered Private Employment			Nonagricultural Private Employment		
	Total Covered Employment	Total Wages (\$1,000)	Average Annual Wages (\$)	Covered Employment	Total Wages (\$1,000)	Average Annual Wages (\$)
1939	73,309	71,085	970	73,236	71,046	970
1940	60,856	68,629	1,128	60,768	68,578	1,129
1941	79,276	112,502	1,419	79,199	112,445	1,420
1942	98,076	188,920	1,926	98,037	188,882	1,927
1943	78,981	167,835	2,125	78,919	167,750	2,126
1944	75,588	161,320	2,134	75,526	161,223	2,135
1945	77,149	173,112	2,244	77,092	173,026	2,244
1946	82,278	195,347	2,374	82,168	195,119	2,375
1947	93,599	247,277	2,642	93,324	246,551	2,642
1948	93,953	252,135	2,684	93,613	251,168	2,683
1949	90,547	235,950	2,606	90,208	234,973	2,605
1950	90,698	244,152	2,692	90,314	243,092	2,692
1951	96,022	272,254	2,835	95,610	270,935	2,834
1952	98,478	289,054	2,935	98,061	288,008	2,937
1953	101,013	301,491	2,985	100,555	300,070	2,984
1954	99,292	302,431	3,046	98,847	300,951	3,045
1955	102,787	320,476	3,118	102,324	319,316	3,121
1956	107,083	342,875	3,202	106,576	341,540	3,205
1957	111,205	378,111	3,400	110,766	376,858	3,402
1958	114,225	410,926	3,598	113,645	409,061	3,599
1959	135,163	517,208	3,827	125,002	468,105	3,745
1960	149,520	604,184	4,041	135,061	552,217	4,089
1961	149,052	627,414	4,209	139,758	593,547	4,247
1962	144,506	628,177	4,347	131,453	575,698	4,379
1963	146,364	657,350	4,491	133,473	601,996	4,510
1964	152,034	721,424	4,745	139,153	663,852	4,771
1965	160,715	796,161	4,954	148,057	736,969	4,978
1966	169,206	881,783	5,211	157,557	821,269	5,213
1967	175,202	948,425	5,413	163,041	885,410	5,431
1968	185,551	1,088,657	5,867	174,144	1,026,294	5,893
1969	205,053	1,311,655	6,397	193,817	1,246,449	6,431
1970	221,457	1,518,727	6,858	217,422	1,495,653	6,879
1971	225,562	1,588,451	7,042	221,646	1,565,091	7,061
1972	231,264	1,707,639	7,384	227,370	1,683,568	7,405
1973	246,441	1,936,169	7,857	241,540	1,902,329	7,876
1974	252,327	2,129,359	8,439	252,078	2,127,299	8,439
1975	255,880	2,320,364	9,068	255,642	2,318,683	9,070

Source: Hawaii State Department of Labor and Industrial Relations, records.

TABLE 4.9 AVERAGE ANNUAL PAYROLL PER EMPLOYEE IN SPECIFIED INDUSTRIES, 1899 TO 1972 (Dollars)

Year	Manufacturing ¹					
	All Manu- facturing	Diversified Mfg. ²	Hono- lulu ³	Retail Trade	Wholesale Trade	Selected Services
1899	461	556	728	...	...	...
1909	369	379	446	...	...	...
1919	738	779	771	...	...	...
1939	785	994	839	...	...	...
1948	...	...	...	2,224	3,381	2,009
1954	3,164	3,672	3,414	2,227	3,819	2,268
1958	3,424	3,754	3,448	2,420	4,116	2,440
1963	4,335	4,931	4,243	2,931	5,283	3,211
1967	5,496	5,973	5,350	3,570	6,113	4,246
1972 ⁴	7,668	8,024	7,404	4,533	8,399	4,958

1. Data for 1963-1972 include administrative offices and auxiliaries, excluded in earlier years. Prior to 1947, most sugar and pineapple plantation employees were given free housing, utilities, medical care, and other perquisites; the effect of these perquisites is eliminated by confining the analysis to "diversified manufacturing" or to Honolulu establishments.

2. Excludes sugar mills, all years, and fruit and vegetable canning, 1909-1972.

3. City of Honolulu, from Makapuu Point to Red Hill.

4. 1967 definition.

Source: U.S. Census of Manufactures for 1909-1972, as cited in present volume, table 16.2; U.S. Census of Business for 1948-1972, as cited in present volume, tables 20.2, 20.7, and 20.8.

TABLE 4.10 HOURS AND EARNINGS IN SPECIFIED INDUSTRIES, 1909 TO 1975

Year ¹	Average Weekly Hours										
	Contract Construc- tion	Manufacturing ²			Communi- cation and Utilities	Trade		Retail ³	Finance	Hotels	Laundries
		Total	Food ²	Whole- sale							
1909 ⁴	...	61.7	...	...	...	...	...	...	...	...
1919	...	59.2	...	...	...	...	...	...	...	...
1929-30 ⁵	49.5	59.1	59.9	45.9	...	...	...	...	...	54.0
1938-39 ⁵	37.4	41.1	42.1	43.2	...	...	...	...	...	51.6
1947 ⁵	43.2	...	32.4	...	...	39.2	...	...	...	42.5
1961	38.8	38.3	41.1	41.2	39.5	32.9	...	...	32.9	37.6
1962	37.5	37.6	37.8	41.7	39.4	33.1	...	...	32.1	38.2
1963	36.7	38.0	37.8	41.2	39.5	34.2	...	...	31.3	40.5
1964	37.5	38.4	37.6	41.0	39.5	33.4	...	...	33.4	36.6
1965	35.8	39.3	38.9	42.5	38.7	33.0	...	...	34.2	35.8
1966	38.3	40.4	40.7	43.0	37.8	32.7	...	...	34.7	35.0
1967	36.9	39.2	39.1	42.3	37.7	32.4	...	...	33.6	37.1
1968	39.4	40.1	40.2	43.6	38.5	32.2	...	...	34.0	38.1
1969	40.5	39.6	39.1	43.1	38.3	31.9	...	...	31.9	35.6
1970	39.0	40.0	40.5	42.8	38.7	31.6	...	...	30.8	36.2
1971	37.5	39.8	40.5	42.2	38.1	31.5	...	...	29.0	35.9
1972	37.7	39.4	39.7	41.0	38.0	31.3	...	...	27.9	34.6
1973	37.8	40.0	40.4	41.1	38.2	31.9	...	...	28.8	35.8
1974	37.9	39.4	40.9	41.3	38.3	31.6	...	...	29.0	35.5
1975	37.9	39.2	40.0	42.4	36.9	31.3	...	...	29.9	35.1

TABLE 4.10 (cont.)

Year ¹	Average Hourly Earnings (dollars)									
	Contract Construc- tion	Manufacturing ²		Communi- cation and Utilities	Trade		Finance	Hotels	Laundries	
		Total	Food ²		Wholesale	Retail ³				
1909	...	...	...	...	...	...	...	...	...	...
1919	...	...	...	...	...	...	...	...	...	...
1929-30 ⁵	0.51	0.26	0.22	0.64	...	...	...	...	...	0.27
1938-39 ⁵	0.58	0.38	0.37	0.62	...	...	...	...	...	0.24
1947 ⁵	1.49	...	0.97	...	1.25	1.00	...	...	...	0.79
1961	3.05	1.89	1.81	2.58	2.17	1.69	...	1.68	...	1.23
1962	3.26	1.93	1.85	2.74	2.25	1.72	...	1.82	...	1.22
1963	3.42	2.04	1.93	2.90	2.26	1.81	...	1.86	...	1.22
1964	3.66	2.14	2.03	3.10	2.36	1.85	...	1.92	...	1.47
1965	3.83	2.28	2.16	3.33	2.41	1.94	...	1.97	...	1.48
1966	4.16	2.44	2.30	3.39	2.56	2.01	...	2.10	...	1.47
1967	4.45	2.56	2.42	3.44	2.72	2.10	...	2.19	...	1.65
1968	4.91	2.81	2.59	3.62	2.83	2.24	...	2.24	...	1.84
1969	5.27	3.02	2.69	3.73	3.06	2.42	...	2.37	...	1.96
1970	5.56	3.17	2.85	3.96	3.26	2.62	...	2.53	...	2.07
1971	5.96	3.36	3.06	4.29	3.51	2.78	...	2.67	...	2.13
1972	6.46	3.56	3.22	4.69	3.77	2.91	...	2.88	...	2.25
1973	6.80	3.95	3.52	5.14	4.00	3.11	...	3.06	...	2.34
1974	7.25	4.25	3.86	5.52	4.21	3.29	...	3.31	...	2.51
1975	7.81	4.62	4.30	6.20	4.77	3.59	...	3.50	...	2.74

TABLE 4.10 (cont.)

Year ¹	Average Weekly Earnings (dollars)										
	Contract Construc- tion	Manufacturing ²			Communi- cation and Utilities	Trade		Retail ³	Finance	Hotels	Laundries
		Total	Food ²	Food ²		Whole- sale	Retail ³				
1909
1919
1929-305	25.06	14.77	13.44	29.33	14.69
1938-395	21.84	16.09	16.11	26.67	12.64
19475	64.41	...	31.39	39.19	33.55
1961	118.34	72.39	74.39	106.30	85.72	55.60	84.03	55.27	55.27	46.25	
1962	122.25	72.57	69.95	114.26	88.65	56.93	84.16	58.42	58.42	46.60	
1963	125.51	77.52	72.95	119.48	89.27	61.90	87.12	58.22	58.22	49.41	
1964	137.25	82.18	76.33	127.10	93.22	61.79	90.79	64.13	64.13	53.80	
1965	137.11	89.60	84.02	141.53	93.27	64.02	95.30	67.37	67.37	52.98	
1966	159.33	98.58	93.61	145.77	96.77	65.73	90.27	72.87	72.87	51.45	
1967	164.21	100.35	94.62	145.51	102.54	68.04	91.32	73.58	73.58	61.22	
1968	193.45	112.68	104.12	157.83	108.96	72.13	99.65	76.16	76.16	70.10	
1969	213.44	119.59	105.18	160.76	117.20	77.20	106.47	75.60	75.60	69.78	
1970	216.84	126.80	115.43	169.49	126.16	82.79	113.64	77.92	77.92	74.93	
1971	223.50	133.73	123.93	181.04	133.73	87.57	118.08	77.43	77.43	76.47	
1972	243.54	140.26	127.83	192.29	143.26	91.08	118.88	80.35	80.35	77.85	
1973	257.04	158.00	142.21	211.25	152.80	99.21	118.40	88.13	88.13	83.77	
1974	274.78	167.45	157.87	227.98	161.24	103.96	128.20	95.99	95.99	89.11	
1975	296.00	181.10	172.00	262.88	176.01	112.37	148.13	104.65	104.65	96.17	

TABLE 4.10 (cont.)

1. Data for 1909, 1919, 1961, and later years are calendar year averages. Data for 1929-1930, 1938-1939, and 1947 refer to industry surveys conducted at various times during the year.
2. Data for 1929-1947 exclude sugar processing. Data for food, 1938-1947, are limited to pineapple canning.
3. Data for 1947 are limited to food stores, general merchandise stores, and apparel stores. Data for 1961 and later years exclude eating and drinking establishments.
4. Data for average hours in manufacturing were derived from frequency distributions on the average number of wage earners in establishments with specified prevailing hours of labor per week.
5. Industry averages for 1929-1947 were calculated as weighted averages of data for component industrial categories. Data for average weekly earnings may accordingly be somewhat inconsistent with corresponding values for average weekly hours and average hourly earnings.

Source: Fourteenth Census of the United States ... 1920, vol. IX, Manufactures, 1919, p. 1672; U.S. Bureau of Labor Statistics, Labor Conditions in the Territory of Hawaii, 1929-1930 (1931), p. 11, Labor in the Territory of Hawaii, 1939 (1940), and The Economy of Hawaii in 1947 (1948); Hawaii State Department of Labor and Industrial Relations, records.

TABLE 4.11 HOURS AND EARNINGS IN SPECIFIED OCCUPATIONS, 1843 TO 1976

Occupation and Year	Earnings		Occupation and Year	Weekly Hours	Earnings
	Weekly Hours	Dollars				Period	Dollars
King, president, or governor			Carpenter ³ (cont.)		
1844	...	6,000	1955	...	hourly 1.75
1860	...	16,000	1960	...	hourly 2.23
1872	...	22,500	1965	...	hourly 2.76
1882	...	57,588	1970	...	hourly 3.57
1898	...	12,000	1975	40	hourly 5.30
1900	...	5,000	Newspaper reporter ⁴		
1910	...	7,000	1905	48	daily 4.375
1921	...	10,000	1910	49.3	daily 3.63
1949	...	15,000	1975	37.5	weekly 350.00
1956	...	19,000	Policeman ⁵		
1959	...	25,000	1843	...	monthly 3.50
1962	...	27,500	1847	...	monthly 6.00
1965	...	33,500	1861	...	monthly 20.00
1969	...	38,182	1873-77	...	monthly 20.00-22.00
1970	...	42,000	1888	...	monthly 30.00
1975	...	46,000	1903	...	monthly 60.00
1976	...	50,000	1904	...	monthly 75.00
Carpenter ³			1932	...	monthly 135.00
1900-01	48	3,595	1940	...	monthly 158.00
1902	47.8	3.72	1951	48	monthly 245.00
1905	48.3	2.825	1960	40	monthly 444.00
1910	52.6	2.28	1970	40	monthly 612.00
1929	49.8	0.607	1975	40	monthly 757.00
1938-39	44.9	0.539			
1947	48	1.51			

TABLE 4.11 (cont.)

Occupation and Year	Weekly Hours	Earnings		Occupation and Year	Weekly Hours	Earnings	
		Period	Dollars			Period	Dollars
Statistician ⁶							
1950	40	monthly	562.00	Sugar plantation field hand ⁷	1900-01	daily	0.735
1955	40	monthly	533.33			daily	0.64
1960	40	monthly	655.00			daily	0.63
1965	40	monthly	758.00			daily	0.70
1970	40	monthly	1,046.00			daily	0.74
1975	40	monthly	1,321.00			hourly	0.785
Sugar mill laborer ⁷							
1900-01	71.4	daily	0.785	hourly	3.60		
1902	72	daily	0.81				
1905	71.8	daily	0.775				
1910	71	daily	0.85				
1915	72	daily	0.96				
1947	43.8	hourly	0.91				
1975	40	hourly	3.91				

1. King, 1844-1888; president, 1898; governor, 1900 and later years. For selected years before 1900; thereafter, for each year in which the salary changed.

2. Includes \$20,000 for privy purse and \$37,588 revenue from rental of crown lands.

3. Actual average hours and earnings, 1900-1939; scheduled hours and straight-time earnings, 1947-1975. Data for 1938-1939 include helpers.

4. Actual average hours and earnings, 1905 and 1910; scheduled hours and straight-time earnings for a five-year reporter, 1975.

5. Salaries for 1940 and later years are beginning amounts.

6. Chief of a statistical division in state government. Salary for 1950 includes a 25-percent cost-of-living allowance.

TABLE 4.11 (cont.)

7. Actual average hours, 1900-1947 (the 1947 figure is the average for the entire sugar industry); scheduled hours, 1975. Actual average earnings, 1900-1915; straight-time earnings, 1947 and 1975. Prior to 1947, sugar workers received free housing, utilities, medical care, and recreation.

Source: Robert C. Schmitt, "Statistics on Income in Hawaii, 1825-1966," Hawaii Historical Review, Selected Readings (1969), pp. 274-292, espec. pp. 275-276; S.L.H. 1969, Act 127; S.L.H. 1975, Act 58; Third Report of the Commissioner of Labor on Hawaii, 1905 (1906), pp. 290 and 294; Fourth Report of the Commissioner of Labor on Hawaii, 1910 (1911), pp. 268-269 and 332-333; U.S. Bureau of Labor Statistics, Labor Conditions in Hawaii, 1916 (1916), pp. 135 and 140, Labor Conditions in the Territory of Hawaii, 1929-1930 (1931), p. 80, Labor in the Territory of Hawaii, 1939 (1940), p. 157, and The Economy of Hawaii in 1947 (1947), pp. 122-123; Hawaii Employers Council, Pay Rates in Hawaii for 1955-1975, and records; Hawaii State Department of Personnel Services, records; Honolulu Police Department, records; Hawaii Newspaper Guild, records; General Contractors Association, records.

TABLE 4.12 AVERAGE PAY RATES FOR SELECTED JOB CLASSIFICATIONS IN PRIVATE INDUSTRY, 1947 TO 1976

Year ¹	Mean Monthly Pay (dollars)					Mean Hourly Pay (dollars)						
	Junior Typist	Secretary	Accountant (entry level) ²	Draftsman ³	Civil Engineer (entry level) ⁴	Hospital Attendant ⁵	Staff Nurse	Laborer (light) ⁶	Carpenter ⁷	Electrician ⁸	Automotive Mechanic ⁹	Cook ¹⁰
1947 ¹¹	152	265	...	...	...	...	...	...	...	...	...	...
1948	162	279	328	...	...	...	...	...	...	...	...	...
1949	183	279	336	...	...	...	...	...	...	...	...	...
1950	182	283	358	...	...	...	...	...	...	...	...	...
1951	193	294	334	...	...	...	...	...	...	...	...	...
1952	...	295	...	...	...	...	...	...	...	...	...	...
1953	193	317	335	329	405	...	251	1.72	1.86	1.72	1.52	1.49
1954	191	326	367	358	434	...	256	1.77	1.84	1.72	1.56	1.56
1955	191	328	406	243	466	200	255	1.75	1.78	1.74	1.59	1.59
1956	205	340	343	294	434	188	257	1.81	1.87	1.80	1.64	1.64
1957	208	331	355	288	540	197	263	1.83	1.91	1.87	1.78	1.78
1958	226	343	...	291	475	203	284	1.96	1.99	2.00	1.87	1.87
1959	232	355	...	314	556	211	301	2.03	2.10	2.11	2.03	2.03
1960	234	360	...	325	488	216	316	2.23	2.26	2.27	2.03	2.03
1961	244	373	...	349	481	234	329	2.32	2.41	2.37	1.93	1.93
1962	257	380	...	370	524	225	356	2.40	2.51	2.42	2.04	2.04
1963	255	391	...	380	560	238	363	2.43	2.54	2.49	2.15	2.15
1964	266	408	...	405	582	249	385	2.62	2.73	2.64	2.20	2.20
1965	...	429	...	424	592	272	410	2.76	2.90	2.77	2.20	2.20
1966	294	449	...	443	601	285	427	2.91	3.07	2.98	2.43	2.43
1967	304	470	...	464	708	300	515	3.10	3.27	3.18	2.62	2.62
1968	327	487	...	474	668	314	593	3.20	3.43	3.32	2.92	2.92
1969	357	522	...	484	768	338	621	3.44	3.67	3.53	3.16	3.16
1970	372	547	...	550	866	352	666	3.57	3.93	3.79	3.34	3.34
1971	396	578	676	606	881	383	692	3.92	4.16	4.18	3.45	3.45
1972	430	606	694	627	885	406	726	4.29	4.62	4.57	3.77	3.77
1973	453	639	736	679	878	441	771	4.51	4.86	4.78	3.89	3.89
1974	493	672	803	811	...	482	828	4.89	5.35	5.13	4.36	4.36
1975	528	729	860	817	...	525	895	5.30	5.75	5.55	4.76	4.76
1976	566	772	934	937	...	597	994	5.86	6.83	6.11	5.10	5.10

TABLE 4.12 (cont.)

1. May and June for 1947-1949 and 1964, June for 1950 and 1951, July for 1952, September and October for 1953 and 1956-1961, October and November for 1954 and 1955, August and September for 1962, April and May for 1963, June and July for 1965 and 1966, May-July for 1967-1973, and May-August for 1974, 1975, and 1976.
2. Junior accountant, 1948-1957.
3. Drafting technician, 1974 and later.
4. Junior civil engineer, 1953 and 1954; engineer I, 1955.
5. Hospital orderly, 1955.
6. Laborer, 1953-1966.
7. Carpenter (maintenance), 1968 and later.
8. Electrician (maintenance), 1968 and later.
9. Automobile mechanic, 1953-1966.
10. General cook, 1967 and later.
11. Survey limited to Honolulu.

Source: Hawaii Employers Council, Compensation of Office-Workers in Hawaii for 1948-1951; Pay Rates for Office Workers in Hawaii (1952); Pay Rates in Hawaii for 1953-1976.

TABLE 4.13 MEMBERSHIP IN LABOR UNIONS, 1906 TO 1973
 (As estimated by various authorities. Includes government workers. The first charter was granted to a labor union in Hawaii in 1884, but as late as 1931 it was reported by the U.S. Bureau of Labor Statistics that "labor organizations in the Hawaiian Islands are few in number, small in membership ..." Membership statistics prior to 1964 are subject to considerable inaccuracy and should be interpreted with utmost caution.)

Year	All Unions	ILWU	AFL-CIO Affiliates	Other Unions
1906 ¹	113	--	NA	NA
1935	500	NA	NA	NA
1936	2,000	NA	NA	NA
1939	3,500- 6,000	NA	NA	NA
1941	10,000-20,000	NA	NA	NA
1942	4,000	NA	NA	NA
1943	7,000	5,000	NA	NA
1945	NA	33,000	NA	NA
1946	NA	NA	30,000	NA
1947	37,000	30,000-40,000	NA	NA
1948	NA	24,000	10,000-20,000	NA
1949	34,830	27,500	5,000- 6,030	NA
1964 ²	71,351	20,218	26,500	24,633
1973 ²	130,700	23,600	89,100	18,000

1. Earliest year available. Data limited to the six unions in the Honolulu trade and labor council, plus one unaffiliated union, but exclusive of a varying number of sailors and masters, mates, and pilots.

2. These estimates, published by the Hawaii Employers Council, differ somewhat from a series issued biennially, beginning in 1964, by the U.S. Bureau of Labor Statistics (BLS). For the BLS estimates, see the Hawaii State Department of Planning and Economic Development, The State of Hawaii Data Book 1976, table 163, p. 158.

Source: Third Report of the Commissioner of Labor on Hawaii, 1905 (1906), pp. 130-131; U.S. Bureau of Labor Statistics, Labor Conditions in the Territory of Hawaii, 1929-1930 (bull. No. 534, March 1931), pp. 117-118; Hawaii Employers Council, Union Membership in Hawaii (Research Report No. 319, June 1950), Union Membership in Private and Government Employment (Research Report No. 916, April 1964), and Estimated Union Membership in Hawaii (Research Report No. 1211, January 1974).

TABLE 4.14 STRIKES AND WORK STOPPAGES, 1940 TO 1975

Year	Number of Stoppages ¹	Man-Days Lost ¹	Man-Days Lost as a Percentage of Available Working Time ²
1940	7	33,217	NA
1941	19	34,241	NA
1942	4	67	NA
1943	7	716	NA
1944	1	60	NA
1945	10	8,922	.03
1946	25	1,911,195	5.63
1947	23	95,481	.26
1948	13	120,856	.33
1949	9	244,212	.72
1950	34	49,493	.15
1951	19	149,397	.42
1952	32	66,232	.20
1953	19	96,332	.29
1954	18	38,435	.12
1955	20	25,917	.08
1956	22	18,480	.06
1957	32	15,762	.05
1958	27	1,150,038	3.35
1959	23	21,253	.06
1960	39	15,843	.04
1961	36	47,276	.11
1962	39	48,477	.19
1963	35	167,113	.47
1964	32	10,227	.02
1965	27	37,042	.11
1966	36	46,723	.10
1967	48	83,092	.20
1968	19	176,966	.32
1969	27	260,129	.03
1970	22	144,763	.26
1971	23	34,496	.05
1972	27	42,106	NA
1973	20	134,976	NA
1974	23	472,916	NA
1975	16	44,179	NA

1. Data before 1945 may be incomplete.

2. Data before 1962 are not precisely comparable to data for 1962 and later years.

Source: Hawaii Employers Council, "The Hawaiian Economy in 1952," Research Bulletin, RB 53-1 (March 6, 1953), p. 21; "Strikes and Work Stoppages--U.S. and Hawaii," Research Report, No. 809 (October 1960); "Strikes and Work Stoppages in Hawaii--1957 to 1967," Research Report, No. 1017 (April 1968); "Strikes and Work Stoppages in Hawaii--1945 to 1973," Research Report, No. 1255 (October 1974); and unpublished estimates by the Hawaii Employers Council for 1974 and 1975.

TABLE 4.15 INDUSTRIAL ACCIDENTS, DEATHS, AND INSURANCE PAYMENTS, 1918 TO 1975

Year	Accidents		Deaths		Insurance Payments (\$1,000)
	Number	Rate ¹	Number	Rate ²	
1918	2,208	14.88	21	8.1	19
1919	2,992	20.19	16	6.2	36
1920	3,406	22.74	29	11.1	44
1921	2,719	17.68	22	8.2	41
1922	2,752	16.90	20	7.0	36
1923	3,614	21.00	29	9.7	56
1924	4,311	24.25	25	8.1	50
1925	4,511	24.04	23	7.0	47
1926	5,348	28.04	22	6.6	39
1927	5,958	30.57	26	7.6	57
1928	5,873	29.05	22	6.2	45
1929	5,932	28.61	18	5.1	45
1930	6,315	29.65	10	2.7	24
1931	6,506	29.87	24	6.3	34
1932	6,175	27.95	19	4.9	33
1933	5,878	26.69	11	2.9	31
1934	NA	NA	NA	NA	NA
1935	6,897	31.01	14	3.6	38
1936	7,292	32.00	20	5.0	NA
1937	8,258	35.89	14	3.5	44
1938	8,175	34.54	15	3.6	37
1939	7,927	33.14	8	1.9	30
1940	7,027	28.62	13	3.0	30
1941	17,205	64.32	44	9.6	235
1942	14,468	48.53	38	6.5	278
1943	11,755	44.61	25	3.8	269
1944	11,958	47.07	18	2.1	319
1945	14,101	56.57	30	3.7	401
1946	14,995	59.05	31	5.7	250
1947	16,802	60.87	44	7.8	445
1948	21,174	78.15	32	6.2	371
1949	20,453	77.91	30	5.9	630
1950	21,522	81.53	44	8.8	766
1951	22,423	80.75	33	6.3	NA
1952	21,607	76.47	23	4.4	914
1953	21,639	75.00	18	3.5	986
1954	20,564	71.22	36	7.1	1,018
1955	20,834	70.76	15	2.8	1,213
1956	21,561	72.38	20	3.6	3,001
1957	22,497	73.26	14	2.4	3,238
1958	22,020	72.66	12	2.0	986
1959	25,017	75.77	16	2.6	2,888
1960	28,622	81.45	24	3.7	4,992
1961	29,138	80.97	18	2.7	4,958
1962	27,366	75.89	16	2.3	NA
1963	27,160	73.64	23	3.4	5,654
1964	26,624	69.28	25	3.6	5,237
1965	29,436	72.75	21	3.0	5,977

TABLE 4.15 (cont.)

Year	Accidents		Deaths		Insurance Payments (\$1,000)
	Number	Rate ¹	Number	Rate ²	
1966	30,473	71.52	30	4.2	5,665
1967	29,491	66.87	27	3.7	11,396
1968	32,056	68.91	38	5.2	10,279
1969	35,790	70.86	32	4.3	7,418
1970	37,405	68.56	40	5.2	12,528
1971	34,561	61.62	21	2.6	16,665
1972	34,901	59.93	45	5.5	18,773
1973	36,277	59.06	61	7.3	19,548
1974	37,646	60.47	72	8.5	18,341
1975	40,457	NA	59	NA	22,503

1. Accidental injuries per 1,000,000 estimated employee-hours of exposure.

2. Accidental deaths per 100,000 civilian population.

Source: Robert K. Hasegawa, Director of Labor and Industrial Relations, testimony before Senate Ways and Means Committee, January 25, 1972; Hawaii State Department of Labor and Industrial Relations, records.

TABLES IN SECTION 5

- 5.1 Consumer price index for Honolulu, quarterly, 1940 to 1976
- 5.2 Consumer price indexes, by commodity groups, for Honolulu, 1940 to 1963
- 5.3 Consumer price indexes, by commodity groups, for Honolulu, annual averages, 1963 to 1976
- 5.4 Retail food price indexes for Honolulu, 1890 to 1945
- 5.5 Average retail prices of food in Honolulu, 1890 to 1975
- 5.6 Comparative living costs in Honolulu and mainland cities, 1945 to 1976

SECTION 5

Prices and Price Indexes

This section presents data on the Honolulu consumer price index, average prices of selected foods, and living costs in Honolulu as a percent of those on the mainland.

The consumer price index measures the average change in prices of goods and services purchased by urban wage-earner and clerical families and (since 1963) single persons living alone. The quantities and qualities of the items in the "market basket" remain the same between consecutive pricing periods so that the index measures the effect of price change only on the cost of living.

The Honolulu consumer price index dates back to 1940 when Eugene Danaher began systematic compilation of price statistics. In March 1943, the U.S. Bureau of Labor Statistics completed a survey of the expenditure patterns of Honolulu families. Weights based on the findings of this survey were subsequently used by the Territorial Department of Labor and Industrial Relations in constructing a Honolulu price index, which was issued by the department on a quarterly basis (monthly for food) from March 1943 to December 1963, with March 1943 prices equal to 100. The Bureau of Labor Statistics assumed responsibility for the index in December 1963. Using weights based on a study of Honolulu consumer expenditure patterns in 1961, the bureau initiated quarterly publication of the all-items index (and monthly release of the food index), with December 1963 equal to 100. This index was later shifted to a new base year, 1967. Although the new index was not precisely comparable to the series issued over a twenty-year period by the territory or the still earlier Danaher index, the Hawaii State Department of Planning and Economic Development eventually spliced all three into a single index running back to 1940.

The 1943-1963 price index was unfortunately based on spending patterns in March 1943, a highly atypical period that differed in many respects from Honolulu one and two decades later. The 1943-1963 series moreover excluded the costs of homeownership and food away from home, and tied residential rents to those reported for homes under rent controls (which expired in 1961).

Average food prices have been computed and published on a monthly basis since 1943 as part of the reporting program for the Honolulu consumer price index.

The price indexes and food prices described above have been released in a variety of publications. Data for 1940-1948, including Danaher's data, were reviewed in a publication of the Hawaii Employers Council, Cost of Living in Honolulu, 1940-1948, issued in April 1948. The index prepared by the Department of Labor and Industrial Relations was issued in monthly and quarterly news releases. Since 1964, the Honolulu consumer price index and food indexes have appeared in the Monthly Labor Review, The Consumer Price Index, CPI Detailed Report, and other releases from the Bureau of Labor Statistics. Food prices are published in Estimated Retail Food Prices by Cities, also from the Bureau of Labor Statistics.

A somewhat different kind of index compares island prices with those in selected mainland cities. This index thus measures geographic differences at a given point of time, rather than month-to-month or year-to-year changes for a single place, as is the case with the consumer price index. Such comparisons were made by the U.S. Bureau of Labor Statistics relating Honolulu prices to those in Los Angeles in March 1945, and Washington, D.C., in 1951. Beginning in 1955 and continuing until the 1970s, the U.S. Civil Service Commission issued annual indexes relating the living costs of Federal employees in Honolulu and other outlying cities to those in Washington, D.C. Since 1966, the U.S. Bureau of Labor Statistics has published annual budgets--lower, intermediate, and higher--for four-person families and retired couples in Honolulu and thirty-nine other metropolitan areas. These budgets are also expressed as percentages of the corresponding U.S. urban averages. The Honolulu-Washington indexes have been announced in Civil Service Commission press releases; the forty-city comparisons, in various technical reports and other releases from the Bureau of Labor Statistics.

Although current series on consumer prices and intercity differences in living costs go back only as far as the 1940s, similar data are available for scattered years as early as the middle of the nineteenth century. In 1847, for example, James Jackson Jarves' History of the Hawaiian Islands described Honolulu housing costs in some detail and noted that "the current expenses of living at the Hawaiian Islands are more than 100 per cent higher than in the United States." The Report of the Minister of Finance to the Legislature of 1862 contained a "Comprehensive Summary of the Jobbing Prices, at Honolulu, for Imported Goods," reporting semiannual data, 1856 to 1862, on the average prices of seventy-two consumer items. The Report of the Commissioner of Labor on Hawaii for 1901, 1902, 1905, and 1910 presented annual average prices back

to 1890 for a wide range of foods and household items. Quarterly data for the period from September 1911 to June 1916 were compiled by the Territorial Board of Immigration, Labor and Statistics and published in their annual reports. Average wholesale and retail prices for more than forty food items between February and October 1930 were listed by the Bureau of Labor Statistics in its Labor Conditions in the Territory of Hawaii, 1929-1930.

In addition to the foregoing series, data have been compiled on price trends for a variety of specific commodities and services. Some are cited elsewhere in this volume--construction cost indexes, FHA home costs, and census of housing data on median rent and home values in section 15; air fares in section 17; postage, telephone, and telegraph rates in section 18; and hospital costs in section 2.

Mainland statistics on prices and price indexes are published in Historical Statistics of the United States, chapter E.

TABLE 5.1 CONSUMER PRICE INDEX, FOR HONOLULU, QUARTERLY, 1940 TO 1976
(All items combined, 1967 average = 100)

Year	Annual Average	March	June	September	December
1940	40.5	40.1	...	40.8	...
1941	42.9	41.3	...	43.7	...
1942	48.5	47.1	...	49.6	...
1943	52.2	52.0	52.5	52.4	52.4
1944	53.2	52.1	53.5	53.5	53.9
1945	54.4	54.2	54.4	54.6	54.7
1946	58.3	54.4	55.3	60.7	66.8
1947	67.3	65.8	66.5	68.3	69.1
1948	70.9	70.0	69.7	71.9	73.2
1949	69.7	70.0	69.0	70.8	66.6
1950	66.9	66.1	66.2	67.5	68.3
1951	71.0	70.9	70.7	71.3	72.6
1952	73.1	72.3	72.6	73.8	74.2
1953	73.7	72.7	73.8	74.3	73.9
1954	74.4	74.5	73.9	74.7	74.8
1955	75.4	75.4	75.1	75.8	76.0
1956	76.4	76.4	76.1	76.5	77.4
1957	79.0	77.3	77.5	80.5	82.0
1958	82.8	82.8	82.0	83.3	83.3
1959	84.2	84.0	83.7	84.5	85.5
1960	86.3	85.8	86.2	86.6	87.3
1961	88.6	87.7	88.6	89.2	89.8
1962	90.6	90.1	90.0	91.2	91.3
1963	92.6	92.9	92.6	92.6	92.8
1964	92.9	93.2	92.4	92.9	93.7
1965	94.6	94.2	94.1	94.7	96.2
1966	97.3	96.6	96.8	97.9	98.8
1967	100.0	98.9	99.7	100.6	101.8
1968	103.8	102.8	103.4	104.6	105.7
1969	108.5	107.2	108.2	109.6	111.0
1970	114.2	113.2	114.4	114.9	115.7
1971	118.9	116.7	118.5	121.2	121.1
1972	122.8	122.4	122.2	123.1	124.4
1973	128.3	126.0	127.5	129.6	132.8
1974	141.9	137.7	141.2	145.5	148.5
1975	155.0	151.9	154.3	157.6	159.8
1976	162.8	161.1	162.3	164.0	165.5

TABLE 5.1 (cont.)

Source: Semiannual data for 1940-1942 from studies by Eugene Danaher cited in Hawaii Employers Council, Cost of Living in Honolulu, 1940-1948 (April 1948), pp. 5 and 7; quarterly data for 1943-1963 from Hawaii State Department of Labor and Industrial Relations, unpublished summary table (revised by DLIR from previously published values); annual and quarterly data for 1964-1976 from U.S. Bureau of Labor Statistics, CPI Detailed Report (monthly). Annual averages for 1940-1963 computed by Hawaii State Department of Planning and Economic Development, using estimates for unsurveyed months (Jan., Feb., Apr., May, July, Aug., Oct., Nov.) based on linear interpolation. Data for 1940-1963 (originally on a March 1943 base) shifted to a 1967 (annual average) base by DPED.

TABLE 5.2 CONSUMER PRICE INDEXES, BY COMMODITY GROUPS, FOR HONOLULU, 1940 TO 1963
(March 1943 = 100)

Year ¹	All Items		Food at Home	Clothing	Rent ²	Fuel, Light
	Including Rent	Excluding Rent				
1940, March ³	77.1	...	69.1	69.3	95.0	100.0
1941, March ³	79.4	...	71.7	72.4	95.8	100.0
1942, March ³	90.7	...	85.4	83.4	98.3	100.0
1943	101.0	101.0	100.8	100.1	99.9	100.0
1944	102.7	103.0	100.3	96.5	100.0	100.2
1945	104.2	104.6	100.8	102.2	99.6	99.9
1946	106.0	106.5	102.7	107.1	100.2	100.4
1947	126.2	128.1	137.0	119.5	104.1	105.0
1948	132.1	134.2	143.2	123.0	106.9	109.9
1949	131.1	132.9	142.2	117.5	108.5	109.3
1950	126.1	127.3	133.8	112.4	110.8	107.2
1951	134.5	136.1	145.8	117.9	114.8	109.2
1952	138.2	139.9	150.7	118.6	116.7	116.0
1953	140.4	142.0	151.4	118.6	120.3	121.2
1954	140.9	142.4	150.7	118.6	121.7	126.0
1955	142.9	144.4	151.6	118.7	123.3	132.2
1956	144.8	146.4	151.9	121.0	124.8	132.3
1957	147.7	149.2	152.5	121.5	128.6	144.2
1958	155.9	157.9	162.6	125.6	132.4	142.0
1959	159.2	161.1	167.0	127.6	136.1	138.7
1960	163.7	165.9	173.1	129.8	136.5	140.7
1961	168.0	170.5	175.7	130.5	138.4	140.4
1962	170.7	173.3	179.3	132.1	...	140.9
1963, June	...	178.2	185.7	133.0	...	140.9
Dec. ⁴	...	178.6	186.5	132.8	...	139.8

TABLE 5.2 (cont.)

Year ¹	Miscellaneous						
	House Furnish- ings	All Misc.	Trans- portation	Medical Care	House- hold Operation	Recre- ation	Personal Care
1940, March ³	73.3	96.7	...	...	...	...	...
1941, March ³	77.3	98.0	...	...	...	...	...
1942, March ³	87.4	98.1	...	...	...	...	...
1943	99.8	102.0	100.7	101.3	100.2	100.0	115.7
1944	100.5	109.6	95.6	106.5	103.3	119.3	119.8
1945	104.0	111.1	95.6	111.6	104.2	119.9	120.6
1946	106.1	111.5	96.3	112.6	104.2	120.5	119.2
1947	123.8	122.3	108.3	125.8	125.9	125.5	126.8
1948	129.9	129.4	127.9	133.7	128.8	128.4	129.4
1949	125.8	132.8	128.9	139.3	128.7	133.7	131.7
1950	122.1	132.6	128.8	139.8	125.8	135.8	128.4
1951	137.3	139.0	135.8	145.3	142.2	138.4	130.0
1952	137.4	145.7	152.6	153.5	138.3	144.7	128.7
1953	138.8	150.8	162.5	158.5	142.1	147.5	133.7
1954	140.6	152.2	170.2	158.9	141.8	146.8	132.6
1955	140.8	156.5	171.3	159.0	143.3	158.2	132.8
1956	142.9	161.0	175.7	162.9	146.7	160.0	148.5
1957	149.7	167.4	180.7	169.2	148.1	172.3	150.1
1958	156.0	178.3	186.4	179.7	160.8	182.0	175.1
1959	160.8	181.2	191.2	184.4	164.2	180.5	180.4
1960	163.7	186.5	195.2	188.2	168.6	189.5	183.2
1961	165.3	197.0	223.8	193.2	171.6	191.9	191.3
1962	165.4	200.3	224.8	196.3	174.0	193.2	206.7
1963, June	164.4	206.8	230.3	200.1	182.4	204.1	207.3
Dec. ⁴	158.7	207.8	230.5	203.1	179.2	207.3	207.3

1. June data unless otherwise specified.

2. March data (except 1943); not surveyed in June. Not available after 1961. The rent index was based on units under rent controls, which were terminated in December 1961.

3. Unofficial indexes by Dr. Eugene Danaher, available only for March and September.

4. Last month surveyed by the Hawaii State Department of Labor and Industrial Relations and based on the March 1943 weights. For December 1963 indexes developed by the U.S. Bureau of Labor Statistics, based on 1961 weights and with 1967 equal to 100, see the following table.

Source: Hawaii Employers Council, Research Department, Cost of Living in Honolulu, 1940-1948 (April 1948), p. 8; Territorial (and State) Department of Labor and Industrial Relations, quarterly releases and unpublished records.

TABLE 5.3 CONSUMER PRICE INDEXES, BY COMMODITY GROUPS, FOR HONOLULU, ANNUAL AVERAGES, 1963 TO 1976
(1967 = 100)

Group	1963 (Dec.)	1964	1965	1966	1967	1968	1969
All items	92.8	92.9	94.6	97.3	100.0	103.8	108.5
Food	92.3	93.0	94.9	98.2	100.0	103.6	108.4
Food at home	92.5	93.2	95.1	98.4	100.0	103.3	107.3
Cereals and bakery products	91.5	92.3	93.2	96.1	100.0	102.3	102.1
Meats, poultry, and fish	90.1	90.3	94.0	100.6	100.0	101.4	107.5
Dairy products	92.9	92.4	92.4	94.3	100.0	104.8	106.5
Fruits and vegetables	93.7	96.3	99.0	99.3	100.0	109.7	113.3
Other foods at home	96.8	97.4	97.3	98.8	100.0	101.5	106.4
Food away from home	91.5	92.0	94.1	96.8	100.0	104.1	111.6
Housing	89.9	90.5	92.2	96.4	100.0	104.5	109.6
Shelter ¹	86.2	86.6	89.4	95.4	100.0	105.8	112.6
Rent	93.5	94.1	95.8	98.2	100.0	103.3	109.3
Homeownership ²	81.8	82.1	85.4	93.9	100.0	107.2	114.6
Fuel and utilities ³	99.7	99.7	99.4	98.3	100.0	100.1	100.2
Gas and electricity	100.6	100.6	100.5	100.3	100.0	100.0	100.2
Household furnishings and operation	96.3	97.4	97.5	98.3	100.0	102.7	105.2
Apparel and upkeep ⁴	94.5	95.6	96.5	98.1	100.0	103.8	109.4
Men's and boys'	98.6	99.0	99.0	99.2	100.0	103.9	110.3
Women's and girls'	90.8	92.4	94.7	97.6	100.0	103.6	108.3
Footwear	93.6	94.3	94.3	96.8	100.0	103.3	106.6
Transportation	99.3	97.5	97.4	97.7	100.0	103.7	107.2
Private	97.6	96.7	97.3	97.4	100.0	104.3	108.7
Public	108.3	101.5	98.0	99.3	100.0	100.0	99.3
Health and recreation	92.3	92.7	94.8	97.3	100.0	103.5	108.1
Medical care	87.4	88.9	91.3	94.2	100.0	105.9	113.2
Personal care	96.1	96.3	97.3	99.2	100.0	101.3	104.5
Reading and recreation	96.6	96.8	97.3	97.8	100.0	102.7	106.6
Other goods and services ⁵	89.9	89.8	94.1	99.2	100.0	103.1	106.3

TABLE 5.3 (cont.)

Group	1970	1971	1972	1973	1974	1975	1976
All items	114.2	118.9	122.8	128.3	141.9	155.0	162.8
Food	114.1	118.1	123.2	135.2	158.7	176.7	183.0
Food at home	111.7	115.0	120.5	133.8	159.2	175.8	179.5
Cereals and bakery products	105.9	104.9	106.1	117.9	175.5	190.0	176.4
Meats, poultry, and fish	113.4	116.4	124.7	146.5	159.0	174.8	182.9
Dairy products	109.8	114.1	118.3	127.8	150.6	166.3	179.8
Fruits and vegetables	114.9	125.3	130.6	134.7	153.4	168.0	177.3
Other foods at home	111.6	112.5	117.3	127.1	157.6	179.9	178.5
Food away from home	121.2	126.9	130.8	139.0	156.6	178.7	193.1
Housing	115.7	120.3	124.3	128.8	139.0	149.3	156.4
Shelter ¹	120.7	125.1	129.6	135.1	142.4	148.5	155.7
Rent	118.1	124.0	127.7	133.1	142.9	150.4	156.8
Homeownership ²	122.3	125.8	130.9	136.5	142.2	147.3	154.9
Fuel and utilities ³	100.4	107.2	110.9	115.1	130.0	157.0	158.8
Gas and electricity	100.7	104.2	106.3	112.1	140.0	188.1	187.6
Household furnishings and operation	108.2	111.9	114.5	117.3	132.1	147.0	156.8
Apparel and upkeep ⁴	115.1	117.6	120.5	124.1	133.3	141.2	146.7
Men's and boys'	112.8	111.5	113.9	116.7	127.5	135.5	144.0
Women's and girls'	116.8	121.5	124.3	126.2	130.7	132.9	135.7
Footwear	112.6	115.1	115.3	120.8	132.1	139.2	144.4
Transportation	112.2	120.6	123.0	123.9	135.1	146.8	153.7
Private	114.9	122.6	124.8	125.5	137.8	150.9	159.1
Public	97.5	109.4	112.9	114.9	120.3	123.9	124.0
Health and recreation	113.7	118.3	121.2	124.1	134.3	148.8	160.4
Medical care	118.4	124.7	127.5	133.3	147.0	164.8	182.1
Personal care	112.2	117.3	120.4	122.7	137.2	156.6	167.6
Reading and recreation	111.9	117.1	121.8	122.7	134.3	149.0	158.2
Other goods and services ⁵	112.0	113.2	113.9	116.5	118.5	126.6	135.4

TABLE 5.3 (cont.)

1. Also includes hotel and motel rates not shown separately.
2. Includes home purchase, mortgage interest, taxes, insurance and maintenance and repairs.
3. Also includes telephone, water, and sewage not shown separately.
4. Also includes infants' wear, sewing materials, jewelry, and apparel upkeep services not shown separately.
5. Includes tobacco, alcoholic beverages, and funeral, legal, and bank service charges.

Source: U.S. Bureau of Labor Statistics, CPI Detailed Report (monthly), and records.

TABLE 5.4 RETAIL FOOD PRICE INDEXES FOR HONOLULU, 1890 TO 1945
 (Annual averages unless otherwise specified. For later years, see tables 5.2 and 5.3.)

Year	Index (1890-1899 Ave. = 100)	Year	Index (1890-1899 Ave. = 100)	Year	Index (1940 Ave. = 100)
1890	100.8	1901	106.5	1930 ²	112.2
1891	101.6	1902	108.7	1931	100.6
1892	101.3	1903	108.5	1932	84.7
1893	100.3	1904	106.5	1933	79.0
1894	99.4	1905	107.2	1934-1939	NA
1895	98.8	1906	109.0	1940	100.0
1896	99.2	1907	110.3	1941	105.6
1897	98.9	1908	111.9	1942	139.2
1898	98.3	1909	118.4	1943 ³	144.7
1899	101.4	1910 ¹	121.0	1944 ⁴	144.3
1900	105.3	1911-1929	NA	1945 ⁴	144.7

1. First 6 months of year.
2. Comparable index on 1890-1899 base is not available.
3. Eleven-month average.
4. Average for March, June, September, and December.

Source: Fourth Report of the Commissioner of Labor on Hawaii, 1910 (61st Congress, 3d Session, Senate, Document No. 866, 1911), p. 104; FERA survey data for 1930-1933, BLS survey data for 1940-1943, and Territorial Department of Labor and Industrial Relations survey data for 1943-1945, in files of Hawaii State Department of Labor and Industrial Relations, Research and Statistics Office.

TABLE 5.5 AVERAGE RETAIL PRICES OF FOOD IN HONOLULU, 1890 TO 1975
(Annual averages unless otherwise specified. Prices in cents.)

Food	Unit	1890	1895	1900	1905	1910 ¹	1915	1930	1933
Cereals and bakery products									
Flour	lb. ²	3.0	2.7	2.5	3.4	3.5	3.2	5.6	4.8
Rice	lb. ³	5.2	4.8	7.0	4.3	5.0	4.8	5.9	4.1
Bread, white	lb.	...	...	...	...	...	...	9.9	8.4
Meat, poultry, fish									
Steak, round	lb.	10.0	10.0	14.9	15.0	15.0	...	32.4	26.3
Rib roast	lb.	12.5	12.5	16.5	20.0	20.0	...	...	...
Chuck roast	lb.	10.0	10.0	14.8	15.0	15.0	...	24.2	17.6
Hamburger	lb.	...	...	...	...	...	...	...	...
Beef liver	lb.	...	...	...	...	...	...	...	...
Veal cutlets	lb.	12.5	15.0	20.0	20.2	25.0	...	...	...
Pork chops	lb.	25.0	25.0	20.0	20.0	25.0	...	42.1	24.9
Ham, whole ⁴	lb.	20.0	18.0	17.4	18.6	23.0	27.7	...	...
Bacon	lb.	20.0	20.0	18.5	20.0	27.0	34.1	54.7	31.1
Chicken ⁵	lb.	...	...	...	...	...	...	49.6	32.5
Aku, fresh	lb.	...	...	...	...	...	...	...	...
Akule, fresh	lb.	...	...	...	...	...	...	...	...
Mahimahi, fresh or frozen	lb.	...	...	...	...	...	...	...	...
Dairy products									
Milk, fresh ⁶	qt. ⁷	...	...	12.0	10.0	...	...	20.3	17.8
Milk, evaporated	14 1/2 oz. ⁸	...	...	...	20.0	...	14.0	10.1	7.0
Butter	lb.	47.3	39.8	41.7	39.2	45.0	...	52.5	30.7
Fruits and vegetables									
Apples	lb.	...	...	...	...	...	...	4.4	3.8
Bananas	lb.	...	...	...	...	...	...	...	...
Papayas	lb. ⁹	...	...	...	...	...	2.7	4.3	2.7
Potatoes	lb.	2.5	2.5	2.5	2.5	4.0	...	3.9	2.7
Onions	lb.	5.0	5.0	5.0	6.0	...	...	5.8	3.8
Cabbage ¹⁰	lb.	...	...	...	...	...	...	...	...
Tomatoes	lb.	...	...	...	...	...	...	...	...
Peas, green	#303 can ¹¹	...	...	...	...	15.0	...	18.5	15.6
Tomatoes	#2 1/2 can ¹²	...	...	...	12.5	12.5	10.4	14.8	13.3
Dried beans	lb.	5.0	5.0	5.0	5.0	...	7.7	...	...

TABLE 5.5 (cont.)

Food	Unit	1890	1895	1900	1905	1910 ¹	1915	1930	1933
Other foods at home									
Eggs, grade A, large	doz. 13	50.0	45.0	42.9	39.6	55.0	...	61.6	40.1
Margarine	lb. 14	...	...	...	...	...	...	...	...
Sugar	lb. 15	6.0	6.7	6.9	7.0	7.0	6.2	5.9	5.2
Coffee	lb. 15	35.0	35.0	30.0	25.0	25.0	...	39.7	29.4
Soup	10 1/2 oz. can 17	...	...	...	...	...	...	...	...
Food	Unit	1940	1945	1950	1955	1960	1964	1970	1975
Cereals and bakery products									
Flour	lb. 2	5.2	6.3	11.8	13.4	15.2	15.3	15.0	24.7
Rice	lb. 3	5.8	9.1	9.8	12.3	12.8	...	14.5	34.1
Bread, white	lb. 11	8.6	10.0	16.3	19.9	19.7	26.9	29.7	52.5
Meat, poultry, fish									
Steak, round	lb.	36.4	49.2	86.7	81.6	95.5	109.4	128.5	210.1
Rib roast	lb.	...	43.0	74.2	74.2	94.6	119.2	143.6	208.7
Chuck roast	lb.	23.0	36.1	66.4	59.8	70.4	65.3	79.8	123.4
Hamburger	lb.	...	34.9	59.6	66.9	76.6	68.2	86.5	122.4
Beef liver	lb.	...	45.2	77.5	75.4	82.8	78.9	86.9	120.7
Veal cutlets	lb.	...	66.9	94.3	81.0	98.1	...	...	...
Pork chops	lb.	32.5	49.7	73.3	79.7	88.5	110.6	152.9	211.0
Ham, whole	lb.	...	49.9	71.3	74.2	72.8	64.1	85.4	152.9
Bacon	lb.	42.1	55.0	75.7	81.2	85.8	81.0	108.9	195.8
Chicken	lb. 5	41.6	70.0	79.8	93.9	85.9	72.2	68.4	95.6
Aku, fresh	lb.	...	40.0	29.8	30.0	31.4	...	...	...
Akule, fresh	lb.	...	40.0	102.9	119.0	117.6	...	...	...
Mahimahi, fresh or frozen	lb.	...	...	...	...	...	...	89.4	205.0
Dairy products									
Milk, fresh	qt. 7	17.7	20.0	28.9	31.0	31.7	30.5	33.5	52.0
Milk, evaporated	14 1/2 oz. 8	7.5	12.4	14.2	15.2	18.3	17.1	21.9	34.6
Butter	lb.	41.7	61.1	81.0	80.0	86.1	82.1	95.5	112.3

TABLE 5.5 (cont.)

Food	Unit	1940	1945	1950	1955	1960	1964	1970	1975
Fruits and vegetables									
Apples	lb.	...	20.8	17.2	20.4	25.2	27.2	37.6	52.4
Bananas	lb.	5.0	8.5	11.5	13.8	16.3	17.6	26.3	35.5
Papayas	lb.	...	6.0	8.1	11.9	13.8	...	21.8	37.6
Potatoes	lb. ⁹	3.1	6.8	6.8	8.9	13.1	14.3	19.3	29.1
Onions	lb.	4.3	10.6	8.1	9.3	11.4	14.7	19.4	32.2
Cabbage ¹⁰	lb.	5.7	7.9	7.8	8.7	10.9	10.1	12.0	23.2
Tomatoes	lb.	...	20.8	26.7	27.8	35.4	32.9	47.3	70.0
Peas, green	#303 can ¹¹	17.3	18.7	23.3	24.8	26.0	28.4	32.9	50.1
Tomatoes	# 2 1/2 can ¹²	12.1	20.9	27.4	31.0	31.8	...	40.1	64.0
Dried beans	lb.	...	...	...	...	...	...	26.4	63.4
Other foods at home ¹³									
Eggs, grade A, large	doz.	48.3	85.0	87.7	84.5	74.3	69.8	76.2	95.7
Margarine	lb. ¹⁴	...	31.2	34.1	32.7	33.1	32.3	38.1	76.6
Sugar	lb. ¹⁴	5.7	7.4	9.5	10.1	11.8	14.0	13.7	41.0
Coffee ¹⁵	lb.	28.6	41.9	90.5	117.1	93.0	90.1	103.7	159.0
Soup ¹⁶	10 1/2 oz. can ¹⁷	...	15.7	15.1	14.9	16.6	20.0	21.1	26.3

1. January through June.
2. Cost per pound for 50-lb. quantities, 1915; for 10-lb. quantities, 1930-1940; for 5-lb. quantities, 1945 and later years.
3. Price per pound for 100 lb., 1915; 10 lb., 1970 and later. Prices for 1970 and later refer to short-grain rice; type unspecified for earlier years.
4. Sugar-cured, 1890-1910; unspecified, 1915; whole, 1945-1964; whole, smoked, 1970 and later.
5. Roasting chicken, 1930-1960; frying chicken, 1964 and later years.
6. Delivered, 1900, 1905, and 1940; unspecified, 1930 and 1933; store, grade AA, 1945-1960; vitamin D, grocery, 1964 and later.
7. Cost per quart for one-half gallon, 1964 and later years.
8. One-lb. can, 1905; 20-oz. can, 1915; 14 1/2-oz. can, 1930 and later years.
9. Price per pound for 15 lb., 1940; for 10 lb., 1964 and later years.
10. Head, 1945-1960; unspecified, other years.

TABLE 5.5 (cont.)

11. Can size unspecified, 1910; #2 can, 1930-1950; #303 can, 1955 and later years.
 12. Can size unspecified, 1905 and 1910; 2 1/2-lb. can, 1915; #2 can, 1930-1940; #2 1/2 can, 1945 and later years.
 13. Size unspecified, 1890-1940; large, 1945-1960; grade A large, 1964 and later years.
 14. Price per pound for five lb., 1964 and later years.
 15. Mainland coffee, 1945-1960; unspecified, other years.
 16. Vegetable soup, 1945-1960; chicken soup, 1964 and later years.
 17. Eleven-oz. can, 1945 and 1950; 10 3/4-oz. can, 1955 and 1960; 10 1/2-oz. can, 1964 and later years.
- Source: Report of the Commissioner of Labor on Hawaii for 1905 (pp. 309-317) and 1910 (pp. 135-141); Report of the Board of Immigration, Labor and Statistics for June 30, 1915 (table after p. 35) and June 30, 1916 (table after p. 43); Hawaii State Department of Labor and Industrial Relations, records for 1930-1960; U.S. Bureau of Labor Statistics, San Francisco, "Estimated Average Retail Prices of Food, Honolulu, December 1963-December 1964" (table, 1965); U.S. Bureau of Labor Statistics, Washington, D.C., Estimated Retail Food Prices by City, Annual Averages for 1970 and 1975.

TABLE 5.6 COMPARATIVE LIVING COSTS IN HONOLULU AND MAINLAND CITIES, 1945 TO 1976

Base City and Date	Honolulu Index	Honolulu Index			
		Type of Family, Base Area, and Date	Lower Budget	Intermediate Budget	Higher Budget
Los Angeles = 100 1945, March	125	Urban family of 4 persons; U.S. urban, average = 100	...	122	...
Washington, D.C. = 100 ¹ 1951	115	1966, Autumn	122	120	123
1952-1954	...	1967, Spring	124	120	126
1955	120.8	1969, Spring	124	120	125
1956	119.1	1970, Spring	125	119	124
1957	121.5	1971, Autumn	123	119	124
1958	121.4	1972, Autumn	121	118	120
1959	117.6	1973, Autumn	124	119	123
1960	...	1974, Autumn	128	122	127
1961	113.3	1975, Autumn			
1962	114.9				
1963	...	Retired couple; U.S. urban average = 100	...	115	...
1964	115.8	1966, Autumn	116	115	120
1965	114.1	1967, Spring	116	115	118
1966	115.6	1969, Spring	115	115	117
1967	115.2	1970, Spring	117	116	116
1968	115.4	1971, Autumn	114	113	113
1969	113.4	1972, Autumn	112	112	110
1970	112.8	1973, Autumn	114	112	111
1971	...	1974, Autumn	115	114	111
1972	116.2	1975, Autumn	115	114	112
1973	113.6				
1974	112.3				
1975 ²	...				
1976	118.1				

TABLE 5.6 (cont.)

1. Living costs for federal employees. No surveys were published for 1952-1954, 1960, 1963, 1971, and 1975.
2. Index for federal employees occupying private housing and lacking unlimited access to military commissary and exchange facilities. Indexes for federal employees in federal or military housing or with commissary and exchange privileges ranged from 72.5 to 104.2.
 Source: Eleanor M. Snyder, "Measuring Comparable Living Costs in Cities of Diverse Characteristics," Monthly Labor Review, October 1956, pp. 1187-1190; U.S. Civil Service Commission, Living Costs of Federal Employees in Hawaii ... (releases for 1957, 1958, 1959, 1962, 1964, 1965, 1966, 1967, 1968, 1969, 1970, and 1974) and Nonforeign Area Cost of Living Allowances and Post Differential Rates (FPM Letter No. 591-16, November 15, 1976); U.S. Bureau of Labor Statistics, Relative Differences in the Cost of Selected Goods and Services in Honolulu and Los Angeles, March 1945 (May 10, 1946), City Worker's Family Budget, Autumn 1966 (bull. No. 1570-1), Retired Couple's Budget, Autumn 1966 (bull. No. 1570-4), Three Standards of Living for an Urban Family of Four Persons, Spring 1967 (bull. No. 1570-5), Three Budgets for a Retired Couple, 1967-68 (bull. No. 1570-6), Three Budgets for an Urban Family of Four Persons, 1969-70 (supp. to bull. 1570-5), Three Budgets for a Retired Couple ... 1969-70 (supp. to bull. 1570-6), Autumn 1971 Urban Family Budgets and Geographical Comparative Indexes (release, April 27, 1972), Three Budgets for a Retired Couple, Autumn 1971 (release, May 16, 1972), Autumn 1972 Urban Family Budgets and Comparative Indexes for Selected Urban Areas (release, June 15, 1973), Three Budgets for a Retired Couple, Autumn 1972 (release, August 10, 1973), Autumn 1973 Urban Family Budgets and Comparative Indexes for Selected Urban Areas (release, June 16, 1974), Three Budgets for a Retired Couple, Autumn 1973 (release, August 27, 1974), Autumn 1974 Urban Family Budgets and Comparative Indexes for Selected Urban Areas (release, April 9, 1975), Three Budgets for a Retired Couple, Autumn 1974 (release, August 1, 1975), BLS Revises Estimates for Urban Family Budgets and Comparative Indexes for Selected Urban Areas, Autumn 1975 (release, May 5, 1976), and Three Budgets for a Retired Couple, Autumn 1975 (release, August 19, 1976).

TABLES IN SECTION 6

- 6.1 Gross state product, 1901 to 1975
- 6.2 Direct income from major export industries, 1910 to 1975
- 6.3 Personal income and disposable personal income, total and per capita,
1939 to 1975
- 6.4 Personal income, by major sources, 1939 to 1975

SECTION 6

State Income

This section contains statistics on gross state product, personal income, and direct income from major export industries. Related series appear in section 4 (on payrolls), section 7 (individual and family income), section 11 (visitor expenditures), section 13 (agricultural income), section 14 (income from forestry, fishing, and mining), section 16 (value added by manufacture and sugar and pineapple sales), section 21 (imports, exports, and the balance of payments), and section 26 (defense expenditures).

Gross state product is the total state output of goods and services valued at market prices. It can be viewed in terms of expenditure categories. These categories include purchases of goods and services by consumers and government, gross private domestic investment, and net exports of goods and services. The goods and services included in gross state product are largely those bought for final use (excluding illegal transactions) in the market economy.

Personal income is the current income received by persons from all sources net of contributions for social insurance. Not only individuals (including owners of unincorporated enterprises), but nonprofit institutions, private trust funds, and private health and welfare funds are classed as "persons." Personal income includes transfers (payments not resulting from current production) from government and business, such as social security benefits, military pensions, and the like, but excludes transfers among persons. Although most of the income is in monetary form, there are important nonmonetary inclusions--chiefly, the estimated net rental value to owner-occupants of their homes, the value of services furnished without payment by financial intermediaries, and the value of food consumed on farms.

The earliest estimates of aggregate income in Hawaii were based on export values and the costs of ships stores and supplies purchased in island ports. Such estimates were first made unofficially during the 1830s and officially beginning in 1843. Although data on the value of exports served as a useful index of income generated by sugar, pineapple, and other commodities sold mostly to the mainland or abroad, this source missed such "invisible exports" as services to seamen and other visitors and locally consumed goods.

More precise measures of income for specific industries were developed after 1900. Statistics on the value of sugar sales extend back to the crop year begun in October 1903; on molasses, to 1937; and on government compliance pay-

ments to sugar companies, to 1934. Annual estimates on the value of pineapple sales (covering canned fruit and juices and by-products shipped out of the state or consumed locally) were initially prepared for the 1950-1951 crop year. Visitor expenditures in Hawaii, exclusive of transpacific travel costs, have been estimated for every year since 1922. Information on national defense expenditures in Hawaii has been regularly compiled since 1950, and less systematically since 1931.

The first large-scale study of territorial income was one conducted by the U.S. Department of Commerce, Office of Business Economics, during the early 1950s, and published in 1953 under the title Income of Hawaii. This report relied heavily on statistics on taxable payrolls for workers covered by the Hawaii Employment Security Act, a source which first became available shortly before World War II. The report contained annual data on personal income by source, wage and salary payments by industry, and per capita personal income, from 1939 to 1952. It also included estimates of gross territorial product for 1939, 1940, 1941, 1951, and 1952. Tabular supplements were subsequently issued for 1953, 1954, and 1955.

These annual estimates of personal income by source and per capita personal income have been periodically updated and revised by the Office of Business Economics (OBE), now renamed the Bureau of Economic Analysis (BEA). Preliminary estimates for the preceding year are usually cited in the April issue of BEA's monthly publication, Survey of Current Business; revised estimates, including greater detail by industrial source, are published in the August issue. Computer printouts containing all revisions to date, with statistics back to 1948, are kept in the library of the Hawaii State Department of Planning and Economic Development.

During the 1960s, research personnel of the University of Hawaii Economic Research Center (ERC) worked on a comprehensive set of statewide accounts. Their preliminary report, Hawaii's Income and Expenditures, 1958, 1959, and 1960, was published in several volumes in 1965; along with estimates for 1958-1960, it included an effort to reconstruct gross territorial product estimates for 1901. The final ERC report, published in 1970, was Hawaii's Income and Expenditure Accounts, 1958-1968. This publication presented revised estimates for 1958-1960 and current data through 1968 on gross state product and its components.

Estimates of gross state product for 1969 and later years have been prepared by the Research and Economic Analysis Division of the Department of

Planning and Economic Development and published in The State of Hawaii Data Book.

Alternate estimates of gross state product have been made by the Department of Business Research of the Bank of Hawaii. Although no methodological statement for this series has been published, bank economists have indicated that they have relied on the OBE/BEA personal income estimates and the ERC data for 1958-1968. The bank's estimates for the period since statehood (and some earlier years) have appeared in recent editions of their midyear economic report; estimates for some of the earlier years (extending back to 1939) have remained unpublished.

Statistics on gross national product, national income, and national wealth and savings have been published in Historical Statistics of the United States, Colonial Times to 1970, chapter F, and the annual editions of Statistical Abstract of the United States.

TABLE 6.1 GROSS STATE PRODUCT: 1901 TO 1975
(In millions of dollars)

Year	Amount ¹	Year	Amount ¹	Year	Amount
1901	38.1	1950	839.9	1963	2,098.4
		1951	1,010.0	1964	2,301.9
1939	270.0	1952	1,050.0	1965	2,450.2
1940	309.0	1953	1,087.6	1966	2,725.6
1941	438.0	1954	1,102.1	1967	2,954.5
1942	742.9	1955	1,179.8	1968	3,305.1
1943	944.4	1956	1,263.5	1969	3,655.9
1944	1,247.9	1957	1,352.2	1970	4,093.5
1945	1,224.8	1958	1,424.8	1971	4,331.1
1946	872.8	1959	1,609.5	1972	4,731.8
1947	875.2	1960	1,825.2	1973	5,363.4
1948	880.0	1961	1,917.8	1974	5,995.2
1949	831.5	1962	2,007.7	1975	6,562.2

1. Data for 1901-1957 are approximate.

Source: Harry T. Oshima and Mitsuo Ono, Hawaii's Income and Expenditures, 1958, 1959, and 1960 (University of Hawaii, Economic Research Center, January 1965), vol. 1, p. 1-32; U.S. Department of Commerce, Office of Business Economics, Income of Hawaii (1953), pp. 8, 9 and 13; Bank of Hawaii, unpublished estimates for 1942-1950 and 1953-1957; Yung C. Shang, William H. Albrecht, and Glenn Ifuku, Hawaii's Income and Expenditure Accounts, 1958-1968 (University of Hawaii, Economic Research Center, July 1970), p. 9; estimates by Hawaii State Department of Planning and Economic Development in The State of Hawaii Data Book 1976, table 167.

TABLE 6.2 DIRECT INCOME FROM MAJOR EXPORT INDUSTRIES, 1910 TO 1975
 (As measured by value of sales for sugar and pineapple and expenditures in Hawaii for defense and by visitors. In millions of dollars.)

Year	Value of Sales		Expenditures		Year	Value of Sales		Expenditures	
	Sugar ¹	Pineapple ²	Defense ³	Visitors ⁴		Sugar ¹	Pineapple ²	Defense ³	Visitors ⁴
1910	43	2	...	...	1944	69	26	800	...
1911	50	2	...	...	1945	65	27	...	...
1912	50	3	...	...	1946	67	62	224	6
1913	38	4	...	...	1947	117	74	185	12
1914	47	5	...	...	1948	101	...	165	19
1915	60	6	...	...	1949	109	...	157	18
1916	69	7	...	...	1950	117	102	147	24
1917	80	8	...	...	1951	129	95	214	29
1918	70	12	...	...	1952	135	97	245	33
1919	88	18	...	...	1953	142	113	251	43
1920	146	29	...	...	1954	134	109	237	49
1921	52	20	...	...	1955	142	116	262	55
1922	56	23	...	4	1956	142	123	272	65
1923	77	27	...	6	1957	137	116	289	78
1924	84	25	...	6	1958	98	130	302	83
1925	67	34	...	7	1959	123	128	316	109
1926	68	34	...	8	1960	118	119	351	131
1927	77	34	...	8	1961	136	118	380	137
1928	76	39	...	9	1962	149	115	348	154
1929	69	38	...	10	1963	182	124	347	186
1930	62	38	...	9	1964	155	127	393	205
1931	66	35	35	7	1965	166	127	430	225
1932	60	21	...	4	1966	180	128	488	280
1933	66	24	...	4	1967	180	133	561	380
1934	57	34	...	6	1968	189	128	575	440
1935	64	34	...	8	1969	179	125	626	550
1936	75	51	35	9	1970	188	139	639	595
1937	66	59	30	10	1971	203	141	709	705
1938	56	38	30	10	1972	185	145	744	840
1939	60	51	35	11	1973	222	142	841	1,020
1940	55	46	45	12	1974	677	127	898	1,225
1941	65	63	85	16	1975	366	137	983	1,270
1942	67	39	...	...			
1943	70	40	...	...			

TABLE 6.2 (cont.)

1. Value of sales of raw sugar and molasses, for years ended September 30, 1910-1933 and calendar years 1934 and thereafter. Excludes molasses, 1910-1936, and molasses sold locally, 1937-1949. Excludes government payments for all years; for data on government payments, see table 16.6.

2. Years ended June 30, 1910-1917; calendar years 1918 and thereafter. Data for 1910-1947 are for shipments of canned pineapple and pineapple juice to the U.S. mainland; 1950 and later years, for total sales of fresh and processed pineapple, as estimated by the Bank of Hawaii. Data not available for 1948 and 1949.

3. Calendar years. Data for 1931-1949 are rough approximations. Data for 1931-1954 are not exactly comparable to data for 1955 and later years; the 1955 amount based on the older definition is \$272.5 million. Not available for 1910-1930, 1932-1935, 1942, 1943, and 1945.

4. Calendar years. Data limited to direct visitor expenditures in Hawaii, exclusive of transpacific transportation and expenditures of carriers and crews. Not available before 1922. Visitor industry suspended during World War II.

Source: Present report, tables 11.7, 16.6, 21.4, and 26.7; Hawaii Crop and Livestock Reporting Service, Statistics of Hawaiian Agriculture (annual) and records.

TABLE 6.3 PERSONAL INCOME AND DISPOSABLE PERSONAL INCOME, TOTAL AND PER CAPITA, 1939 TO 1975

Calendar Year	Personal Income		Disposable Personal Income ¹		Calendar Year	Personal Income		Disposable Personal Income	
	Total ²	Per Capita ³	Total ²	Per Capita ³		Total ²	Per Capita ³	Total ²	Per Capita ³
1939	218	525	211	508	1958	1,180	1,983	NA	NA
1940	246	577	239	561	1959	1,316	2,157	1,122	1,842
1941	341	749	330	725	1960	1,478	2,368	1,250	2,004
1942	612	1,087	594	1,055	1961	1,595	2,481	1,347	2,095
1943	778	1,186	694	1,058	1962	1,677	2,568	1,432	2,192
1944	1,028	1,239	914	1,101	1963	1,769	2,637	1,517	2,261
1945	1,009	1,328	894	1,176	1964	1,906	2,811	1,656	2,442
1946	719	1,312	639	1,166	1965	2,028	2,906	1,762	2,524
1947	721	1,384	636	1,221	1966	2,225	3,192	1,902	2,729
1948	723	1,407	648	1,261	1967	2,440	3,447	2,080	2,938
1949	685	1,354	622	1,229	1968	2,729	3,796	2,292	3,188
1950	692	1,387	622	1,267	1969	3,087	4,155	2,543	3,423
1951	793	1,580	708	1,410	1970	3,523	4,623	2,912	3,822
1952	865	1,747	763	1,520	1971	3,773	4,818	3,165	4,042
1953	896	1,796	783	1,569	1972	4,124	5,123	3,393	4,215
1954	908	1,802	792	1,523	1973	4,617	5,570	3,792	4,574
1955	972	1,837	851	1,600	1974	5,069	6,010	4,138	4,931
1956	1,041	1,900	NA	NA	1975	5,674	6,658	4,550	5,341
1957	1,114	1,944	961	1,677					

1. Personal income less personal tax and nontax payments. Data for 1948-1955 are unrevised figures and hence not strictly comparable with corresponding data for personal income, which are revised estimates.

2. In millions of dollars.

3. In dollars.

Source: U.S. Office of Business Economics, Income of Hawaii (1953), p. 18, and annual supplements for 1953-1955; U.S. Bureau of Economic Analysis, Survey of Current Business (monthly), and revised data supplied October 7, 1976.

TABLE 6.4 PERSONAL INCOME, BY MAJOR SOURCES, 1939 TO 1975
(In millions of dollars.)

Year	Personal Income	Wage and Salary Disbursements	Other Labor Income	Proprietors' Income	Property Income	Transfer Payments	Less: Personal Contributions for Social Insurance
1939	218	157	2	24	32	5	2
1940	246	179	2	27	34	6	2
1941	341	257	3	38	39	7	3
1942	612	493	4	72	45	8	10
1943	778	657	4	81	46	10	20
1944	1,028	895	5	97	49	14	32
1945	1,009	869	5	91	54	20	30
1946	719	559	7	85	57	25	14
1947	721	545	11	88	63	26	12
1948	723	547	13	83	65	27	11
1949	685	510	15	71	68	32	11
1950	692	508	16	64	74	41	12
1951	793	595	17	84	76	35	15
1952	865	649	18	99	78	36	15
1953	896	672	22	91	89	38	17
1954	908	665	24	90	102	43	16
1955	972	705	28	95	114	46	16
1956	1,041	756	30	104	122	47	17
1957	1,114	812	32	109	130	52	21
1958	1,180	871	32	114	131	56	24
1959	1,316	975	33	126	149	62	29
1960	1,478	1,081	31	143	187	66	31
1961	1,595	1,149	35	158	210	76	32
1962	1,677	1,214	36	164	217	85	40
1963	1,769	1,275	39	179	233	89	46
1964	1,906	1,392	44	174	254	91	50
1965	2,028	1,498	50	163	266	104	53
1966	2,225	1,645	56	179	295	120	71
1967	2,440	1,793	64	190	332	144	82
1968	2,729	2,023	71	187	373	168	93
1969	3,087	2,315	84	198	409	192	110
1970	3,523	2,635	99	201	473	241	126
1971	3,773	2,778	118	228	495	302	150
1972	4,124	3,002	136	238	547	365	165
1973	4,617	3,356	149	266	618	425	196
1974	5,069	3,633	168	244	737	507	221
1975	5,674	3,997	194	286	796	637	237

Source: U.S. Department of Commerce, Office of Business Economics, Personal Income by States Since 1929 (1956), p. 204; U.S. Department of Commerce, Bureau of Economic Analysis, computer printouts for 1948 and later years, Survey of Current Business, August 1976, pp. 26-27, and data supplied October 7, 1976.

TABLES IN SECTION 7

- 7.1 Income of persons in previous year, 1950 to 1970
- 7.2 Income of families and unrelated individuals in previous year, 1950 to 1970
- 7.3 Family income and expenditures for specified groups, annual averages, 1901 to 1961
- 7.4 Individual federal income tax returns, 1916 to 1974
- 7.5 Income distribution reported on individual federal income tax returns, 1919 to 1974
- 7.6 Top wealthholders, estimated from estate tax returns, 1922 to 1972

SECTION 7

Consumer Income and Expenditures

This section presents statistics on the income of persons, families, and unrelated individuals; family expenditure patterns; and top wealthholders for whom estate tax returns were filed with the Internal Revenue Service. Related series appear in section 4 (on wage rates and annual earnings), section 6 (aggregate personal income), section 8 (payments for public welfare, social security, and unemployment compensation), and section 11 (income and expenditures of visitors).

The first data on individual income in Hawaii were records of wage rates in the sugar industry. Although regular compilation of such data did not begin until late in the nineteenth century, scattered references go back to the 1820s and 1830s.

Soon after annexation, the U.S. Bureau of Labor Statistics initiated a series of periodic surveys of working conditions, wage rates, prices, and family income and expenditure patterns in the islands. The first of these reports, titled Report of the Commissioner of Labor on Hawaii, 1901, contained the results of a survey of 225 "representative" families who had replied to questions on their income and spending. The 1911 report included similar data for 363 wage earners' families in Honolulu. Although other reports in this series (issued for 1902, 1905, 1915, 1929-1930, 1939, 1947, and 1955) did not include large-scale surveys of this type, they often contained considerable anecdotal material on how families earned and spent their money.

Family income and expenditure surveys were subsequently published for 1933-1934, 1937, 1943-1944, and 1961. The 1933-1934 study was limited to 101 Filipino plantation workers' families; the 1937 survey, to 218 middle-income Caucasian families. In 1943 the U.S. Bureau of Labor Statistics (BLS) studied the incomes and expenditures of 100 wage earners' and clerical workers' families in Honolulu, primarily to provide a basis for the Honolulu consumer price index initiated that year. A similar survey was made of 69 neighbor island families by the Territorial Department of Labor and Industrial Relations during 1944. Another Honolulu survey, this time restricted to a sample of 294 two- and four-person office workers' families, was conducted by the BLS in 1951 in order to compare living costs in Honolulu with those in Washington, D.C. Ten years later, in 1961, the BLS compiled data on 215 urban families and single consumers on Oahu as a basis for the consumer price index instituted

in December 1963. The most recent study is the 1972-1973 Consumer Expenditure Survey, conducted on Oahu by the U.S. Bureau of the Census for the Bureau of Labor Statistics.

Comparability among the nine income and expenditure surveys listed above is unfortunately quite limited. Only the 1961 and 1972-1973 (and possibly 1901) studies attempted to represent all social and economic classes in their samples; the others confined themselves to specific occupational and ethnic groups, which shifted from survey to survey. One of the studies purported to be territory-wide in its coverage, but the remaining eight variously focused on urban Oahu, Honolulu proper, the neighbor islands, or plantation communities. Three of the surveys included rural families who received housing, utilities, and medical care as perquisites. The 1951 study was moreover intended only to determine spending patterns within specific income and family-size groups, and omitted all aggregate data. Finally, the classification of expenditure categories varied from survey to survey, particularly before the 1930s.

Census statistics on individual income go back to 1940. In that year the decennial census obtained data on the wage and salary income of members of the experienced labor force. Similar statistics were published for 1950, together with tabulations on the total money income received during the previous year by persons 14 years of age or more. The question regarding the total money income of persons reappeared in 1960 and 1970, but income tabulations for the experienced labor force in those years included all earnings (self-employment income as well as wages and salaries) and excluded members of the armed forces.

Beginning in 1950, the census schedule also included questions on the annual money income received during the preceding year by families and unrelated individuals. The concept of family (as opposed to individual) income had, of course, been used in the six consumer income and expenditure surveys of the preceding half-century, but none of those surveys had provided comprehensive territory-wide information. The decennial census, in contrast, reached all classes of families and unrelated individuals on an all-island basis. The 1960 and 1970 censuses repeated the income question and greatly expanded the number of cross-tabulations on this item. Generally comparable statistics on income were compiled by the Hawaii Health Surveillance Program on Oahu in 1964-1967 and on the six most populous islands beginning late in 1969.

Statistics on the annual income of families and unrelated individuals are most useful when separately reported not only for these basic types of spending unit but also by military status. Families consist of two or more persons related by blood, marriage, or adoption and living together in the same household; families can thus include two or more earners. Unrelated individuals, in contrast, are persons who live alone or with nonrelatives, and thus are seldom able to pool incomes. Families headed by a member of the armed forces, unlike their civilian counterparts, often enjoy commissary and base exchange privileges and on-base housing, all of which enhance the buying power of their relatively modest incomes. Although census bulletins make no distinction between military and civilian families, special tabulations of income by military status were authorized and published by the Hawaii State Department of Planning and Economic Development both for 1960 and 1970. Similar breakdowns on income have come from the Hawaii Health Surveillance Program.

Statistics on individual federal income tax returns from Hawaii have been published annually since 1916. Data for the period through 1943 reported the number of returns by net income class; data for 1944 and later years referred to adjusted gross income less deficit. Income limits for persons required to file returns were revised in 1917, 1924, 1925, 1932, 1940, 1941, 1942, 1944, 1948, 1970, and 1972, with the most drastic changes occurring in the early 1940s. During the late 1920s, for example, the limit for joint returns was \$3,500, a cutoff point that automatically excluded most island families. By 1943 it had been reduced to \$624, a level low enough to encompass virtually everyone.

The relationship between individual income tax returns and census data on family incomes is at best quite tenuous. A family (as defined by the census) may submit a joint return, two or more single returns, a combination of joint and single returns, or no returns at all. An unrelated individual may likewise submit a single return or none at all. In 1970, when the census reported 170,729 families and 83,093 unrelated individuals in the state, the Internal Revenue Service (IRS) received 290,251 returns from islanders. The median income given by the census for the 253,822 families and unrelated individuals was \$8,399, compared with a median adjusted gross income of \$6,273 for the IRS returns. Notwithstanding these differences, income tax data provide useful clues to year-to-year changes in individual or family incomes.

Taxation statistics have likewise been put to use in estimating the number of "top wealthholders," defined as persons with assets of \$60,000 or more. So far as can be ascertained, no direct survey of personal wealth has ever been undertaken in Hawaii. By applying life-table values to age data on persons for whom estate tax returns have been filed, however, the IRS has been able to estimate the number of living persons with comparable assets. Such estimates were prepared for the entire nation for 1953, 1958, 1962, 1969, and 1972, and for Hawaii for the last three of these years. Rough approximations of island data for the two earlier dates are possible through use of national ratios. Moreover, estate tax statistics for the islands extend back to 1922 and provide a rough measure of trends in the number of top wealthholders for that period. Under legislation enacted in 1942, an estate tax return is required for the estate of a citizen or resident alien if its gross value at the time of death exceeds \$60,000. Under earlier laws, the maximum ranged from \$40,000 to \$100,000.

Interpretation of all of the statistics presented in this section is complicated by the effects of inflation. Between 1950 and 1970, for example, median family income on Oahu increased 218 percent, while the consumer price index rose 71 percent; consequently, the increase in real purchasing power was only 86 percent.

Further information on island income trends is given in the article on "Statistics on Income in Hawaii, 1825-1966," in Hawaii Historical Review, Selected Readings (1969). National statistics on consumer income and expenditures appear in Historical Statistics of the United State, Colonial Times to 1970, chapter G, and in recent editions of Statistical Abstract of the United States.

TABLE 7.1 INCOME OF PERSONS IN PREVIOUS YEAR, 1950 TO 1970

Money Income	1950		1960		1970	
	Male	Female	Male	Female	Male	Female
Persons 14 years and over	194,680	154,160	231,707	194,788	289,165	264,590
Without income	31,110	85,165	24,169	87,475	29,586	94,718
With income	156,355	65,090	207,538	107,313	259,579	169,872
\$1 to \$499 or loss	14,745	18,165	10,785	23,254	22,155	39,445
\$500 to \$999	11,295	10,455	12,702	15,286	26,085	23,480
\$1,000 to \$1,499	17,840	7,940	18,344	10,462	20,926	17,519
\$1,500 to \$1,999	17,050	7,590	11,600	8,530	16,627	20,209
\$2,000 to \$2,499	25,360	6,370	13,373	11,005	15,770	18,011
\$2,500 to \$2,999	17,810	4,400	12,010	7,299	18,179	14,498
\$3,000 to \$3,499	16,945	4,405	18,682	7,800	18,992	11,574
\$3,500 to \$3,999	10,735	2,710	14,462	5,657	19,338	7,522
\$4,000 to \$4,499	6,890	1,140	15,308	4,876	17,418	5,851
\$4,500 to \$4,999	3,905	445	11,568	3,316	14,291	3,225
\$5,000 to \$5,999	5,120	555	21,697	4,979	45,270	6,481
\$6,000 to \$6,999	3,170	280	15,508	2,132	18,448	1,471
\$7,000 to \$7,999	3,360	315	18,071	1,739	6,080	586
\$8,000 to \$8,999						
\$9,000 to \$9,999						
\$10,000 to \$14,999						
\$15,000 to \$24,999	2,830	320	13,428	978		
\$25,000 or more						
Median income	\$ 2,340	\$ 1,247	\$ 3,717	\$ 1,773	\$ 6,529	\$ 3,222

Source: U.S. Census of Population: 1960, Final Report PC(1)-13C, table 67; U.S. Census of Population: 1970, Final Report PC(1)-C13, table 47.

TABLE 7.2 INCOME OF FAMILIES AND UNRELATED INDIVIDUALS IN PREVIOUS YEAR,
1950 TO 1970

Income in Previous Year	Families			Unrelated Individuals		
	1950	1960	1970	1950	1960	1970
Total	96,460	130,871	170,729	57,230	66,596	83,093
Less than \$1,000	8,170	4,707	3,926	16,375	13,647	13,436
\$1,000 to \$1,999	9,295	4,498	3,122	17,855	19,681	15,480
\$2,000 to \$2,999	19,160	7,782	4,416	12,060	11,403	12,870
\$3,000 to \$3,999	19,385	13,675	5,154	4,215	9,390	8,907
\$4,000 to \$4,999	11,740	15,037	6,156	1,475	4,602	6,582
\$5,000 to \$5,999	7,990	14,758	8,581	680	2,950	5,471
\$6,000 to \$6,999	5,935	13,594	9,484	420	1,744	4,507
\$7,000 to \$7,999	8,460	11,213	10,019	305	933	3,717
\$8,000 to \$8,999		9,159	9,992		566	2,758
\$9,000 to \$9,999	5,140	7,685	9,621	175	381	2,100
\$10,000 to \$14,999		19,754	44,688		893	4,746
\$15,000 to \$24,999	1,185	6,740	42,265	3,670	278	1,855
\$25,000 or more		2,269	13,305		128	664
Not reported	1,185	--	--	3,670	--	--
Median income ¹	\$ 3,568	\$ 6,366	\$ 11,554	\$ 1,583	\$ 1,998	\$ 2,981

1. For families and unrelated individuals combined, the median was \$2,728 in 1950, \$4,710 in 1960, and \$8,399 in 1970.

Source: U.S. Census of Population: 1950, bull, P-852, table 23; U.S. Census of Population: 1970, Final Report PC(1)-C13, table 47.

TABLE 7.3 FAMILY INCOME AND EXPENDITURES FOR SPECIFIED GROUPS, ANNUAL AVERAGES, 1901 TO 1961

Item	"Representative" Families in Territory, 1901	Wage Earners' Families in Honolulu, 1910	Filipino Plantation Workers' Families, 1933-34 ¹	Middle-Income Caucasian Families in Honolulu, 1937
Number of families in sample	225	363	101	218
Persons per family	4.4	4.8	5.5	3.0
Money income before taxes	\$802	\$808	\$683	\$3,624
Money income after taxes	...	...	...	...
Expenditures for current consumption	659	700	692	3,239
Food, total	371	353	315	786
Prepared at home	...	...	...	...
Away from home	...	...	...	...
Tobacco	...	12	...	42
Alcoholic beverages	...	]	...	37
Housing, total	...	127	87	1,014
Shelter	...	...	...	436
Rented dwelling ³	188	72	...	550
Owned dwelling ⁴	...	...	...	249
Fuel, light, refrig., water	20	33	...	106
Household operations	...	...	51	301
House furnishings, equipment	...	22	36	172
Clothing, clothing materials	95	111	143	302
Personal care	...	...	17	66
Medical care	...	13	5	182
Recreation	...	6	64	177
Reading	...	]	...	33
Education	...	7	8	34
Transportation	...	11	31	471
Automobile	...	...	21	385
Other travel and transportation	...	11	11	86
Other expenditures	125	27	24	94

TABLE 7.3 (cont.)

Item	"Representative" Families in Territory, 1901	Wage Earners' Families in Honolulu, 1910	Filipino Plantation Workers' Families, 1933-34	Middle-Income Caucasian Families in Honolulu, 1937
Personal insurance ⁵	...	23	4	...
Gifts and contributions	...	8	26	131
Value of items received without expense	235	...
Percent of expend. for curr. consumption	56.3	50.4	45.5	24.3
Food	...	18.1	12.6	31.3
Housing	...			

TABLE 7.3 (cont.)

Item	Wage Earners' and Clerical Workers' Families		Office Workers' Families in Honolulu, 1951 ²	Urban Families and Single Consumers on Oahu, 1961
	Honolulu, 1943	Neighbor Islands, 1944 ¹		
Number of families in sample	100	69	187	215
Persons per family	5.0	5.7	4.0	3.6
Money income before taxes	\$4,976	\$2,434	...	\$9,217
Money income after taxes	4,465	2,220	\$6,392	7,950
Expenditures for current consumption	3,241	1,954	5,945	6,746
Food, total	1,428	1,024	1,770	1,750
Prepared at home	...	...	...	1,308
Away from home	...	...	...	442
Tobacco	54	33	59	88
Alcoholic beverages	101	26	112	159
Housing, total	538	221	1,633	1,729
Shelter	214	30	634	897
Rented dwelling ³	...	...	...	834
Owned dwelling ⁴	...	...	...	848
Fuel, light, refriger., water	87	60	152	196
Household operations	132	76	338	383
House furnishings, equipment	105	55	509	238
Clothing, clothing materials	344	287	467	577
Personal care	83	70	131	207
Medical care	199	77	303	403
Recreation	174	56	257	306
Reading	37	19	51	65
Education	...	32	137	147
Transportation	210	99	906	1,128
Automobile	...	66	758	875
Other travel and transportation	...	33	148	253
Other expenditures	74	10	119	187

Item	Wage Earners' and Clerical Workers' Families		Office Workers' Families in Honolulu, 19512	Urban Families and Single Consumers on Oahu, 1961
	Honolulu, 1943	Neighbor Islands, 19441		
Personal insurance	...	...	490	545
Gifts and contributions	134	76	287	458
Value of items received without expense	...	...	...	280
Percent of expend. for curr. consumption				
Food	44.1	52.4	29.8	25.9
Housing	16.6	11.3	27.5	25.6

TABLE 7.3 (cont.)

1. The 1901, 1933-34, and 1944 surveys include large percentages of plantation families who received housing, utilities, and medical care as perquisites.
 2. Survey limited to four-person families. These averages have been computed from data reported by income level, weighted by the number of sampled families in each group; since the survey was not intended to provide such summary averages, and accordingly made no effort to represent income groups in proportion to their distribution in the total population, this procedure can provide only approximate measures of overall expenditure patterns.
 3. Averages for 1901, 1937, and 1961 limited to renter-occupants paying cash rent. Average for 1910 based on total sample.
 4. Averages limited to owner-occupants.
 5. Figure for 1910 also includes taxes.
- Source: Report of the Commissioner of Labor on Hawaii, 1901 (1902), pp. 99-112; Report of the Commissioner of Labor on Hawaii, 1910 (1911), pp. 38-46; Edna Clark Wentworth, Filipino Plantation Workers in Hawaii (1941), pp. 61 and 82; Harold J. Hoflich, William H. Taylor, and Lauren W. Casaday, A Study of the Incomes and Disbursements of 218 Middle-Income Families in Honolulu (Univ. of Hawaii Bulletin, vol. XVII, No. 10, Oct. 1938); Lenore A. Epstein, "Wartime Earnings and Spending in Honolulu," Monthly Labor Review, vol. 58, No. 4, April 1944, pp. 706-716; Territory of Hawaii, Dept. of Labor and Industrial Relations, Family Income and Expenditures on the Islands of Hawaii, Maui, Kauai, 1944 (bull. 18, July 15, 1945); U.S. Bureau of Labor Statistics, Income and Expenditures of Office Workers' Families: San Juan, Puerto Rico and Washington, D.C., 1950; Honolulu, Territory of Hawaii, 1951 (mimeo. release, October 1953), table 2; U.S. Bureau of Labor Statistics, Consumer Expenditures and Income, Honolulu, Hawaii, 1961 (BLS Report No. 237-78, November 1963, advance report).

TABLE 7.4 INDIVIDUAL FEDERAL INCOME TAX RETURNS, 1916 TO 1974
 (These historical data are not precisely comparable among all years,
 due to changes in law, return forms, and methods of obtaining data.)

Year Earned	Number of Returns	Income ¹		Year Earned	Number of Returns	Income ¹	
		Total (\$1,000)	Per Return (dollars)			Total (\$1,000)	Per Return (dollars)
1916 ²	1,144	20,362	17,799	1947	206,054	585,771	2,843
1917 ²	3,131	21,889	6,991	1948 ²	182,227	586,944	3,221
1918	4,242	20,055	4,728	1949	182,803	540,858	2,959
1919	8,136	33,164	4,076	1950	179,871	583,616	3,245
1920	13,715	55,573	4,052	1951	189,836	653,248	3,441
1921	11,481	37,840	3,296	1952	198,799	662,698	3,334
1922	11,597	37,123	3,201	1953	200,739	705,874	3,516
1923	12,421	42,829	3,448	1954	196,816	719,347	3,655
1924 ²	12,387	46,395	3,745	1955	205,298	801,826	3,906
1925 ²	9,306	41,465	4,456	1956	207,901	835,360	4,018
1926	9,146	42,950	4,696	1957	212,520	897,985	4,225
1927	9,252	44,619	4,823	1958	215,402	896,695	4,163
1928	8,047	43,350	5,387	1959	225,050	1,051,888	4,674
1929	8,210	43,291	5,273	1960	233,723	1,195,047	5,113
1930	7,869	37,246	4,733	1961	238,993	1,333,816	5,581
1931	7,328	33,869	4,622	1962	243,805	1,328,945	5,451
1932 ²	12,192	37,277	3,057	1963	246,368	1,381,865	5,609
1933	10,835	34,358	3,171	1964	254,499	1,473,087	5,788
1934	11,252	37,516	3,334	1965	257,466	1,589,418	6,173
1935	13,262	46,902	3,537	1966	250,678	1,784,039	7,117
1936	15,214	58,738	3,861	1967	263,518	1,910,919	7,252
1937	17,394	64,825	3,727	1968	273,823	2,113,522	7,719
1938	19,048	62,684	3,291	1969	290,251	2,407,048	8,293
1939	22,873	73,190	3,200	1970 ²	302,426	2,802,445	9,267
1940 ²	42,952	110,279	2,567	1971	308,814	3,010,051	9,747
1941 ²	99,426	222,663	2,239	1972 ²	318,023	3,250,608	10,221
1942 ²	164,583	419,956	2,552	1973	345,211	3,749,212	10,861
1943	155,834	420,058	2,696	1974 ³	348,669	3,976,372	11,404
1944 ²	172,862	476,099	2,754				
1945	190,431	522,070	2,742				
1946	191,218	477,568	2,498				

TABLE 7.4 (cont.)

1. Net income, 1916-1943; adjusted gross income (less deficit), 1944 and later years.

2. Requirements for filing individual income tax returns were significantly modified. A return was required if net or gross income equaled or exceeded the amount specified, as follows:

Year	Single, or Married and Not Living with Spouse	Married Couple, Joint Return
1913-1916	Net, \$3,000	Net, \$3,000
1917-1923	Net, \$1,000	Net, \$2,000
1924	Net, \$1,000	Net, \$2,500
1925-1931	Net, \$1,500	Net, \$3,500
1932-1939	Net, \$1,000	Net, \$2,500
1940	Gross, \$800	Gross, \$2,000
1941	Gross, \$750	Gross, \$1,500
1942-1943	Gross, \$500	Gross, \$1,200
1944-1947	Gross, \$500	Gross, \$500 each spouse
1948-1969	Gross, \$600	Gross, \$600 each spouse
1970-1971	Gross, \$1,700	Gross, \$2,300
1972-1974	Gross, \$2,050	Gross, \$2,800

3. Preliminary.

Source: U.S. Department of the Treasury, Internal Revenue Service, Statistics of Income (annual); U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Part 2, p. 1093.

TABLE 7.5 INCOME DISTRIBUTION REPORTED ON INDIVIDUAL FEDERAL INCOME TAX RETURNS, 1919 TO 1974
 (By year in which income was earned. Not precisely comparable among all years, due to changes in law, return forms, and other factors.)

Income Classes ¹	1919	1924	1929	1933	1939	1943	1949
All returns	8,136	12,387	8,210	10,835	22,699	155,522	182,803
No adjusted gross income	--	--	--	--	--	--	--
Under \$1,000	--	631	614	1,335	1,092	22,815	26,170
\$1,000 under \$2,000	2,529	4,232	1,944	3,995	8,679	53,380	40,598
\$2,000 under \$3,000	2,530	3,214	1,595	2,387	5,327	34,555	54,707
\$3,000 under \$4,000	1,418	1,954	1,208	1,443	3,328	23,889	30,620
\$4,000 under \$5,000	721	1,000	936	496	1,824	12,266	11,607
\$5,000 under \$6,000	209	328	461	320	793	3,413	
\$6,000 under \$7,000	154	186	292	193	447	1,356	
\$7,000 under \$8,000	90	137	217	130	262	770	
\$8,000 under \$9,000	66	101	140	109	186	488	
\$9,000 under \$10,000	59	90	119	69	125	351	
\$10,000 under \$11,000	41	51	89	33	91	270	
\$11,000 under \$12,000	30	48	61	34	67	254	
\$12,000 under \$13,000	28	31	51	30	60	170	
\$13,000 under \$14,000	21	33	51	24	53	154	
\$14,000 under \$15,000	16	38	37	19	34	124	
\$15,000 under \$20,000	59	89	117	68	116	443	579
\$20,000 under \$25,000	40	55	79	33	78	229	348
\$25,000 under \$30,000	16	43	34	32	39	167	199
\$30,000 under \$50,000	51	61	86	43	55	259	196
\$50,000 under \$100,000	47	46	51	35	38	141	95
\$100,000 under \$200,000	8	15	25	7	4	25	22
\$200,000 under \$500,000	3	4	3		1	3	2
\$500,000 under \$1,000,000	--	--	--	--	--	--	1
\$1,000,000 or more	--	--	--	--	--	--	--
Median income (dollars)	2,608	2,414	2,970	2,037	2,296	2,045	2,450

TABLE 7.5 (cont.)

Income Class ¹	1954	1959	1964	1969	1970	1971	1972	1973	1974 ²
All returns	196,816	225,050	254,499	290,251	302,426	308,814	318,023	345,211	348,669
No adjusted gross income	--	536	1,108	9	--	--	--	--	...
Under \$1,000	26,908	26,210	34,769	40,027	38,320	31,778	24,757	29,035	...
\$1,000 under \$2,000	30,636	34,335	27,170	25,687	13,252	24,397	23,160	24,020	...
\$2,000 under \$3,000	38,699	34,047	26,474	27,398	25,056	12,655	26,774	20,076	...
\$3,000 under \$4,000	36,913	31,262	26,688	19,036	18,429	19,351	17,354	16,419	...
\$4,000 under \$5,000	23,466	22,094	21,766	17,030	18,179	19,173	24,551	17,419	...
\$5,000 under \$6,000		19,025	17,400	10,998	18,495	15,968	28,854	27,397	...
\$6,000 under \$7,000		14,059	18,804	18,094	20,993	4,810	12,360	12,360	...
\$7,000 under \$8,000	34,129	12,466	15,604	10,887	13,083	24,220	12,791	15,077	...
\$8,000 under \$9,000		8,059	11,985	10,431	11,342	14,900	19,461	19,299	...
\$9,000 under \$10,000		6,110	11,835	12,793	12,552	22,016	13,742	19,219	...
\$10,000 under \$11,000					14,355	10,824	9,767	10,713	...
\$11,000 under \$12,000					10,405	12,983	8,244	17,679	...
\$12,000 under \$13,000	4,002	11,803	29,965	52,871	12,112	13,433	11,218	11,753	...
\$13,000 under \$14,000					11,138	9,194	12,299	10,428	...
\$14,000 under \$15,000					8,086	10,335	14,345	10,929	...
\$15,000 under \$20,000					31,559	32,635	34,624	37,966	...
\$20,000 under \$25,000					13,173	16,697	17,344	21,455	...
\$25,000 under \$30,000					4,698	6,747	9,888	10,878	...
\$30,000 under \$50,000					5,411	4,654	6,341	9,817	...
\$50,000 under \$100,000					1,480	1,691	2,076	2,717	...
\$100,000 under \$200,000					254	286	350	440	...
\$200,000 under \$500,000					50	55	73	95	...
\$500,000 under \$1,000,000					4	12	5	15	...
\$1,000,000 or more					4	12	5	5	...
Median income (dollars)	3,059	3,556	4,507	6,273	6,928	8,138	8,040	8,560	...

TABLE 7.5 (cont.)

1. Net income classes, 1919-1939; net income classes for persons using Form 1040 and gross income classes for those using Form 1040A, 1943; adjusted gross income classes, 1949 and later. For income limits for persons required to file returns, see the preceding table, footnote 2.

2. Preliminary; distribution and median not available.

Source: U.S. Treasury Department, Internal Revenue Service, Statistics of Income (annual).

TABLE 7.6 TOP WEALTHHOLDERS, ESTIMATED FROM ESTATE TAX RETURNS, 1922 TO 1972

Year	All Estate Tax Returns ²			Taxable Returns ³		Top Wealthholders ⁴		
	Adult Deaths ¹	Number	Per 1,000 Adult Deaths	Gross Estate (\$1,000)	Number	Gross Estate (\$1,000)	Number	Net Worth (\$1,000,000)
1922	2,109	8	4	2,289	7	2,176	NA	NA
1925	2,074	19	9	7,460	13	7,049	NA	NA
1929	2,555	22	9	9,884	17	9,334	NA	NA
1933	2,410	16	7	3,190	NA	NA	NA	NA
1940	2,290	31	14	NA	28	5,192	NA	NA
1946	2,480	53	21	NA	47	10,253	NA	NA
1953	2,376	66	28	NA	48	10,677	3,600	NA
1958	2,555	91	36	NA	66	17,858	4,900	NA
1962	2,998	156	52	39,526	113	35,329	11,323	1,677
1969	3,700	319	86	63,608	209	NA	36,470	5,236
1972	4,022	511	127	121,353	340	45,541	53,700	6,497

1. Persons 20 years old or more. Armed forces excluded, 1953 and later years. Data refer to years ended June 30, 1922 to 1946, and calendar years thereafter.

2. Filed in the following year, to reflect the fact that most estate tax returns are filed in the year following death. Under the 1942 and subsequent acts, an estate tax return is required for the estate of a citizen or resident alien if the value of gross estate at date of death exceeds \$60,000, while under the 1935 act a return is required if the estate exceeds \$40,000, and under the 1934 act a return is required if the estate exceeds \$50,000. Under earlier acts, a return is required for the estate of a resident citizen and resident alien if the value thereof exceeds \$50,000 under the 1932 act, \$100,000 under the 1926 act, and \$50,000 under the 1924 or prior acts.

3. Filed in following year.

4. Persons with assets of \$60,000 or more, alive in the year specified, as estimated from estate tax returns filed the following year. No separate estimates were published for Hawaii for either 1953 or 1958; the values shown for those years assume that the ratio of estate tax returns to top wealthholders in Hawaii was identical to the corresponding ratio for the entire nation.

TABLE 7.6 (cont.)

Source: U.S. Treasury Department, Internal Revenue Service, Statistics of Income for 1922 (p. 73), 1925 (p. 80), 1929 (p. 52), 1933 (p. 56), 1940 (part 1, p. 220), 1946 (part 1, p. 374), and 1953 (part 1, p. 83); Statistics of Income 1958, Fiduciary, Gift, and Estate Tax Returns, p. 72; Statistics of Income 1963, Fiduciary, Gift, and Estate Tax Returns, p. 69, and Personal Wealth, pp. 55, 57, and 59; Statistics of Income 1969, Estate Tax Returns, p. 26, and Personal Wealth, p. 57; Statistics of Income 1972, Estate Tax Returns, pp. 29-30, and Personal Wealth Estimated from Estate Tax Returns, table 33; Hawaii State Department of Health, annual statistical reports and records.

TABLES IN SECTION 8

- 8.1 Social welfare costs, 1940 to 1976
- 8.2 Persons served and average payments for programs administered by the Hawaii State Department of Social Services and Housing, 1940 to 1976, monthly averages
- 8.3 Unemployment insurance, 1939 to 1976
- 8.4 Social Security recipients and benefits, 1940 to 1975
- 8.5 Hawaii State Employees' Retirement System, 1926 to 1976
- 8.6 Finances of the Honolulu United Welfare Fund, Honolulu Community Chest, Aloha United Fund, and Aloha United Way, 1919 to 1976

SECTION 8 Social Welfare

This section presents statistics on total costs, persons served, and average payments in social welfare programs administered by the Hawaii State Department of Social Services and Housing and its predecessor agencies; unemployment insurance coverage and benefits; social security recipients and benefits; the Hawaii State Employees' Retirement System membership, pensioners, and finances; and revenues and expenditures of the Honolulu United Welfare Fund, Community Chest, and Aloha United Way. Related statistics appear in section 4 (on unemployment and workmen's compensation), section 7 (family income), and section 15 (public housing).

The earliest social welfare organizations in Hawaii came into being during the middle third of the nineteenth century. One of the first was the Seamen's Bethel, established in Honolulu in 1833 under the sponsorship of the American Seamen's Friend Society of New York. The Stranger's Friend Society, said to be the "oldest charitable organization west of the Rocky Mountains," was founded in 1852, and remained active until 1974. Other early social agencies included the Young Men's Christian Association (1869), Medical Social Service Association (originally the Hospital Flower Society, 1890), Palama Settlement (1896), Young Women's Christian Association (1900), and Boy Scouts (1911). In 1899, fourteen private welfare agencies joined forces to create a coordinating body, the Associated Charities of Hawaii. This work is at present performed by the Health and Community Services Council of Hawaii, established in 1927 as the Honolulu Council of Social Agencies.

Joint annual appeals for contributions were first undertaken on a large scale in 1919 when a number of the private health and welfare organizations on Oahu combined efforts under the newly formed United Welfare Fund. The United Welfare Fund was succeeded in 1943 by the Honolulu Community Chest, and in 1966 by the Aloha United Fund.

Social welfare work, heretofore supported largely by private efforts, first became a major governmental responsibility during the depression of the 1930s. Prior to that time, territorial involvement was limited to administration of the Workmen's Compensation Act, enacted in 1915 to compensate employees for industrial accidents, and some of the programs of the Board of Health and Department of Public Instruction. In 1933, however, the government's role in public welfare was greatly expanded. One development was the creation of the

Governor's Committee on Conservation of Sight, which two years later became the Bureau of Sight Conservation and Work with the Blind, the first autonomous territorial casework organization supported solely by taxation. Also in 1933, the legislature passed the Hawaii Unemployment Relief Act, authorizing work projects to be funded by a special payroll and dividends tax. The same session empowered each county to establish an old age pension commission, later redesignated old age commission and board of child welfare. In 1935 the legislature further expanded territorial responsibilities for social welfare with passage of the Hawaii Unemployment Relief and Welfare Act, a reworking of the law first approved two years earlier. On June 1, 1937, the responsibilities of all three of the major agencies set up in the preceding years--the Old Age Pension Board, County Child Welfare Boards, and Territorial Relief and Welfare Commission--were transferred to the newly organized Board of Public Welfare. This Board became the forerunner of the Department of Social Security (1939-1941), Department of Public Welfare (1941-1959), Department of Social Services (1959-1970), and Department of Social Services and Housing (since 1970).

Many federal social welfare and insurance programs likewise had their beginnings in the 1930s. The Social Security Act of 1935 established a national system of old-age insurance (now old-age, survivors, disability, and health insurance, or OASDHI) and a federal-state system of unemployment insurance, and provided federal grants-in-aid to the states for public assistance, child health and welfare services, general public health services, and vocational rehabilitation services. These programs were put into operation in Hawaii at the same time as on the mainland.

Coverage of the federal programs was considerably expanded over the years. OASDHI originally covered employees in industry and commerce, and provided for monthly old-age benefits only, payable beginning in 1940. Amendments adopted in 1939 added benefits for dependents and survivors. Beginning in 1951, coverage was extended to regularly employed agricultural and domestic workers, to most urban self-employed persons, and on a group-voluntary basis to employees of nonprofit organizations and to employees of state and local governments not covered by separate retirement programs. Since July 1966, health insurance has been provided for nearly all persons 65 years old and over, through both a hospital insurance plan and a voluntary supplementary medical insurance plan.

The Employees' Retirement System of the Territory of Hawaii, authorized by an act of the 1925 legislature, came into existence on January 1, 1926.

Statistics regarding programs administered by the Department of Social Services and Housing and its predecessor agencies go back to July 1937 and cover total caseload, total costs, and average payments, by program. Data were published in annual reports of the Board of Public Welfare for 1937-1938, Department of Public Welfare for 1944-1959, and Department of Social Services thereafter, and also in various departmental statistical bulletins.

Statistics on unemployment insurance coverage and benefits extend back to 1939. These data have been compiled in an annual limited-distribution publication of the State Department of Labor and Industrial Relations, Unemployment Insurance Fact Book.

Data on OASDHI recipients and benefits are available on an annual basis back to 1940. Totals for states and territories are reported in Social Security Bulletin, a monthly publication of the U.S. Department of Health, Education, and Welfare, and its Annual Statistical Supplement (called Social Security Yearbook before 1949). These publications also contain data for states and territories on public assistance recipients and payments, old age assistance, unemployment insurance, and other federal social insurance and welfare programs.

Annual reports of the Employees' Retirement System of the State of Hawaii regularly include a table of historical data on membership, pensioners, assets, and benefits paid, from 1926 to the current year.

Statistics on private welfare agencies and their work are less readily available. Data for individual organizations can often be found in their annual reports and other literature, but systematic, comprehensive compilations of data covering all voluntary agencies have apparently been attempted only once, for a 1940 report, The Honolulu Plan. Perhaps the best available indexes of private welfare activity are the annual financial accounts of the Aloha United Way and its predecessor organizations, the Honolulu Community Chest and United Welfare Fund. These accounts, which can be traced back to 1919, provide annual data on the amounts subscribed in fund campaigns, allotments to member agencies, and total assets. The data have appeared in the organization's annual reports, brochures, and pamphlets.

Trend data for the nation as a whole can be found in Historical Statistics of the United States, Colonial Times to 1970, chapter H, series H1 to H411, and Statistical Abstract of the United States.

TABLE 8.1 SOCIAL WELFARE COSTS, 1940 TO 1976
(In thousands of dollars. For years ended June 30.)

Year Ended June 30	Total Cost	By Source of Funds		By Expenditure Category			
		Federal	State	Adminis- tration	Medical Payments ¹	Money Payments	Social Ser- vice Cost
1940	1,124	319	805	176	--	956	--
1941	1,401	426	975	208	--	1,193	--
1942	1,382	406	976	261	--	1,121	--
1943	1,350	359	991	331	--	1,019	--
1944	1,801	361	1,440	372	366	1,063	--
1945	2,058	368	1,690	392	540	1,126	--
1946	2,434	408	2,026	515	613	1,306	--
1947	3,738	693	3,045	730	920	2,088	--
1948	4,291	1,038	3,253	727	599	2,966	--
1949	5,228	1,532	3,696	791	452	3,985	--
1950	8,076	2,276	5,800	880	555	6,641	--
1951	9,425	2,911	6,514	954	699	7,772	--
1952	7,439	2,872	4,567	971	--	6,469	--
1953	7,189	3,164	4,025	946	--	6,243	--
1954	6,379	3,154	3,225	953	--	5,426	--
1955	7,638	3,518	4,120	974	--	6,664	--
1956	8,073	3,540	4,534	899	499	6,676	--
1957	7,909	3,604	4,306	981	420	6,508	--
1958	8,193	3,813	4,380	1,100	563	6,530	--
1959	8,578	3,992	4,586	1,143	581	6,854	--
1960	9,329	4,032	5,297	1,363	1,158	6,808	--
1961	9,489	4,090	5,398	1,339	1,277	6,873	--
1962	11,618	5,118	6,500	1,736	2,699	7,183	--
1963	12,697	5,897	6,800	1,667	3,100	7,931	--
1964	14,381	6,472	7,909	2,089	4,206	8,085	--
1965	14,673	6,404	8,269	2,146	4,356	8,171	--
1966	19,955	8,034	11,921	2,580	6,390	10,985	--
1967	23,704	10,869	12,835	2,642	7,396	13,666	--
1968	29,565	12,941	16,624	2,951	10,297	16,318	--
1969	35,706	15,167	20,539	3,272	12,948	19,486	--
1970	46,566	20,396	26,170	3,730	16,421	26,415	--
1971	67,645	27,769	39,876	5,483	23,926	38,236	--
1972	94,212	38,143	56,069	6,324	34,278	53,610	--
1973	107,237	43,107	64,130	6,757	35,542	64,180	758
1974	111,627	45,782	65,845	7,933	39,096	63,131	1,467
1975	121,643	47,163	74,479	8,262	41,158	70,622	1,601
1976	168,440	67,629	100,811	10,701	60,685	87,956	9,098

TABLE 8.1 (cont.)

1. Expenditures by the Department of Public Welfare or Department of Social Services and Housing. Beginning in 1944, the Department's program was limited to payment of hospital care, dental care and burial, and county departments were authorized to provide medical care. In 1952 responsibility for medical care was transferred to the Department of Health and the Department of Public Welfare participated in "Premium Payment Plan" for indigents only for hospital care in order to obtain federal funds. Effective January 1960, the Medical Care Program for Indigents and Medically Indigent was established under the Department of Social Services, and the Department of Health and County departments were no longer responsible.

Source: Hawaii State Department of Social Services and Housing, records.

TABLE 8.2 PERSONS SERVED AND AVERAGE PAYMENTS, FOR PROGRAMS ADMINISTERED BY THE HAWAII STATE DEPARTMENT OF SOCIAL SERVICES AND HOUSING, 1940 TO 1976, MONTHLY AVERAGES

Year Ended June 30	Major Programs ¹		Service Cases	Medical Payments		Average Payments ² (dollars)	
	Recipients	Individuals		Cases	Individuals	Per Case	Per Individual
1940	4,199	8,719	483	...	...	9.15
1941	4,749	9,895	810	...	...	10.11
1942	4,539	8,647	1,549	...	...	10.98
1943	3,686	6,315	1,507	...	...	13.76
1944	3,399	5,589	1,537	...	...	15.85
1945	3,227	5,205	1,764	...	...	18.04
1946	3,267	5,446	1,264	...	...	20.44
1947	3,951	6,905	1,351	...	...	25.41
1948	4,982	9,389	1,458	...	...	26.89
1949	6,354	12,963	1,722	...	...	26.09
1950	9,933	22,577	1,880	...	...	25.02
1951	11,357	24,732	1,901	...	...	26.88
1952	9,835	20,816	2,022	...	...	27.35
1953	9,230	19,201	1,790	...	...	27.88
1954	7,968	16,479	1,244	...	...	27.78
1955	9,087	19,526	985	...	...	28.68
1956	9,159	19,824	820	...	...	28.22
1957	8,123	17,416	921	...	...	31.43
1958	7,575	16,752	954	...	...	32.77
1959	7,187	15,925	936	...	...	36.22
1960	6,764	14,974	962	...	...	38.19
1961	6,537	14,661	967	...	...	39.48
1962	6,599	15,898	1,378	...	91.59	37.91	
1963	6,897	17,300	1,463	...	96.75	37.70	
1964	6,931	17,722	1,696	...	97.21	38.02	
1965	6,807	17,634	1,474	...	100.03	38.62	
1966	7,383	19,136	1,457	...	123.99	47.84	
1967	8,581	22,350	1,311	...	132.71	50.96	
1968	10,043	26,337	961	...	137.39	52.39	

TABLE 8.2 (cont.)

Year Ended June 30	Major Programs ¹		Service Cases	Medical Payments		Average Payments ² (dollars)	
	Recipients	Individuals		Cases	Individuals	Per Case	Per Individual
1969	11,013	28,845	926	2,492	2,700	147.86	56.45
1970	12,940	34,320	900	2,942	3,370	170.17	64.14
1971	16,467	44,897	743	4,073	4,496	198.20	72.69
1972	20,627	57,462	1,767	4,068	5,672	220.79	79.26
1973	24,400	66,535	7,833	3,040	4,612	227.11	82.30
1974	21,713	63,807	7,242	5,653	6,912	237.54	85.10
1975	20,850	59,911	7,777	8,212	8,963	275.20	95.77
1976	24,438	67,594	9,067	6,599	7,352	295.17	106.72

1. Old age assistance, aid to disabled, aid to families with dependent children, AFDC unemployed parents, AFDC foster care, child welfare foster care, and general assistance. Old age assistance, aid to the blind, and aid to disabled assisted through the Federal Social Security Administration with State supplements excluded beginning January 1, 1974.

2. Gross obligation basis.

Source: Hawaii State Department of Social Services and Housing, records.

TABLE 8.3 UNEMPLOYMENT INSURANCE, 1939 TO 1976

Calendar Year	Covered Employment		Insured Unemployment		Average Weekly Total Wages (dollars)	Gross Benefits (\$1,000)	Weekly Benefits		Average Benefit Duration ² (weeks)	Exhaustion Rate ³ (percent)
	Total	Percent of Total Employment	Total	Percent of Total Unemployment			Maximum (dollars)	Average (dollars)		
1939	73,309	...	...	...	18.65	287	15	8.55	...	...
1940	60,856	39	...	...	21.69	277	15	7.82	9.4	62.2
1941	79,276	46	...	...	27.29	160	20	6.79	8.3	51.3
1942	98,076	46	...	...	37.04	159	20	8.99	9.4	29.0
1943	78,981	36	...	...	40.87	28	20	14.61	5.2	3.2
1944	75,588	36	1	...	41.04	6	20	18.30	6.3	10.7
1945	77,149	37	5	...	43.15	6	25	18.81	3.3	2.1
1946	82,278	44	186	9	45.65	168	25	19.06	5.9	5.0
1947	93,599	50	496	17	50.81	463	25	16.70	9.3	15.1
1948	93,953	51	1,758	19	51.62	1,573	25	18.84	10.0	21.4
1949	90,547	52	4,330	20	50.12	4,342	25	20.01	13.5	31.4
1950	90,698	53	3,740	21	51.77	3,382	25	18.52	14.1	42.7
1951	96,022	52	2,586	31	54.52	1,822	25	16.55	11.6	18.0
1952	98,478	53	3,219	38	56.44	2,342	25	18.21	11.8	18.2
1953	101,013	54	3,710	39	57.40	2,868	25	18.87	11.2	19.2
1954	99,292	53	4,517	38	58.58	3,966	25	19.83	13.6	28.7
1955	102,787	54	3,494	35	59.96	3,039	35	21.67	11.9	23.4
1956	131,908	68	3,697	41	61.58	3,436	35	24.96	11.1	17.5
1957	137,155	69	3,110	40	65.38	3,127	35	25.68	11.2	15.6
1958	139,781	69	3,768	53	69.19	3,995	35	27.36	12.8	18.7
1959	161,468	75	3,437	50	73.60	4,392	45	27.84	11.6	6.9
1960	199,571	88	3,945	56	77.71	5,193	45	29.58	11.8	8.9
1961	199,352	86	6,474	65	80.94	9,924	55	33.48	13.6	16.9
1962	206,203	88	7,219	62	83.60	12,599	55	36.87	13.8	22.9
1963	210,081	88	7,445	62	86.40	12,722	55	37.41	13.8	18.6
1964	217,216	88	5,606	56	91.25	10,389	55	37.88	13.7	21.0
1965	228,913	88	5,277	57	95.27	9,670	55	38.88	13.6	20.7

TABLE 8.3 (cont.)

Calendar Year	Covered Employment		Insured Unemployment		Average Weekly Total Wages (dollars)	Gross Benefits (\$1,000)	Weekly Benefits		Average Benefit Duration (weeks)	Exhaustion Rate ³ (percent)
	Total	Percent of Total Employment	Total	Percent of Total Unemployment			Maximum (dollars)	Average (dollars)		
1966	241,752	89	4,823	53	100.21	9,685	62	42.93	12.1	15.9
1967	251,618	89	5,964	58	104.10	13,330	66	48.35	14.8	21.7
1968	264,602	89	4,642	52	112.83	10,139	68	47.63	13.7	20.0
1969	284,704	90	4,387	50	123.02	10,435	72	50.90	13.5	18.9
1970	302,388	91	7,369	52	131.87	20,655	79	58.15	15.0	21.3
1971	309,901	91	12,315	60	135.38	35,390	86	63.38	18.3	33.8
1972	321,751	92	14,485	59	141.92	37,865	90	65.57	19.9	41.7
1973	335,615	92	12,107	50	151.17	37,014	93	67.57	16.0	30.2
1974	342,615	92	13,900	51	162.25	45,208	98	71.86	16.2	35.3
1975	...	...	18,779	...	...	58,942	104	76.34	16.4	34.1
1976	...	...	...	...	...	...	112	...	...	...

1. Regular benefits only. Extended benefits amounted to \$773,000 in 1971, \$7,387,000 in 1972, \$21,000 in 1973, \$170 in 1974, and \$11,831,000 in 1975.

2. Regular benefits only. Extended benefits averaged 5.7 weeks in 1971, 11.0 weeks in 1972, 4.0 weeks in 1973, and 10.4 weeks in 1975.

3. Regular benefits only.
Source: Hawaii State Department of Labor and Industrial Relations, Unemployment Insurance Fact Book (1976), and records.

TABLE 8.4 SOCIAL SECURITY RECIPIENTS AND BENEFITS, 1940 TO 1975

Year	Number of Recipients at End of Year	Monthly Amount Payable at End of Year		Total Amount Paid During Year ¹ (dollars)
		Total (dollars)	Per Recipient (dollars)	
1940	621	9,000	14.49	73,000
1941	1,393	21,000	15.08	218,000
1942	1,906	30,000	15.74	357,000
1943	2,700	43,000	15.93	438,000
1944	3,400	53,000	15.59	539,000
1945	3,731	61,000	16.35	614,000
1946	4,507	76,000	16.86	787,000
1947	4,904	85,000	17.33	1,054,000
1948	5,686	101,000	17.76	1,244,000
1949	6,726	124,000	18.44	1,514,000
1950	8,322	270,000	32.44	2,318,000
1951	10,400	323,000	31.06	4,053,000
1952	11,900	428,000	35.97	4,747,000
1953	13,800	525,000	38.04	6,192,000
1954	15,768	702,000	44.52	7,522,000
1955	17,978	833,000	46.33	10,110,000
1956	19,748	941,000	47.65	11,356,000
1957	23,382	1,159,000	49.57	14,145,000
1958	26,042	1,452,000	55.76	16,434,000
1959	28,073	1,591,000	56.67	19,467,000
1960	30,415	1,771,000	58.23	21,127,000
1961	34,533	2,084,000	60.35	24,555,000
1962	37,804	2,325,000	61.50	28,345,000
1963	40,719	2,557,000	62.80	30,814,000
1964	43,068	2,751,000	63.88	33,250,000
1965	46,861	3,254,000	69.44	38,751,000
1966	53,392	3,647,000	68.31	43,906,000
1967	57,254	4,584,000	80.06	48,368,000
1968	59,815	4,826,000	80.68	57,879,000
1969	62,824	5,182,000	82.48	63,893,000
1970	66,488	6,437,000	96.81	77,593,000
1971	70,912	7,666,000	108.11	92,440,000
1972	76,413	10,141,000	132.71	107,125,000
1973	82,224	11,202,000	136.24	134,198,000
1974	87,141	13,433,000	154.15	155,178,000
1975	91,731	15,629,000	170.38	181,775,000

TABLE 8.4 (cont.)

1. Includes also retroactive benefits and lump-sum death payments.
Source: U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics, Division of OASDI Statistics, records.

TABLE 8.5 HAWAII STATE EMPLOYEES' RETIREMENT SYSTEM, 1926 TO 1976

Year	Member- ship, June 30 ¹	Pension- ers, June 30 ¹	Assets, June 30 (\$1,000)	Benefits Paid ²		Admin- istration Expenses (\$1,000)
				Total (\$1,000)	Per Pen- sioner (dollars)	
1926 ³	2,028	84	125	42	495	17
1927	2,682	101	482	105	1,042	15
1928	3,385	115	1,070	139	1,211	22
1929	3,963	132	1,831	177	1,342	23
1930	4,524	174	2,666	185	1,064	23
1931	4,778	184	3,668	243	1,323	21
1932	5,049	227	4,606	295	1,298	23
1933	4,957	245	5,171	410	1,672	19
1934	4,955	255	5,599	364	1,426	18
1935	5,152	214	6,063	365	1,706	18
1936	5,929	214	6,812	316	1,477	20
1937	6,444	233	7,630	338	1,449	20
1938	7,308	249	8,643	341	1,371	31
1939	7,824	265	9,728	380	1,435	26
1940	8,352	274	10,958	395	1,443	28
1941	9,059	290	12,380	476	1,641	28
1942	10,392	299	13,742	473	1,583	32
1943	10,988	305	15,630	578	1,894	39
1944	11,904	342	18,819	545	1,594	48
1945	12,662	379	21,338	844	2,228	56
1946	15,410	474	26,762	952	2,009	95
1947	16,362	539	30,598	1,193	2,214	99
1948	15,983	649	38,314	1,530	2,357	115
1949	15,940	756	43,122	1,461	1,932	113
1950	16,120	824	52,549	1,460	1,772	108
1951	16,540	926	56,789	1,620	1,749	109
1952	17,308	1,008	65,722	1,841	1,826	111
1953	17,665	1,082	71,046	1,926	1,780	106
1954	18,012	1,203	82,456	2,319	1,928	115
1955	18,708	1,260	89,662	2,449	1,943	113
1956	19,380	1,358	102,459	2,750	2,025	112
1957	20,400	1,484	108,996	3,413	2,300	121
1958	21,973	1,624	120,558	3,482	2,144	133
1959	22,617	1,806	128,183	3,828	2,119	143
1960	24,092	1,971	141,162	4,071	2,066	176
1961	25,314	2,229	154,055	4,589	2,059	177
1962	26,440	2,469	173,386	5,209	2,110	192
1963	27,203	2,699	192,764	6,289	2,330	201
1964	27,901	2,987	209,390	7,556	2,530	219
1965	28,694	3,297	230,906	8,216	2,492	201
1966	31,492	3,611	257,504	10,323	2,859	219
1967	33,764	4,176	282,388	13,287	3,182	245
1968	35,370	4,625	316,038	15,257	3,299	253
1969	36,445	5,169	351,771	22,651	4,382	294
1970	38,912	5,641	388,561	22,822	4,046	337

TABLE 8.5 (cont.)

Year	Member- ship, June 30 ¹	Pension- ers, June 30 ¹	Assets, June 30 (\$1,000)	Benefits Paid ²		Admin- istration Expenses (\$1,000)
				Total (\$1,000)	Per Pen- sioner (dollars)	
1971	42,262	6,069	435,464	25,665	4,229	419
1972	43,736	6,667	489,437	31,359	4,704	479
1973	44,471	7,343	545,465	37,602	5,121	426
1974	43,371	7,971	611,676	41,130	5,160	488
1975	44,363	8,600	683,305	46,782	5,440	564
1976	45,256	9,263	773,878	53,626	5,789	632

1. March 31, 1963 and thereafter.

2. Excludes Pensioners' Bonus and Social Security.

3. Earliest year available. The Employees' Retirement System of the Territory of Hawaii began operating on July 1, 1926, under the provisions of Act 55, S.L.H. 1925.

Source: Employees' Retirement System of the State of Hawaii, 50th Annual Report, June 30, 1975 (Publication No. 47), p. 17, and records.

TABLE 8.6 FINANCES OF THE HONOLULU UNITED WELFARE FUND, HONOLULU COMMUNITY CHEST, ALOHA UNITED FUND, AND ALOHA UNITED WAY, 1919 TO 1976
(In dollars)

Year	Campaign Contributions ¹	Total Expenditures	Allocation to Agencies
1919 ²	186,000	185,676	180,000
1920	314,000	288,850	281,350
1921	369,000	369,563	358,477
1922	287,000	284,358	272,143
1923	366,000	377,493	366,048
1924	420,000	413,540	401,400
1925	428,000	425,707	406,660
1926	415,000	395,065	375,635
1927	421,000	412,590	392,960
1928	463,000	443,151	423,748
1929	456,000	440,185	420,300
1930	453,000	442,645	422,640
1931	462,000	455,457	434,310
1932	544,000	507,792	491,092
1933	505,000	492,500	473,911
1934	481,000	475,450	457,389
1935	502,000	490,500	469,280
1936	501,000	489,630	465,750
1937	535,000	501,920	474,920
1938	539,000	488,000	461,500
1939	535,000	492,500	463,200
1940	521,000	489,500	460,200
1941	522,000	492,500	459,200
1942	613,000	566,500	530,000
1943 ³	800,000	585,000	550,500
1944	1,043,000	915,550	872,050
1945	997,000	964,370	915,500
1946	833,000	947,095	901,995
1947	716,000	794,344	747,244
1948	759,000	808,851	759,935
1949	767,000	803,596	742,562
1950	709,000	716,846	652,106
1951	803,000	791,504	718,513
1952	848,000	849,674	781,223
1953	810,000	895,786	823,613
1954	898,000	977,092	905,055
1955	941,000	945,759	862,579
1956	1,028,000	1,019,427	934,792
1957	1,048,000	1,057,997	970,325
1958	1,133,000	1,110,806	1,010,209
1959	1,139,000	1,249,969	1,148,626
1960	1,114,000	NA	NA
1961	1,262,000	NA	NA
1962	1,271,000	1,462,590	1,316,980
1963	1,301,000	1,382,882	1,259,040

TABLE 8.6 (cont.)

Year	Campaign Contributions ¹	Total Expenditures	Allocation to Agencies
1964	1,377,000	NA	NA
1965	1,430,000	1,567,869	1,425,404
1966 ⁴	2,232,000	1,998,678	1,821,890
1967	3,557,000	3,101,230	2,880,984
1968	3,825,000	3,499,445	3,266,414
1969	4,026,547	3,892,922	3,605,892
1970	4,485,497	4,277,561	3,963,195
1971	4,862,764	4,615,511	4,265,374
1972	5,007,610	4,682,606	4,308,488
1973	5,076,325	4,811,235	4,412,466
1974 ⁵	5,528,287	5,184,731	4,774,390
1975	5,518,832	5,827,974	5,138,244
1976	6,052,054	6,184,064	5,576,158

1. From campaign usually conducted during the preceding year.

2. The first Honolulu United Welfare Campaign was conducted in March 1919 to raise funds for the current year. Funds for 1920 were raised in a second campaign held September 1919.

3. On February 4, 1943, the United Welfare Fund was renamed the Honolulu Community Chest.

4. The Aloha United Fund was granted corporate status March 10, 1966, as the successor to the Honolulu Community Chest.

5. In 1974 the Aloha United Fund was renamed the Aloha United Way.

Source: Aloha United Fund, 50 Years of United Giving in Honolulu (pamphlet, ca. 1969); Aloha United Way, Annual Report and records.

TABLES IN SECTION 9

- 9.1 Protestant mission schools, teachers, and enrollment, 1820 to 1849
- 9.2 Common, select, and independent schools, teachers, and enrollment, 1846 to 1897
- 9.3 Public and private schools, teachers, and enrollment, 1898-1899 to 1939-1940
- 9.4 Public and private schools, teachers, membership, and graduates, 1940-1941 to 1976-1977
- 9.5 Expenditures, average salaries, and days of school, for public elementary and secondary education, 1849 to 1976
- 9.6 Daytime enrollment and degrees conferred at the University of Hawaii, 1908-1909 to 1976-1977
- 9.7 Fall enrollment in credit courses and earned degrees conferred, for private colleges, 1955-1956 to 1976-1977
- 9.8 School attendance or enrollment, by age, 1890 to 1970
- 9.9 Years of school completed by persons twenty-five years old and over, 1940 to 1970
- 9.10 Median years of school completed by persons twenty-five years old and over, by age and sex, 1940 to 1970
- 9.11 Illiteracy, 1853 to 1970
- 9.12 The Hawaii State and University of Hawaii library systems, 1910 to 1976

SECTION 9

Education

This section contains statistics on elementary and secondary schools, teachers, enrollment, and graduates, separately for public and private school systems; expenditures for public elementary and secondary education; daytime enrollment and earned degrees awarded at colleges and universities; the number and percent of persons enrolled in school, by age groups; the number of years of school completed by persons twenty-five years old and over; illiteracy; and the Hawaii State Library and University of Hawaii Library systems.

Statistics on elementary and secondary schools, teachers, and enrollment go back as far as 1820 when the newly arrived New England Protestant missionaries introduced American-style classroom instruction to the islands. Data on the mission schools appeared in The Missionary Herald (a monthly journal published in Boston), Extracts from the Minutes of the Sandwich Islands Mission, and occasionally, The Polynesian and other sources. Schools were first established by the Roman Catholic missionaries in the 1840s, but statistics on these schools were limited to those in later government reports.

Official publication of educational statistics commenced in 1846 with publication of the first annual report of the Minister of Public Instruction. Public education was instituted by the act of October 15, 1840, which provided for the establishment of schools and required all children from four to fourteen years of age to attend them. The Department of Public Instruction was created by legislation enacted in 1845 and 1846. This department and its successor agencies, the Bureau of Public Instruction and Department of Education, has routinely compiled and published detailed statistics on both public and private elementary schools, from 1846 to the present time. These data have appeared in the Report of the Minister of Public Instruction, Report of the President of the Board of Education, Report of the Governor of Hawaii (during the territorial era), Report of the Department of Public Instruction, and various statistical reports of the Department of Education.

The interpretation of nineteenth century educational statistics is sometimes made difficult by the lack of a clear distinction between public and private school systems. Initially, all public schools were classified as either Protestant or Catholic, depending on their sponsorship and student body. Later reports classified schools as "common" (usually elementary subjects taught, tuition-free, in the Hawaiian language) and "select" (involving more

advanced courses, instruction in English, and tuition charges). The select schools included both government English and independent (private) schools. Many in the latter group received governmental subsidies until 1888 when government support of such schools was abolished and government English schools were made tuition-free.

Enrollment totals have been affected to some degree by changes in compulsory enrollment ages. Established initially as four to fourteen years, these were set at six to sixteen in 1859, six to fifteen in 1865, six to fourteen in 1923, six to sixteen in 1937, and six to eighteen in 1965.

Secondary education during the monarchy was limited and left largely to government-subsidized private schools. Lahainaluna School, established by the missionaries in 1831 and transferred to government control in 1849, was described as a high school but in reality served as a normal and trade school with most of its course work at the elementary level. Secondary students attended Punahou (opened 1842) and other private institutions. The first real public high school in the islands was Honolulu High School, which was organized in 1895 when the upper grades of Fort Street School were moved into the former Princess Ruth Keelikolani palace.

Higher education was largely a twentieth century development. Punahou School was for a time known as Oahu College and offered two years of collegiate courses during the late 1850s and early 1860s; until 1900, its curriculum included a fifth-year (post-secondary) program, but this was actually at the secondary level. The Territorial Normal School (1896-1931) did not add a two-year college-level diploma program until 1911. Full-scale higher education had to wait for the College of Agriculture and Mechanical Arts, founded in 1907 and renamed the College of Hawaii in 1911 and University of Hawaii in 1920. In 1947 the university initiated a two-year program in Hilo, eventually expanded to a four-year institution known as Hilo College. The state community college system, with two-year campuses in Honolulu, Pearl City, Kaneohe, and on three neighbor islands, dates from 1965. Private colleges include Jackson College (1949-1965), United States International University, Maunaolu Campus (founded in 1950 as Maunaolu Community College; closed in 1975), Honolulu Christian College (opened in 1953; merged with Hawaii-Pacific College in 1966), Chaminade College of Honolulu (opened in 1955 as St. Louis Junior College), Brigham Young University, Hawaii Campus (opened in 1955 as the Church College of Hawaii), Hawaii-Pacific College (opened in 1965), and Hawaii Loa College (opened in 1967). Statistics on higher education have appeared in scattered sources, with

the major consolidated listing being the one published annually in The State of Hawaii Data Book.

Data on the percentage of the population by age group enrolled in school have been compiled in every census since 1910. The 1890 and 1896 enumerations of the Hawaiian government contained questions on school attendance but no breakdowns by age. Reports of the decennial U.S. census, first conducted in Hawaii in 1900, have contained enrollment statistics in varying degrees of detail, with age cross-tabulated by sex, race, and geographic area.

Since 1940, the decennial censuses have included a question on years of school completed by the adult population. Tabulated by age, these data provide insight into educational attainment levels long before 1940. Males seventy-five years old and over in 1950, and thus born before 1875, for example, reported a median of only 3.0 years of schooling. Many of these older persons were, however, immigrants who had grown up abroad.

Statistics on illiteracy, variously defined, go back more than a century. In 1853, for instance, the minister of public instruction estimated that three-fourths of all Hawaii residents sixteen years old and over could read. The Hawaiian censuses of 1884, 1890, and 1896 contained a question, addressed to persons six years old and over, on ability to read and write (although literacy in Chinese or Japanese did not count until 1896). In similar fashion, persons fifteen years old or more were asked in the 1900-1930 U.S. censuses about their ability to read and write. Since 1930, state estimates of illiteracy have been derived from national samples and state data on educational attainment by age.

Statistics on library collections and circulation are available for both the Hawaii State Library and University of Hawaii Library systems. Early nongovernmental library organizations included the Atheneum Society (1850) and the Honolulu Circulating Library Association (1853). The Honolulu Library and Reading-Room Association was formed in 1879 and listed holdings of 2,976 volumes in 1884, and 4,730 in 1886. This collection was later donated to the Hawaiian Historical Society (1892) and Library of Hawaii (1913). The latter organization, the first free public library in the islands, was created by the 1907 territorial legislature and opened in 1913. Soon thereafter, public libraries were established on the neighbor islands. The University of Hawaii Library dates back to the early days of the College of Agriculture and Mechanical Arts. Statistics on the state system have been published in the annual reports

of the Library of Hawaii and, in more recent times, in reports of the Hawaii State Department of Education, Division of Library Services. Data for both systems have appeared since 1962 in publications of the Hawaii State Department of Planning and Economic Development, notably in the Statistical Report series on "Statistics of Cultural Activities in Hawaii" and The State of Hawaii Data Book.

Nationwide data on education have been published in Historical Statistics of the United States, chapter H, series H412-H787.

TABLE 9.1 PROTESTANT MISSION SCHOOLS, TEACHERS, AND ENROLLMENT, 1820 TO 1849

Year	Schools	Teachers	Scholars ¹	Readers
1820, Sept. 14 ²	1	NA	40	NA
1821, May 23 ²	1	NA	30	NA
1822, Feb. 1	NA	NA	65	NA
1824, Sept. 17	NA	50	1,600	NA
1825, Date unspec.	NA	50	2,000-3,000	NA
1826, Date unspec.	NA	NA	20,000	12,000+
1827, Jan.	NA	NA	25,000+	NA
1828, July-Aug.	NA	500+	34,395	17,000
1830, Feb. 20	674+	NA	39,208+	20,000
Date unspec.	NA	NA	41,283	NA
1831, Date unspec.	908	900+	44,895	20,989
Dec.	1,103	NA	52,882	NA
1832, June	NA	NA	NA	23,127
1833, June	NA	NA	NA	20,184
1834, June ³	NA	NA	NA	10,608+
1838, June ⁴	NA	NA	8,100-9,100	NA
1839, June	200	NA	14,000	NA
1840, May	NA	NA	15,000	11,000
1841, May	357	505	18,034	5,514
1842, May	305	438	15,228	5,526
1843, (May?) ³	202	246	8,827	3,926
1844, May ³	346	294	12,678	6,569
1846, (July?)	NA	NA	15,393	NA
1847, (April?)	495	495	16,528	NA
1848, May	341+	262+	16,387+	NA
1849, April	393+	NA	12,009+	NA

1. In some years referred to as "learners."

2. Data limited to Oahu. There were "similar incipient efforts at Owhyhee and Atooi."

3. Apparently underreported to a significant degree.

4. Data on "pupils" apparently refer in reality to "readers."

Source: The Missionary Herald for Aug. 1821, Feb. 1822, Jan. 1823, May 1825, Jan. 1826, Jan. 1827, Jan. 1828, Jan. 1830, Oct. 1830, Jan. 1831, Jan. 1832, Jan. 1833, Jan. 1840, Jan. 1841, and April 1841;

Extracts from the Minutes of the General Meeting of the Sandwich Islands Mission for 1832, 1833, 1834, 1841, 1844, 1848, and 1849; The Polynesian for Sept. 4, 1841 and Dec. 28, 1844; Report of the Minister of Public Instruction for August 1, 1846 and April 28, 1848.

TABLE 9.2 COMMON, SELECT, AND INDEPENDENT SCHOOLS, TEACHERS, AND ENROLLMENT, 1846 TO 1897

Year	Schools		Teachers		Enrollment	
	Common ¹	Select ² Independent	Common ¹	Select ² Independent	Common ¹	Select ² Independent
1846 ³	...	...	...	...	...	...
1847 ³	...	...	625	...	18,793	...
1848 ³	527	...	...	...	19,028	...
1849	540	...	...	...	15,620	...
1850	543	...	...	...	15,308	...
1851	535	...	...	...	15,482	...
1852	440	...	...	...	13,948	...
1853	423	...	...	...	12,205	...
1854	412	15	...	...	11,782	650
1855	363	...	...	...	10,076	...
1856	332	20	...	...	8,671	1,148
1857	312	15	...	...	8,460	911
1858	293	16	...	...	8,628	...
1859	285	16	290	...	8,628	1,154
1860	269	...	...	...	8,771	...
1861	266	...	...	...	8,565	...
1862	241	14	...	...	7,868	682
1863	245	13	...	...	7,912	665
1864	...	...	...	...	8,297	...
1866	226	...	...	...	7,367	...
1868, Jan.	219	...	...	...	6,218	1,880
1869, Dec.	224	...	...	...	5,938	1,989
1871, Dec.	...	...	...	...	6,274	1,358
1872, Mar.	202	25	...	...	...	...
1874, Mar.	196	27	...	...	5,522	1,616
1876, Mar.	180	...	...	...	4,799	561
1878, Mar.	169	11	...	...	4,313	943
1880, Jan.	150	14	...	...	4,078	1,295

TABLE 9.2 (cont.)

Year	Schools			Teachers			Enrollment		
	Common ¹	Select ²	Independent	Common ¹	Select ²	Independent	Common ¹	Select ²	Independent
	1882, Jan.	134	26	41	144	74	96	3,528	2,389	2,129
1884, Jan.	114	44	42	119	100	106	2,841	3,489	2,393
1886, Jan.	77	54	41	77	121	102	2,018	4,414	2,584
1888, Mar.	63	69	47	64	146	55	1,370	4,772	2,628
1890, (Mar.?)	36	94	48	37	195	136	768	6,575	2,663
1892, (Mar.?)	28	99	41	29	221	142	552	7,148	3,012
1894, (Mar.?)	18	107	51	18	229	158	320	7,732	3,255
1895, (Dec.?)	3	122	62	3	254	169	59	9,093	3,464
1896, (Dec.?)	...	...	...	...	...	...	...	14,997	...
1897, (Dec.?)	1	131	60	1	297	209	26	10,542	3,954

1. Referred to as "free schools," 1848-1854; "government schools," 1855; "free national schools," 1856 and 1857; "common schools," 1860-1894; and as "schools taught in Hawaiian," 1895-1897.
 2. Referred to as "select schools," 1854; "English schools," 1862 and 1863; "other government and subsidized," 1872-1874; "select schools," 1878-1884; and as "schools taught in English," 1886-1897.
 3. Prior to 1848, schools were classified as "Protestant" or "Catholic," with the following totals:

	Schools and Teachers, 1847	Learners, 1846	Learners, 1847
Protestant	495	15,393	16,528
Catholic	129	3,400	3,116

Source: Report of the Minister of Public Instruction for 1846-1855 and 1897; Report of the President of the Board of Education for 1856-1896.

TABLE 9.3 PUBLIC AND PRIVATE SCHOOLS, TEACHERS, AND ENROLLMENT, 1898-1899 TO 1939-1940

School Year ¹	Schools		Teachers ²		Enrollment		
	Public	Private	Public	Private	Total	Public	Private
1898-1899	NA	NA	NA	NA	14,997	10,965	4,032
1899-1900	141	48	344	200	15,490	11,436	4,054
1900-1901	140	55	352	207	15,537	11,501	4,036
1901-1902	143	54	380	229	17,518	13,189	4,329
1902-1903	144	59	386	247	18,415	13,793	4,622
1903-1904	147	60	399	247	19,299	14,467	4,832
1904-1905	154	60	414	273	20,406	15,202	5,204
1905-1906	151	NA	435	261	21,358	16,119	5,239
1906-1907	153	58	441	262	22,458	17,138	5,320
1907-1908	154	51	476	218	23,445	18,564	4,881
1908-1909	153	56	493	269	24,889	19,507	5,382
1909-1910	152	55	486	266	25,537	19,909	5,628
1910-1911	155	51	523	276	26,122	20,597	5,525
1911-1912	156	51	591	300	29,909	23,752	6,157
1912-1913	161	51	674	312	32,938	25,631	7,307
1913-1914	168	51	713	307	33,288	26,990	6,298
1914-1915	170	46	735	314	36,529	28,827	7,702
1915-1916	171	52	804	324	37,946	30,205	7,741
1916-1917	168	51	855	316	39,028	32,282	6,746
1917-1918	168	57	967	330	41,644	34,343	7,301
1918-1919	168	61	1,063	370	43,271	36,102	7,169
1919-1920	173	59	1,161	384	45,701	38,295	7,406
1920-1921	174	59	1,362	402	48,724	41,151	7,573
1921-1922	173	63	1,431	436	52,461	44,393	8,068
1922-1923	175	60	1,525	420	57,200	48,730	8,470
1923-1924	176	64	1,620	471	61,114	51,557	9,557
1924-1925	175	65	1,719	462	64,916	55,044	9,872
1925-1926	182	63	1,977	400	68,511	58,860	9,651
1926-1927	187	63	2,145	478	72,524	62,208	10,316
1927-1928	185	65	2,298	440	75,931	66,434	9,497
1928-1929	187	62	2,485	514	81,307	70,232	11,075
1929-1930	181	69	2,563	581	85,015	73,180	11,835
1930-1931	183	70	2,656	599	88,708	76,530	12,178
1931-1932	181	74	2,686	598	91,280	78,663	12,617
1932-1933	184	79	2,636	580	92,750	80,161	12,589
1933-1934	185	81	2,539	550	93,052	81,240	11,812
1934-1935	184	80	2,674	595	96,449	83,319	13,130
1935-1936	184	86	2,847	586	99,447	85,006	14,441
1936-1937	186	90	2,977	636	101,332	86,386	14,946
1937-1938	187	95	3,129	716	105,329	89,479	15,850
1938-1939	188	110	3,271	764	109,422	91,992	17,430
1939-1940	188	103	3,225	786	110,029	92,469	17,560

TABLE 9.3 (cont.)

1. Public school data as of December 1899-1901, June 1903, December 1903 and 1904, June 1906-1937, and December 1937-1940. Private school data as of December 1899-1901, June 1903, December 1903 and 1904, June 1906 and perhaps 1907, December 1907-1910, June 1912-1914, December 1914 and 1915, June 1917-1921, and December 1921-1939.

2. Data for 1937-1938 to 1939-1940 include secretaries and clerks.

Source: Report of the Minister of Public Instruction, 1899; Report of the Governor of Hawaii for 1901-1940; Hawaii State Department of Education, records.

TABLE 9.4 PUBLIC AND PRIVATE SCHOOLS, TEACHERS, MEMBERSHIP, AND GRADUATES, 1940-1941 TO 1976-1977

School Year ¹	Schools		Teachers ²		Membership			High School Graduates	
	Public	Private	Public	Private	Total	Public	Private	Public	Private
1940-1941	189	127	3,394	833	112,260	92,424	19,836	NA	NA
1941-1942	188	115	3,275	851	110,933	91,121	19,812	NA	NA
1942-1943	186	86	3,236	654	99,773	82,548	17,225	NA	NA
1943-1944	188	86	3,199	760	100,401	80,946	19,455	NA	NA
1944-1945	184	NA	NA	NA	NA	81,461	NA	NA	NA
1945-1946	184	70	3,367	695	98,962	81,306	17,656	NA	NA
1946-1947	185	83	3,539	709	104,764	82,874	21,890	NA	NA
1947-1948	187	104	3,508	1,028	108,248	84,923	23,325	NA	NA
1948-1949	187	109	3,583	1,190	111,595	86,835	24,760	NA	NA
1949-1950	189	109	3,122	1,162	114,986	90,786	24,200	NA	1,072
1950-1951	189	108	3,258	1,229	118,099	93,903	24,196	5,585	1,095
1951-1952	194	125	3,338	1,235	121,821	96,837	24,984	5,008	1,179
1952-1953	197	116	3,485	1,046	127,241	101,377	25,864	4,903	1,203
1953-1954	193	114	3,594	1,254	132,361	106,464	25,897	4,849	1,255
1954-1955	199	105	3,780	1,183	139,162	113,544	25,618	4,617	1,327
1955-1956	200	104	4,067	1,038	145,794	119,054	26,740	5,233	1,345
1956-1957	204	103	4,260	1,058	152,444	124,857	27,587	5,392	1,390
1957-1958	202	99	4,453	1,055	157,571	130,158	27,413	5,376	1,472
1958-1959	208	92	4,603	1,101	163,787	135,088	28,699	5,659	1,512
1959-1960	207	96	4,731	1,139	169,925	140,666	29,259	6,288	1,611
1960-1961	209	96	4,850	1,151	175,172	145,134	30,038	7,267	1,731
1961-1962	215	92	5,013	1,213	180,006	149,554	30,452	7,797	1,785
1962-1963	216	99	5,179	1,227	184,231	153,298	30,933	7,763	1,748
1963-1964	219	95	5,060	1,205	187,825	156,651	31,174	8,327	1,866
1964-1965	214	98	5,368	1,481	193,047	160,681	32,366	9,239	1,976
1965-1966 ³	209	99	5,846	1,477	194,595	162,164	32,431	9,009	2,048
1966-1967	210	112	6,394	1,492	200,242	166,375	33,867	9,540	2,175
1967-1968	215	114	6,624	1,594	203,734	169,673	34,061	9,430	2,133
1968-1969	217	116	7,098	1,547	207,231	173,718	33,513	9,800	2,173
1969-1970	216	123	7,300	1,551	211,215	178,564	32,651	10,377	2,209

TABLE 9.4 (cont.)

School Year ¹	Schools		Teachers ²		Membership			High School Graduates	
	Public	Private	Public	Private	Total	Public	Private	Public	Private
1970-1971	216	117	7,948	1,698	213,165	180,770	32,395	10,471	2,178
1971-1972	219	112	8,113	1,715	215,524	182,957	32,567	11,185	2,119
1972-1973	222	119	8,187	1,797	214,360	181,587	32,773	11,147	2,174
1973-1974	225	120	7,780	1,948	212,012	178,307	33,705	11,464	2,148
1974-1975	225	120	7,711	1,932	211,702	176,844	34,858	11,283	2,262
1975-1976	225	119	7,860	1,981	212,171	176,232	35,939	11,080	2,195
1976-1977	227	126	7,914	2,107	210,841	174,943	35,898	NA	NA

1. December data unless otherwise specified.

2. Data for 1940-1941 to 1948-1949 include secretaries and clerks.

3. September data.

Source: Hawaii State Department of Education, records.

TABLE 9.5 EXPENDITURES, AVERAGE SALARIES, AND DAYS OF SCHOOL, FOR PUBLIC ELEMENTARY AND SECONDARY EDUCATION, 1849 TO 1976

Year ¹	Expenditures ² (dollars)		Cost per Pupil ³ (dollars)	Average Annual Salary of Teachers ⁴ (dollars)	Number of Days of School
	Current Operations	Capital Outlay			
1849	18,829	3,161	1.41	32	164
1863	27,959	2,870	3.90	92	192
1892	74,264		9.64	490	NA
1913	663,991		25.91	851	NA
1920	1,683,434	31,000	40.71	1,163	172
1925	2,754,452	727,664	68.88	1,560	170
1930	5,147,296	440,375	68.47	1,773	176
1935	4,751,855	155,664	56.80	1,605	173
1940	7,033,958	473,699	76.37	1,793	171
1945	12,118,032	582,897	149.21	3,481	173
1950	15,924,639	659,076	177.62	3,347	170
1955	25,070,972	3,613,805	220.87	4,422	166
1960	46,641,819	6,439,864	332.37	5,802	168
1965	69,119,765	18,643,073	435.29	6,060	169
1970	146,753,192	37,564,333	818.19	9,591	179
1971	179,070,294	34,539,101	988.54	10,424	177 1/2
1972	183,830,422	35,269,593	1,007.10	10,459	178 1/2
1973	184,118,840	31,618,093	1,014.02	10,883	174
1974	221,923,654	33,618,196	1,257.40	11,968	176
1975	232,185,601	24,832,512	1,305.00	13,949	178
1976	268,155,310	31,983,000	1,503.39	15,111	178

1. Data for 1950 and later years are for fiscal years.

2. School repairs and maintenance included with current operations in 1849 and 1863. Figure for 1892 is annual average for biennium.

3. Data for 1920 and later years based on average daily membership.

4. Figure for 1892 is median rather than mean. Partly estimated for 1913 and 1950.

Source: Report of the Minister of Public Instruction (1850), p. 21 and unpagged table; Biennial Report of the President of the Board of Education ... 1864, pp. 2-3; George Allen Odgers, Education in Hawaii, 1820-1893 (Ed. D. dissertation, Stanford Univ., 1933), p. 201; Biennial Report of the Minister of Finance ... 1894, p. 45; Report of the Superintendent of Public Instruction ... 1914, pp. 54, 55, and 61; Hawaii State Department of Education, records.

TABLE 9.6 DAYTIME ENROLLMENT AND DEGREES CONFERRED AT THE UNIVERSITY OF HAWAII: 1908-1909 TO 1976-1977

Year	Enrollment, Manoa ¹	Degrees Awarded ²		
		Bachelor's	Master's	Doctor's
1908-09	41	--	--	--
1909-10	64	--	--	--
1910-11	112	--	--	--
1911-12 ³	160	4	--	--
1912-13	128	5	--	--
1913-14	121	3	1	--
1914-15	105	2	1	--
1915-16	105	2	--	--
1916-17	110	3	--	--
1917-18	139	10	--	--
1918-19	145	5	--	--
1919-20	242	8	1	--
1920-21	397	7	4	--
1921-22	404	18	2	--
1922-23	496	28	8	--
1923-24	674	47	5	--
1924-25	618	49	4	--
1925-26	738	60	4	--
1926-27	874	92	8	--
1927-28	940	86	5	--
1928-29	1,115	101	8	--
1929-30	1,321	96	20	--
1930-31	1,488	151	16	--
1931-32	2,034	193	17	--
1932-33	1,947	193	17	1
1933-34	1,601	268	22	1
1934-35	1,809	257	32	--
1935-36	2,003	254	34	--
1936-37	2,256	271	33	--
1937-38	2,478	301	19	1
1938-39	2,669	315	33	--
1939-40	2,703	228	9	--
1940-41	2,746	323	27	--
1941-42	2,311	348	33	--
1942-43	1,408	164	4	--
1943-44	1,594	156	8	--
1944-45	1,931	186	7	--
1945-46	1,760	162	9	--
1946-47	2,962	220	12	--
1947-48	3,837	236	11	--

TABLE 9.6 (cont.)

Year	Enrollment ¹			Degrees Awarded ²			
	Manoa	Hilo College ⁴	Community Colleges ⁵	Associate	Bachelor's	Master's	Doctor's
1948-49	4,317	--	--	--	452	17	1
1949-50	4,842	--	--	--	641	33	--
1950-51	4,926	86	--	--	640	50	1
1951-52	4,692	100	--	--	708	42	--
1952-53	4,600	85	--	--	677	40	2
1953-54	4,615	146	--	--	650	37	1
1954-55	4,671	145	--	--	643	42	2
1955-56	5,180	228	--	--	644	39	--
1956-57	5,408	243	--	--	722	32	2
1957-58	5,741	187	--	--	704	45	3
1958-59	6,342	225	--	--	755	71	4
1959-60	6,923	250	--	--	881	81	3
1960-61	7,511	260	--	--	832	109	7
1961-62	8,231	285	--	--	869	112	2
1962-63	9,150	399	--	--	894	252	15
1963-64	10,466	355	--	--	983	304	14
1964-65	11,641	398	--	--	1,183	362	20
1965-66	13,587	510	2,010	129	1,444	427	29
1966-67	14,772	571	2,444	232	1,515	555	28
1967-68	16,564	618	3,494	448	1,833	819	47
1968-69	17,082	679	5,494	448	1,961	982	58
1969-70	18,474	864	8,713	647	2,329	1,018	53
1970-71	21,090	1,184	10,853	854	2,681	1,103	78
1971-72	22,061	1,297	13,010	1,108	2,976	1,167	80
1972-73	22,371	1,446	15,121	1,251	3,205	1,272	98
1973-74	22,272	1,702	16,107	1,403	3,406	1,165	109
1974-75	21,526	1,860	17,693	1,638	3,365	1,110	94
1975-76	21,260	2,087	21,179	1,857	3,232	1,132	116
1976-77 ⁶	21,356	1,837	21,380	NA	NA	NA	NA

1. Nonduplicated annual enrollment through 1940-1941; fall semester day enrollment, 1941-1942 to 1957-1958; fall semester enrollment in regular credit program (including such special students as concurrent registrants and early admittees), 1958-1959 and later years.

2. Data on degrees conferred exclude certificates of achievement, certificates in dental hygiene, professional diplomas, first professional degrees, etc. For annual totals on certificates and other awards from 1958-1959 forward, see The State of Hawaii Data Book 1976, pp. 49-50.

3. The first annual commencement was in 1912.

4. Opened in 1947 as a part of the U.H. Extension Division and put under the Dean of Faculties in 1951. Data include the College of Agriculture, opened fall 1975, but exclude Hawaii Community College, which (like Hilo College and the College of Agriculture) is part of the University of Hawaii at Hilo.

TABLE 9.6 (cont.)

5. The Community College system was established in 1965 with the transfer of the former technical schools operated by the Department of Education to the University of Hawaii. Includes Honolulu, Kapiolani, Kauai, and Maui Community Colleges beginning in 1965, Leeward Community College from 1968, Hawaii Community College from 1969, and Windward Community College from 1972. For data on individual campuses, see The State of Hawaii Data Book 1976, p. 50.

6. In addition to enrollment at Manoa, Hilo, and the community colleges, there were 139 students at West Oahu College, opened Spring 1976.

Source: University of Hawaii, Office of the President and Management Systems Office, records.

TABLE 9.7 FALL ENROLLMENT IN CREDIT COURSES AND EARNED DEGREES CONFERRED, FOR PRIVATE COLLEGES, 1955-1956 TO 1976-1977

School Year	Total Private College Enrollment ¹	Brigham Young Univ., Hawaii ²				Chaminade College of Honolulu ³				Hawaii Loa College ⁴	
		Degrees Conferred		Fall Enrollment	Degrees Conferred		Fall Enrollment	Degrees Conferred		Fall Enrollment	Degrees Conferred
		Associate	Bachelor		Associate	Bachelor		Associate	Bachelor		
1955-1956	500	--	--	153	--	--	31	--	--	--	--
1956-1957	600	57	--	234	--	--	26	--	--	--	--
1957-1958	750	61	--	323	--	--	80	--	--	--	--
1958-1959	800	74	--	265	--	3	100	3	--	--	--
1959-1960	1,050	48	20	538	20	10	124	10	--	--	--
1960-1961	1,200	62	10	564	10	20	225	20	--	--	--
1961-1962	1,557	40	30	862	30	22	305	22	--	--	--
1962-1963	1,626	28	57	899	57	27	295	27	--	--	--
1963-1964	1,630	17	54	865	54	29	396	29	--	--	--
1964-1965	1,700	13	58	907	58	38	481	38	--	--	--
1965-1966	1,833	3	76	947	76	41	549	41	--	--	--
1966-1967	2,024	1	90	1,036	90	48	668	48	--	--	--
1967-1968	2,147	--	84	1,096	84	82	725	82	44	--	--
1968-1969	2,265	--	110	1,113	110	140	831	140	78	--	--
1969-1970	2,525	--	138	1,211	138	155	891	155	97	--	--
1970-1971	2,717	--	184	1,307	184	217	962	217	103	--	--
1971-1972	3,494	--	105	1,300	105	257	1,700	257	170	26	19
1972-1973	3,419	--	79	1,078	79	348	1,719	348	220	32	32
1973-1974	3,663	--	157	1,004	157	326	1,888	326	203	25	25
1974-1975	4,541	5	110	917	110	391	2,158	391	217	32	32
1975-1976	4,848	3	89	1,068	89	376	2,560	376	208	25	25
1976-1977	5,252	...	...	1,173	...	...	2,545	...	229	...	...

TABLE 9.7 (cont.)

School Year	Hawaii Pacific College ⁵		Honolulu Christian College ⁶		Jackson College ⁷		U.S.I.U., Maunaloa Campus ⁸	
	Fall Enrollment	Degrees Conferred	Fall Enrollment	Degrees Conferred	Fall Enrollment	Degrees Conferred	Fall Enrollment	Degrees Conferred
								Associate Bachelor
1955-1956	--	--	...	...	...	...	...	...
1956-1957	--	--	...	...	...	...	...	...
1957-1958	--	--	...	...	225	...	...	...
1958-1959	--	--	...	...	295	...	...	...
1959-1960	--	--	...	...	216	...	...	...
1960-1961	--	--	...	1	227	...	...	41
1961-1962	--	--	49	3	191	77	150	29
1962-1963	--	--	33	6	204	62	195	49
1963-1964	--	--	51	...	131	27	187	...
1964-1965	--	--	...	...	...	...	166	...
1965-1966	57	1	67	...	...	...	213	...
1966-1967	142	2	--	...	--	--	178	...
1967-1968	157	3	--	...	--	--	125	...
1968-1969	116	--	--	...	--	--	127	...
1969-1970	124	--	--	...	--	--	202	...
1970-1971	153	--	--	...	--	--	192	...
1971-1972	210	12	--	...	--	--	114	20
1972-1973	312	16	--	...	--	--	90	7
1973-1974	426	11	--	...	--	--	142	8
1974-1975	1,161	30	--	...	--	--	88	...
1975-1976	1,012	53	--	...	--	--	--	--
1976-1977	1,305	...	--	...	--	--	--	--

TABLE 9.7 (cont.)

1. Fall enrollment in credit courses. Includes estimates for unreported institutions, 1955-1960 and 1964.
2. Opened as a two-year institution, the Church College of Hawaii, in September 1955. Several years later, became a four-year college. Renamed Brigham Young University, Hawaii Campus, on September 1, 1974.
3. Established as a two-year college for men, St. Louis Junior College, in September 1955. Changed to a four-year coeducational institution and renamed Chaminade College of Honolulu in 1957.
4. Chartered as The Christian College of the Pacific in 1963 and renamed Hawaii Loa College in September 1964. Officially opened in temporary quarters in Honolulu in September 1967, and moved to permanent campus near Kaneohe in January 1971. Four-year program.
5. Opened in the fall of 1965 using facilities of the defunct Jackson College. In August 1966, merged with Honolulu Christian College. Four-year program.
6. Opened September 16, 1953, as a four-year college. Merged with Hawaii Pacific College, August 1966. No data available before the fall of 1961.
7. Opened September 1949 as a four-year institution, and later offered graduate (toward M.A.) as well as undergraduate training. Spring 1950 enrollment was reported as 110; otherwise, no data are available before the spring of 1958. Enrollment data for 1957-1958 through 1960-1961 are spring totals. Jackson College suspended operations at the end of the 1964-1965 school year and underwent a foreclosure sale October 13, 1965.
8. Opened as Maunaloa Community College, with a two-year program, in the fall of 1950. Renamed Maunaloa College in late 1950s and Mauna Olu College in late 1960s. Briefly offered four-year curriculum, beginning in 1969-1970; after one graduating class (1971), returned to two-year program. On July 1, 1971, merged with United States International University and renamed U.S. International University, Maunaloa Campus. Purchased by County of Maui in August 1975 for use as an outlying facility of Maui Community College. Enrollment in the fall of 1950 was 15, and graduating classes (A.A. degrees) numbered 16 in 1952 and 13 in 1953; otherwise, statistics are unavailable prior to 1961. Enrollment data for 1964-1965, 1965-1966, 1966-1967, and 1968-1969 are spring totals. For many years, variant enrollment data exist.
 Source: Data obtained by Hawaii State Department of Planning and Research and Department of Planning and Economic Development from college officials, except as follows: Jackson College enrollment for spring, 1950 and 1958-1961, from Honolulu Advertiser, August 15, 1950, and World Almanac, 1959-1962; Maunaloa enrollment, fall 1950, and graduates, 1952 and 1953, from college bulletins for 1952 and 1959-1960 and Honolulu Advertiser, May 24, 1953; Maunaloa enrollment for spring, 1965, 1966, 1967, and 1969 from World Almanac for 1966, 1967, 1968, and 1970; Maunaloa enrollment for the fall of 1969, 1970, and 1971 from Honolulu Advertiser, October 13, 1970 and October 27, 1972.

TABLE 9.8 SCHOOL ATTENDANCE OR ENROLLMENT, BY AGE, 1890 TO 1970
(Includes kindergarten in all years and nursery school in 1970.)

Year	Total, 5 to 24 Years Old		5 and 6 Years Old ¹		7 to 13 Years Old		14 and 15 Years Old		16 and 17 Years Old		18 and 19 Years Old		20 and 21 Years Old		22 to 24 Years Old ²	
	Years	Old	Years	Old	Years	Old	Years	Old	Years	Old	Years	Old	Years	Old	Years	Old
1890 ³	9,872	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1896 ³	13,744	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1900	15,369	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1910	29,196	2,852	19,525	3,593	1,706	895	625									
1920	49,247	5,042	32,692	6,164	3,132	1,455	762									
1930	83,467	6,318	55,113	10,790	6,296	3,172	1,778									
1940	110,459	8,578	64,094	17,893	12,152	5,267	2,475									
1950	116,135	16,200	59,095	15,215	14,255	7,055	2,015									
1960	174,777	26,435	92,877	22,840	19,278	7,460	2,493									
1970	221,726	27,683	108,757	30,409	26,362	14,486	6,357									
Percent																
1890 ³	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1896 ³	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1900	29.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1910	44.0	33.7	90.1	72.7	35.9	13.9	3.1									
1920	50.4	37.2	94.4	77.1	40.1	16.4	3.1									
1930	51.7	31.2	94.8	81.9	51.4	21.3	4.2									
1940	58.0	51.5	98.7	93.5	67.1	25.8	4.8									
1950	62.6	68.4	97.8	97.0	85.7	36.2	7.0									
1960	72.0	85.0	98.6	97.0	87.8	34.4	8.7									
1970	70.8	87.4	96.7	95.8	90.8	53.1	13.6									

1. Enrollment in 1910 includes a few children under 5.

2. Enrollment in 1900, 1910 and 1920 includes a few persons 25 and over.

3. The question on school attendance was not limited to specific age groups; however, an estimated 85 percent of persons attending school in 1896, and a somewhat higher percentage in 1890, were between 6 and 15.

TABLE 9.8 (cont.)

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), p. 78; Twelfth Census of the United States ... 1900, vol. 11, part 11, pp. 110, 111, and 352; Thirteenth Census ... 1910, Abstract of the Census, pp. 582-584; Fourteenth Census ... 1920, vol. 111, pp. 1178 and 1183-1185; Fifteenth Census ... 1930, Outlying Territories and Possessions, pp. 50 and 54; Sixteenth Census ... 1940, Population, Second Series, Hawaii, p. 9; U.S. Census of Population: 1950, bull. P-B52, table 12; U.S. Census of Population: 1960, Final Report PC(1)-13C, table 45; U.S. Census of Population: 1970, Final Report PC(1)-C13, table 45.

TABLE 9.9 YEARS OF SCHOOL COMPLETED BY PERSONS 25 YEARS OLD AND OVER, 1940 TO 1970

Years of School Completed	1940	1950	1960	1970
Total, 25 years old and over	192,905	247,480	308,910	384,843
None	35,643	26,185	20,540	11,696
Elementary, 1 to 4 years	35,607	32,885	25,888	20,384
Elementary, 5 and 6 years	25,978	27,245	23,144	22,343
Elementary, 7 years	] 36,077 [	12,550	12,755	9,444
Elementary, 8 years		32,010	35,031	31,469
High, 1 to 3 years	19,543	36,155	49,272	51,365
High, 4 years	21,519	49,355	91,586	138,307
College, 1 to 3 years	7,683	12,780	23,016	46,088
College, 4 years	] 10,252 [	15,005 [	15,664	29,657
College, 5 years or more			12,014	24,090
Not reported	603	3,310	--	--
Elementary, 8 years or less	133,305	130,875	117,358	95,336
Percent ¹	69.3	53.6	38.0	24.8
High, 1 to 4 years	41,062	85,510	140,858	189,672
Percent ¹	21.4	35.0	45.6	49.3
College, 1 or more years	17,935	27,785	50,694	99,835
Percent ¹	9.3	11.4	16.4	25.9
Median school years completed	6.9	8.7	11.3	12.3

1. Based on number reporting.

Source: U.S. Census of Population: 1960, Final Report PC(1)-13C, table 47; U.S. Census of Population: 1970, Final Report PC(1)-C13, table 46.

TABLE 9.10 MEDIAN YEARS OF SCHOOL COMPLETED BY PERSONS 25 YEARS OLD AND OVER,
BY AGE AND SEX, 1940 TO 1970

Sex and Age	1940 ¹	1950	1960	1970
Total, 25 years and over	6.9	8.7	11.0	12.3
Male, 25 years and over	6.6	8.6	10.7	12.3
25 to 29 years	...	11.7	12.5	12.8
30 to 34 years	...	10.6	12.3	12.7
35 to 39 years	...	8.8	12.2	12.7
40 to 44 years	...	7.7	11.8	12.5
45 to 49 years	...] 6.3 [	9.0	12.3
50 to 54 years	...		8.0	12.1
55 to 59 years	...] 5.7 [	6.9	9.5
60 to 64 years	...		6.1	8.3
65 to 69 years	...] 4.2 [	5.4	8.0
70 to 74 years	...		5.4	6.7
75 years and over	...	3.0	4.1	6.2
Female, 25 years and over	7.2	8.9	11.4	12.3
25 to 29 years ²	...	11.6	12.4	12.8
30 to 34 years	...	9.8	12.3	12.6
35 to 39 years	...	9.1	12.2	12.6
40 to 44 years	...	8.5	10.1	12.4
45 to 49 years	...] 6.6 [	9.5	12.2
50 to 54 years	...		8.6	11.0
55 to 59 years	...] 4.7 [	7.0	9.9
60 to 64 years	...		6.3	8.9
65 to 69 years	...] 2.6 [	4.7	8.0
70 to 74 years	...		4.4	6.9
75 years and over	...	1.0	3.2	6.3

1. Not available by age.

2. The 1950 value has been revised.

Source: Sixteenth Census of the United States: 1940, Population, Second Series, Characteristics of the Population, Hawaii, table 6; U.S. Census of Population: 1950, bull. P-C52, table 43; U.S. Census of Population: 1960, Final Report PC(1)-13D, table 103; U.S. Census of Population: 1970, Final Report PC(1)-D13, table 148.

TABLE 9.11 ILLITERACY, 1853 TO 1970

Year	Age Group (in years)	Number Illiterate ¹	Percent Illiterate ¹
1853	16 and over	NA	25.0
1884	6 and over	31,372	44.6
1890	6 and over	40,191	51.2
1896	6 and over	33,567	36.1
1900	15 and over	41,949	35.2
1910	15 and over	39,465	29.2
1920	15 and over	35,083	21.2
1930	15 and over	41,018	17.5
1940	...	NA	NA
1950	14 and over	NA	8.4
1960	14 and over	21,000	5.0
1970	14 and over	NA	1.9

1. Based on ability to read in 1853; ability to read and write Hawaiian, English, or a European language in 1890 (and possibly 1884); ability to read and write in any language in 1896 and later years.

Source: Report of the Minister of Public Instruction to the Hawaiian Legislature, April 8, 1854, p. 4; Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), pp. 72, 78, and 125; Statistical Abstract of the United States: 1975, table 196, p. 120.

TABLE 9.12 THE HAWAII STATE AND UNIVERSITY OF HAWAII LIBRARY SYSTEMS, 1910 TO 1976

Hawaii State Library System		Circulation, Year Ended June 30 ²				University of Hawaii Libraries: Number of Volumes, June 30				
Year	Number of Volumes, June 30 ¹		Other Islands		State Total	Oahu	Other Islands	System Total	Manoa ³ Campus	Rest of System ⁴
	State Total	Oahu	Other Islands	Oahu						
1910	...	...	...	...	90,961	...	...	6,050	6,050	...
1915	27,569	27,569	...	85,397	219,264	153,506	5,564	11,686	11,686	...
1920	78,002	45,905	32,097	153,506	462,245	324,286	65,758	25,709	25,709	...
1925	134,333	79,676	54,657	324,286	542,799	315,660	137,959	36,691	36,691	...
1930	183,456	99,938	83,518	315,660	1,269,157	712,769	227,139	50,194	50,194	...
1935	235,881	129,835	106,046	712,769	1,751,054	950,828	556,388	79,281	79,281	...
1940	293,523	153,331	140,192	950,828	1,533,854	832,416	800,226	131,586	131,586	...
1945	351,709	181,219	170,490	832,416	1,713,568	955,657	701,438	158,205	158,205	...
1950	388,617	204,635	183,982	955,657	2,267,772	1,325,257	757,911	210,157	210,157	...
1955	456,467	257,883	198,584	1,325,257	2,864,321	1,709,727	942,515	259,751	256,651	3,100
1960	536,714	314,836	221,878	1,709,727	3,544,239	2,312,096	1,154,594	307,701	302,188	5,513
1965	652,684	399,771	252,913	2,312,096	3,645,950	2,602,146	1,223,143	510,033	467,684	42,349
1970	1,067,340	729,122	338,218	2,602,146	3,905,825	2,851,411	1,043,804	1,166,552	1,027,513	139,039
1971	1,202,437	832,949	369,488	2,851,411	4,130,736	3,042,966	1,054,414	1,300,191	1,116,932	183,259
1972	1,292,020	899,308	392,712	3,042,966	4,024,186	2,894,725	1,087,770	1,390,507	1,193,807	196,700
1973	1,388,290	969,908	418,382	2,894,725	3,984,706	2,829,736	1,129,461	1,516,165	1,273,185	242,980
1974	1,473,353	1,026,745	446,608	2,829,736	4,268,409	3,048,535	1,154,970	1,561,517	1,344,918	216,599
1975	1,593,218	1,096,202	497,016	3,048,535	4,424,434	3,101,979	1,219,874	1,640,585	1,413,144	227,441
1976	1,665,098	1,146,810	518,288	3,101,979	4,424,434	3,101,979	1,322,455	1,683,965	1,434,970	248,995

1. December 31 for 1930 and earlier years.

2. Calendar years for 1930 and earlier.

3. Includes East-West Center.

4. Hilo College, West Oahu College, and community colleges. Data for 1973 and later years are not directly comparable to data for 1972 and earlier years.

Source: Hawaii State Department of Education, Division of Library Services, records; University of Hawaii, records.

TABLES IN SECTION 10

- 10.1 Actual major (Part I) offenses known to the police, by county, 1925 to 1976
- 10.2 Actual major (Part I) offenses known to the police, by type of offense, for the City and County of Honolulu, 1931 to 1976
- 10.3 Homicides, 1908 to 1975
- 10.4 Part I offenses cleared by arrest or otherwise, and age of persons arrested for Part I offenses, for the City and County of Honolulu, 1932 to 1976
- 10.5 Value of property reported stolen and value of stolen property recovered (excluding automobiles), for Oahu, 1932 to 1976
- 10.6 Federal district court cases, 1901 to 1976
- 10.7 State judiciary caseload, 1848 to 1976
- 10.8 Inmates of correctional institutions, 1866 to 1976
- 10.9 Legal executions, 1889 to 1957

SECTION 10

Crime and Correction

This section includes data on major criminal offenses known to the police, the proportion cleared by arrest or otherwise, the numbers of juveniles and adults arrested for major offenses, the value of property reported stolen, the numbers of civil, criminal, and bankruptcy cases tried in federal district court, the numbers of civil and criminal cases tried by the state judiciary, and the average numbers of inmates in the state prison system, the youth correctional facilities, and Honolulu Jail.

Modern police, court, and penal institutions were introduced to Hawaii in the second quarter of the nineteenth century. The first written penal code was proclaimed in 1827. Trial by jury was introduced about the same time. The first police force in the kingdom was organized in Honolulu in 1834. Today's state judiciary, consisting of supreme, circuit, and district courts, evolved during the 1840s and 1850s. In 1857 Oahu Prison replaced some of the makeshift jails of earlier decades.

The earliest statistics on crime, correction, and the courts in Hawaii were counts of the number of criminal convictions by type of offense. On January 16, 1839, a Hawaiian-language newspaper, Ke Kumu Hawaii, published an article by P. Kanoa with totals on the number of convictions for each of nine types of offense in Honolulu during 1838. Similar tabulations appeared sporadically in the annual reports of the marshal and attorney general throughout the next decade. Regular publication of data on convictions on a reasonably systematic basis began with release of the First Annual Report of the Chief Justice of the Supreme Court in 1853. A more detailed account of these developments, together with tables of convictions data for the period, is given in the author's article on "Early Crime Statistics of Hawaii" in Hawaii Historical Review, Selected Readings, edited by Richard A. Greer (1969).

Court statistics were considerably expanded as the last third of the century began. Initially limited to tabulations on the number of criminal convictions, the annual reports of the chief justice were eventually made to show data on all arrests, cross-tabulated by both type of offense and disposition. From 1870 forward, civil and criminal cases were reported separately, and data for supreme court cases were presented apart from those in circuit and district courts.

The greatest detail on criminal offenses given in nineteenth century publications appears to have been in the Report of the Attorney General.

Beginning with the 1884 issue, this series carried tabulations on the number of arrests, by type of offense; age, sex, and nationality of offender; disposition of case; and judicial district. The 1886 report, in fact, contained a table titled "offenses committed throughout the kingdom," which would appear to be a pioneering effort to present data on all offenses known to police, by type of crime; more likely, however, the title is misleading, and actually refers only to arrests. In any event, the statistical content of the attorney general reports was considerably diminished after 1900, and the annual publication was itself suspended before World War I.

Fortunately, much of the detail in these discontinued reports was transferred after annexation to the biennial reports of the chief justice, and the tabulations continued with virtually no interruption through 1940. The same series contained considerable information on civil suits, probate cases, and juvenile offenders.

A federal district court was established in Hawaii soon after annexation. Statistics for this court, showing detail for criminal prosecutions, civil suits, and bankruptcy proceedings, have been published regularly, on a fiscal year basis, beginning in 1901. These tabulations appeared in the Annual Report of the Attorney General of the United States until 1939, and thereafter in the Annual Report of the Director of the Administrative Office of the United States Courts.

Statistical reporting on the inmates of penal institutions lagged considerably behind that of the courts. Although Oahu Prison had been opened in 1857 (replacing even older facilities), it was many years before data on inmate movements were regularly compiled and published. Prison statistics appeared in the Biennial Report of the Minister of the Interior from 1880 to 1890, various reports of the attorney general issued between 1894 and 1916, the Annual Report of the Board of Prison Directors from 1932 to 1939, the Annual Report of the Department of Institutions throughout the 1940s and 1950s, and in publications of the Department of Social Services and Housing during the 1960s and 1970s. These data formed a more or less continuous series going back to 1878.

Regular tabulations for the boys' and girls' correctional facilities, in contrast, were initiated soon after they were established. The Industrial and Reformatory Schools were opened in Kapalama in 1865, taking a few girls but mostly boys. After the boys were moved to Waialeale Training School in 1903, the Kapalama facilities were reserved for girls. Inmate totals for

these institutions (but little or nothing on their characteristics) regularly appeared in the biennial reports of the President of the Board of Education or Superintendent of Public Instruction from 1866 until World War I. Considerably greater detail on these institutions and their occupants was published in the Report of the Board of Industrial Schools, a series initiated in 1916 and discontinued after 1930. For the rest of the decade, until 1939, the statistics on training schools were carried in the Annual Report of the Board of Prison Directors. They appeared in the annual reports of the Department of Institutions from 1940 to 1959, and in publications of the Department of Social Services and Housing thereafter.

Long-term trend data for the county jails are less readily available. Inmate totals for the Honolulu Jail have been included since 1961 in the Honolulu Police Department Statistical Report.

A convenient source for many of the foregoing series is the Report of the Governor of Hawaii to the Secretary of the Interior, issued annually from 1900 to 1959. Until 1941, these reports often contained summary data on arrests by offense, civil and criminal cases in the territorial and federal courts, inmate movements at Oahu Prison and the training schools, and paroles and pardons. The statistical content of the governor's reports was severely abridged after the Pearl Harbor attack, however, and these reports were thereafter largely limited to nonquantitative matters.

Information on the number of offenses known to police was first systematically compiled in 1931. Two events led to this long overdue development. One was the initiation of the Uniform Crime Reporting Program under Federal Bureau of Investigation sponsorship in 1930. The other was the highly publicized Massie case.

The Uniform Crime Reporting Program was a nationwide effort to encourage law enforcement agencies to adopt and use a standard classificatory system for reporting statistics on offenses known to police and persons arrested. Major crimes--murder and nonnegligent manslaughter, negligent manslaughter, rape, robbery, aggravated assault, burglary, larceny, and auto theft--were carefully defined and grouped as "Part I" offenses. Lesser offenses were similarly defined and grouped as "Part II" offenses. This classifications system was modified in 1958 with the introduction of "Crime Index offenses," consisting of Part I offenses exclusive of negligent manslaughter, larceny under \$50, and statutory rape. As this program became established across the country, data for participating jurisdictions, states, and the nation as a

whole were published by the Federal Bureau of Investigation (FBI) in a semi-annual and annual compilation, Uniform Crime Reports for the United States.

Hawaii entered the program as a direct result of the Massie case. The alleged rape of a young Navy wife in 1931 and the subsequent murder of one of her suspected assailants had triggered charges of rampant crime and police ineptitude. Sent to investigate, Seth W. Richardson, Assistant Attorney General of the United States, complained (in a detailed Senate document published in 1932, Law Enforcement in the Territory of Hawaii) that lack of statistics seriously handicapped his work. Another investigator, Captain J. A. Greening of Berkeley, California, noted in the same report that Honolulu had "no record system worthy of the name. ... The uniform crime records manual has never been acquired, studied, or adopted." Greening recommended that the Police Department "install [a] Hollerith tabulating machine and statistical cards." The Richardson report incorporated a wide range of such statistics on crime and law enforcement as were then available into its appendixes, and included an effort, based on Uniform Crime Reports definitions, to estimate the number and types of offenses known to police on Oahu for 1931 and on the Big Island back to 1925. Soon after release of the Richardson report, the Honolulu Police Department adopted the Uniform Crime Reports program and installed its first punched-card equipment.

All counties in the state had by the end of the decade accepted the FBI definitions and had begun tabulation and publication of comprehensive statistics on known crime and arrests. The series initiated in the Richardson report were continued in the Honolulu Police Department annual report for 1932, the Hawaii County report for 1937 (which included 1936 data), and the Maui County report for 1939. The Kauai County Police Department adopted the Uniform Crime Reporting Program in 1932 but did not publish regular annual reports until 1943. Oahu data were shown in the FBI's Uniform Crime Reports at least as early as 1942 and the other counties were added in 1945.

For a number of years, crime statistics for the territory as a whole and each of its counties appeared in the annual reports of the Bureau of Crime Statistics and Identification. This bureau had been created in 1917 as the Board of Identification; it was renamed the Bureau of Crime Statistics in 1931, transferred to the Department of Institutions in 1939, given its present name in 1941, and shifted to the Department of the Attorney General in 1947. Its annual reports were included with those of the Board of Prison Directors from 1933 to 1939 and were issued separately from 1949 to 1954.

They typically contained fiscal year tabulations by county on offenses known to police by type of offense, the number and percent cleared by arrest or otherwise, traffic violations and accidents, court cases and their disposition, and paroles and pardons. In January 1975, the regular publication of consolidated crime statistics on a statewide basis was taken over by the Hawaii Criminal Justice Statistical Analysis Center. Greater detail for individual counties is generally available in the annual reports of the four county police departments.

Statistics in the biennial reports of the Chief Justice of the Supreme Court were sharply curtailed after 1940 and not reinstated until the 1960s. Following the Pearl Harbor attack of December 7, 1941, martial law was declared by Governor Poindexter, provost courts for the trial of civilians were established, and all civil courts were closed by military order. Civil authority was eventually restored on March 10, 1943, but thereafter only limited statistics were published on the caseloads of the territorial judiciary. This situation continued through the 1940s and 1950s. Then, beginning in 1960, the reports of the Chief Justice were issued on an annual (rather than biennial) basis, as the Annual Report of the Judiciary. Tabular material was greatly expanded in the following years, and by 1967 these reports were showing comprehensive statistics on the number of cases filed and terminated in all four types of court--the supreme court, circuit courts proper, family courts, and district courts.

To judge by the foregoing historical record, island analysts would appear to have access to a wealth of data on crime, corrections, and the courts, extending back to the reign of Kamehameha III. The statistical series are indeed long and detailed, providing a richness not often found in social data. More than most social statistics, however, they are marked by definitional problems, variable coverage, and potential pitfalls.

One of the most serious limitations to these data is the lack of accurate long-term information on the total amount of criminal activity. Recent research, conducted in major mainland cities, has revealed that many crimes are never reported to police; data on offenses known to police must accordingly be regarded as an extremely inadequate measure of overall crime trends. Such statistics were, in any event, unknown in Hawaii prior to 1931. For earlier periods, analysts must infer basic trends from statistics on arrests, which are even less reliable, or data on criminal convictions, which are still cruder as indexes of crime.

Changing terminology and definitions pose similarly frustrating problems. This difficulty was largely overcome with adoption of the Uniform Crime Reporting Program in the 1930s, but comparability for earlier years can often be attained only with the utmost difficulty. Court statistics, for example, previously dichotomized cases as either civil or criminal, but later added categories for "traffic violations," "other violations," and "other proceedings." Specific types of case were sometimes included in one major category and sometimes in another; violations of the master and servants act (deserting bound service), for example, were treated as criminal offenses in 1870-1875 and 1878-1879, but as civil cases in 1876-1877 and 1880-1883. Divorce, probate, and naturalization cases were variously included in the civil group, listed separately, or omitted entirely. Criminal caseload data for 1929-1938 referred to the number of criminal defendants rather than the number of cases; before 1929 and after 1938, in contrast, the totals indicated cases rather than defendants. Inmate totals for Oahu prison have generally given the number of incarcerated felons, but prior to 1910 they also included sizeable numbers of misdemeanants, and from 1915 to 1922 they apparently included prisoners on parole as well as those actually confined.

Titles to tables are not always clear. Before World War II, for example, territorial judiciary caseload tabulations failed to note whether the data referred to filings or terminations. Between 1931 and 1940, moreover, two sets of annual data on circuit court cases were published, differing widely from one another.

The comparability of dollar amounts has been affected by inflation. In 1958, larceny under \$50 was excluded from the definition of "Crime Index offenses"; obviously, such a cutoff point would have had a different significance twenty-five years earlier or fifteen years later. The same effect of inflation is evident in trend data on the value of property reported stolen and the value of stolen property recovered.

Such caveats are of course not unique to Hawaii. National statistics on crime and correction, subject to many of the same limitations, may be found in Historical Statistics of the United States, series H952-H1170.

TABLE 10.1 ACTUAL MAJOR (PART I) OFFENSES KNOWN TO THE POLICE, BY COUNTY,
1925 TO 1976

Calendar Year	State Total		City and County of Honolulu	Hawaii County	Kauai County	Maui County
	Number	Rate ¹				
1925	...	...	...	72	...	...
1926	...	...	...	78	...	...
1927	...	...	...	38	...	...
1928	...	...	...	78	...	...
1929	...	...	...	52	...	...
1930	...	...	...	80	...	...
1931 ²	...	...	1,664	78	...	...
1932	...	...	2,690	...	14	...
1933	...	...	2,725	...	51	...
1934	...	...	3,100	...	43	...
1935	...	...	3,566	...	117	...
1936	...	...	3,168	240	23	...
1937	...	...	3,153	518	47	...
1938	...	...	3,245	429	59	...
1939	4,760	1,145	3,948	434	46	332
1940	5,266	1,231	4,115	649	68	434
1941	5,091	1,108	4,377	348	47	319
1942	3,719	639	3,001	356	42	320
1943	4,434	683	3,637	340	69	388
1944	5,328	620	4,086	591	175	476
1945	5,261	646	4,192	445	144	480
1946	5,437	997	4,499	406	128	404
1947	5,778	1,098	4,751	438	122	467
1948	6,058	1,172	5,014	367	195	482
1949	6,645	1,300	5,443	375	320	507
1950	6,639	1,333	5,467	516	243	413
1951	6,428	1,250	5,286	420	218	504
1952	7,588	1,467	6,322	405	251	610
1953	7,253	1,422	5,962	507	260	524
1954	8,120	1,606	6,874	448	247	551
1955	8,919	1,654	7,636	454	282	547
1956	9,282	1,662	7,864	632	316	470
1957	11,685	1,999	9,998	714	371	602
1958	13,971	2,308	12,150	902	349	570
1959	14,205	2,283	12,648	662	402	493
1960	14,569	2,271	12,986	628	465	490
1961	16,608	2,521	14,981	689	471	467
1962	17,675	2,586	15,973	747	408	547
1963	17,673	2,590	16,065	698	448	462
1964	19,198	2,743	17,533	643	395	627
1965	22,891	3,252	20,723	829	524	815
1966	24,865	3,501	22,689	816	506	854
1967	27,221	3,767	24,847	919	649	806

TABLE 10.1 (cont.)

Calendar Year	State Total		City and County of Honolulu	Hawaii County	Kauai County	Maui County
	Number	Rate ¹				
1968	34,295	4,669	31,044	1,297	730	1,224
1969	36,109	4,813	32,636	1,406	779	1,288
1970	41,201	5,322	36,779	1,626	993	1,803
1971	42,952	5,382	37,459	1,867	1,326	2,300
1972	37,091	4,518	31,594	2,047	1,195	2,255
1973	41,850	4,960	35,275	2,612	1,596	2,367
1974	51,451	6,024	43,572	3,031	1,732	3,116
1975	51,777	5,962	43,612	3,192	1,777	3,196
1976 (prelim.)	55,557	6,266	45,261	3,918	2,172	4,206

1. Rate per 100,000 mid-period resident population, including armed forces.

2. According to the source for these data, "due to the poor record system of the Honolulu police department, it is probable that all offenses known to the police were not recorded."

Source: Seth W. Richardson, Law Enforcement in the Territory of Hawaii (1932), pp. 228 and 230; county police departments, annual reports and records.

TABLE 10.2 ACTUAL MAJOR (PART 1) OFFENSES KNOWN TO THE POLICE, BY TYPE OF OFFENSE, FOR THE CITY AND COUNTY OF HONOLULU, 1931 TO 1976

Year	Total Part I Offenses	Murder; Non-neg. Mansl.	Man-slaughter (neglig.)	Rape	Robbery	Aggravated Assault	Burglary	Larceny ¹		Auto Theft
								Higher Value	Lower Value	
1931	1,664			16	57	101	556	85	1,059	87
1932	2,690	17	27	14	53	121	786	124	1,447	528
1933	2,725	3	22	21	24	122	757	117	1,830	205
1934	3,100	11	15	18	27	75	781	116	2,116	226
1935	3,566	16	16	16	20	47	958	124	1,686	261
1936	3,168	4	27	13	14	46	982	139	1,751	272
1937	3,153	16	7	14	13	31	954	136	1,901	228
1938	3,245	10	12	11	28	37	915	176	2,285	195
1939	3,948	14	10	12	15	32	1,129	182	2,335	275
1940	4,115	8	7	9	18	24	1,224	297	2,186	308
1941	4,377	12	16	25	30	40	1,271	348	1,521	500
1942	3,001	17	6	8	6	47	828	422	1,682	220
1943	3,637	16	11	20	14	61	1,167	466	1,796	244
1944	4,086	18	26	32	11	108	1,063	458	1,830	566
1945	4,192	14	21	25	56	110	1,005	379	2,138	673
1946	4,499	16	19	17	80	117	1,243	515	2,250	490
1947	4,751	16	16	17	63	92	1,451	486	2,695	331
1948	5,014	20	15	13	53	106	1,277	472	2,949	349
1949	5,443	15	13	14	57	127	1,457	572	3,097	339
1950	5,467	8	19	27	42	103	1,272	479	3,059	327
1951	5,286	12	22	22	46	85	1,196	515	3,481	365
1952	6,322	22	9	9	55	72	1,780	222	3,798	379
1953 ²	5,962	11	19	23	38	63	1,426	205	4,395	362
1954	6,874	17	8	16	36	64	1,706	227	4,697	427
1955	7,636	23	13	39	52	48	2,135	207	5,069	402
1956	7,864	5	14	40	36	85	1,789	252	6,100	619
1957	9,998	12	19	35	44	64	2,574	302	7,094	898
1958	12,150	14	20	18	85	40	3,454	367	6,940	1,123
1959	12,648	17	21	19	108	39	3,186			1,951

TABLE 10.2 (cont.)

Year	Total Part I Offenses	Murder Non-neg. Mansl.	Man-slaughter (neglig.)	Rape	Robbery	Aggravated Assault	Burglary	Larceny ¹			Auto Theft
								Higher Value	Lower Value		
1960	12,986	12	22	18	68	32	2,922	438	7,816	1,658	
1961	14,981	12	26	21	68	47	3,455	659	8,738	1,955	
1962	15,973	19	24	15	118	97	4,167	780	8,577	2,176	
1963	16,065	11	19	16	78	98	4,541	748	8,936	1,618	
1964	17,533	13	15	15	95	48	5,486	870	9,253	1,738	
1965	20,723	18	4	6	130	52	6,430	1,210	10,342	2,531	
1966	22,689	18	15	30	151	46	7,440	1,518	11,230	2,241	
1967	24,847	17	20	33	144	77	7,857	1,673	12,138	2,888	
1968	31,044	19	11	52	167	130	9,776	2,214	14,863	3,812	
1969	32,636	23	22	82	272	124	9,417	2,728	15,848	4,120	
1970	36,779	25	3	85	473	219	10,252	3,568	17,913	4,241	
1971	37,459	31	46	124	715	341	9,599	9,426	12,923	4,254	
1972	31,594	46	31	144	424	343	8,943	3,955	14,751	2,957	
1973	35,275	36	50	150	663	287	10,838	3,090	16,673	3,488	
1974	43,572	62	84	190	951	301	13,040	3,821	20,448	4,675	
1975	43,612	58	99	161	1,037	311	13,287	4,317	20,163	4,179	
1976	45,261	40	110	153	1,087	357	13,505	4,931	20,815	4,263	

1. Classified as "\$50 and over" and "under \$50" for 1932-1952 and 1971; "\$100 and over" and "under \$100" for 1953-1958; "over \$100" and "under \$100" for 1959-1970 and 1972; and "over \$200" and "\$200 and less" for 1973 and later years.

2. Data on larceny by value not comparable to previous year (see above, footnote 1).

3. Preliminary.

Source: Seth W. Richardson, Law Enforcement in the Territory of Hawaii (1932), p. 228; Honolulu Police Department, Annual Report (1934-1956) and Statistical Report (1957-1975), and records.

TABLE 10.3 HOMICIDES, 1908 TO 1975
(Based on mortality data by place of occurrence. For some years, variant figures appear in other sources.)

Year	Homicides	Year	Homicides	Year	Homicides
1908	3	1931	22	1955	25
1909	5	1932	23	1956	10
1910	4	1933	24	1957	21
1911	5	1934	28	1958	20
1912	7	1935	31	1959	18
1913 ¹	25	1936	25	1960	21
1914 ¹	29	1937	26	1961	12
1915 ¹	27	1938	15	1962	17
1916 ¹	22	1939	19	1963	12
1916 ²	17	1940	19	1964	19
1917 ³	25	1941	16	1965	25
1918 ⁴	14	1942	26	1966	21
1919	12	1943	28	1967	20
1920	17	1944	32	1968	22
1921	26	1945	34	1969	37
1922	17	1946	20	1970	37
1923	24	1947	20	1971	39
1924	46	1948	29	1972	60
1925	29	1949	20	1973	40
1926	22	1950	12	1974	59
1927	33	1951	14	1975	66
1928	16	1952	29		
1929	16	1953	20		
1930	23	1954	20		

1. Year ended June 30.
2. Total for six months ended December 31, 1916.
3. Calendar year data beginning with 1917. The fiscal 1917 total was also 25.
4. Excludes deaths of soldiers, sailors, and marines.

Source: Hawaii State Department of Health, Mortality Trends in Hawaii, 1908-1962 (R&S Report, No. 2, April 1973), underlying data for 1908-1912; Territorial Board of Health, Report of the Registrar General for 1913-1917; U.S. Bureau of the Census, Mortality Statistics for 1915-1936 and Vital Statistics of the United States for 1937-1944; Federal Security Agency, Vital Statistics of the United States for 1945-1949; U.S. Department of Health, Education, and Welfare, Vital Statistics of the United States for 1950-1973; Hawaii State Department of Health, Statistical Report for 1974 and 1975, and records.

TABLE 10.4 PART I OFFENSES CLEARED BY ARREST OR OTHERWISE, AND AGE OF PERSONS ARRESTED FOR PART I OFFENSES, FOR THE CITY AND COUNTY OF HONOLULU, 1932 TO 1976

Year	Part I Offenses Cleared ¹		Persons Arrested for Part I Offenses			
	Number	Percent	Total	Juveniles Under 18 Years		18 Years of Age and Over
				Male	Female	
1932	NA	34	1,096	NA	NA	NA
1933	NA	41	1,589	587	18	984
1934	NA	44	1,863	808	43	1,012
1935	1,592	45	1,795	755	44	996
1936	1,484	47	1,722		817	905
1937	1,438	46	1,643		865	778
1938	1,541	47	1,602		831	771
1939	1,816	46	1,583		893	690
1940	1,765	43	1,802	1,021	44	737
1941	1,805	41	1,901	1,119	26	756
1942	1,416	47	1,292	629	46	617
1943	1,644	45	1,460	679	52	729
1944	1,599	39	1,735	758	36	941
1945	1,757	42	2,031	919	66	1,046
1946	1,888	42	2,166	1,121	63	982
1947	1,744	37	1,982	991	75	916
1948	2,142	43	2,088	936	106	1,046
1949	1,910	35	2,080	990	92	998
1950	2,255	41	2,096	1,073	81	942
1951	2,000	38	2,107	1,115	83	909
1952	2,154	34	2,241	1,172	87	982
1953	1,887	32	1,894	1,041	82	771
1954	2,145	31	2,360	1,233	153	974
1955	2,513	33	2,684	1,503	130	1,051
1956	2,483	32	2,689	1,580	147	962
1957	3,194	32	3,248	2,062	166	1,020
1958	3,239	27	3,450	2,250	176	1,024
1959	3,424	27	3,615	2,182	246	1,187
1960	3,168	24	3,371	2,000	233	1,138
1961	3,405	23	3,525	2,164	203	1,158
1962	3,767	24	3,686	2,155	254	1,277
1963	3,992	25	3,019	1,602	226	1,191
1964	3,809	22	2,988	1,685	252	1,051
1965	3,815	18	3,283	2,123	311	849
1966	4,402	19	4,071	2,328	460	1,283
1967	3,917	16	4,363	2,497	631	1,235
1968	6,028	19	5,841	3,380	907	1,554
1969	6,393	20	6,217	3,340	1,030	1,847
1970	6,437	18	6,405	2,899	995	2,511
1971	8,325	22	6,730	2,770	979	2,981

TABLE 10.4 (cont.)

Year	Part I Offenses Cleared ¹		Persons Arrested for Part I Offenses			
	Number	Percent	Total	Juveniles Under 18 Years		18 Years of Age and Over
				Male	Female	
1972	10,028	32	5,954	2,406	1,035	2,513
1973	8,721	25	6,558	2,623	1,005	2,930
1974	9,727	22	8,043	3,227	1,027	3,789
1975	9,235	21	7,696	3,186	1,134	3,376
1976 ²	9,777	22	8,883	3,639	1,308	3,936

1. Major (Part I) offenses cleared by arrest or otherwise, including prior years offenses.

2. Preliminary.

Source: Honolulu Police Department, Annual Report (1934-1956) and Statistical Report (annual, 1957-1975), and records.

TABLE 10.5 VALUE OF PROPERTY REPORTED STOLEN AND VALUE OF STOLEN PROPERTY RECOVERED (EXCLUDING AUTOMOBILES), FOR OAHU, 1932 TO 1976

Year	Value of Property Reported Stolen (\$1,000)	Value of Stolen Property Recovered (\$1,000)	Percent Recovered	Year	Value of Property Reported Stolen (\$1,000)	Value of Stolen Property Recovered (\$1,000)	Percent Recovered
1932	50.6	9.4	18.6	1957	365.3	62.3	17.1
1933	68.6	21.1	30.7	1958	498.5	79.9	16.0
1934	65.4	27.2	41.6	1959	537.4	73.9	13.8
1935	67.4	18.3	27.2	1960	630.1	71.7	11.4
1936	84.2	42.7	50.8	1961	792.2	72.5	9.2
1937	80.5	34.9	43.3				
1938	62.2	19.3	31.0	1962	909.2	100.4	11.0
1939	72.6	18.8	26.0	1963	1,075.2	106.7	9.9
1940	117.5	46.0	38.0	1964	1,418.0	97.2	6.9
1941	115.3	29.6	25.3	1965	1,534.5	85.2	5.4
				1966	2,108.2	103.1	4.9
1942	108.1	22.7	20.8	1967	2,383.9	116.3	4.9
1943	159.3	58.7	36.8	1968	3,676.5	420.1	11.4
1944	242.3	72.4	29.9	1969	4,119.3	204.7	5.0
1945	206.6	46.0	22.3	1970	4,913.4	237.5	4.9
1946	280.9	57.6	20.5	1971	5,509.7	335.9	6.1
1947	274.5	44.8	17.6	1972	6,249.2	566.7	9.1
1948	288.2	35.9	12.4	1973	7,660.5	980.0	12.8
1949	315.6	40.2	12.7	1974	9,732.7	558.1	5.7
1950	337.9	41.6	12.3	1975	11,628.1	828.1	7.1
1951	292.4	30.7	10.5	1976 ¹	14,185.9	1,356.5	9.6
1952	320.9	40.9	12.7				
1953	260.9	51.3	19.6				
1954	265.7	34.9	13.2				
1955	300.9	58.3	18.7				
1956	269.4	33.8	12.5				

1. Preliminary.

Source: Annual Report, Honolulu Police Department for 1939-1956;
Statistical Report, Honolulu Police Department for 1959 and later years.

TABLE 10.6 FEDERAL DISTRICT COURT CASES, 1901 TO 1976

Year Ended June 30	Civil Cases		Criminal Cases		Bankruptcy Cases	
	Commenced	Terminated	Commenced	Terminated	Commenced	Terminated
1901 ¹	...	26	...	15	7	...
1902 ¹	...	26	...	53	24	...
1903 ¹	...	23	...	48	20	...
1904 ¹	52	126	44	38	24	...
1905	32	52	67	64	26	...
1906	39	40	48	48	23	...
1907	18	19	67	53	21	...
1908	17	13	111	99	23	47
1909	12	13	115	79	21	16
1910	11	18	111	129	14	21
1911	25	20	85	103	11	7
1912	10	4	93	102	18	13
1913	24	13	73	74	30	19
1914	50	41	61	48	26	24
1915	16	13	109	98	43	27
1916	19	14	118	180	35	33
1917	29	20	54	54	15	35
1918	18	28	228	225	31	28
1919	47	39	264	263	30	28
1920	21	20	292	305	19	28
1921	16	16	598	583	19	12
1922	28	29	468	476	45	21
1923	26	29	643	579	83	43
1924	131	30	466	491	85	79
1925	158	99	577	527	110	113
1926	37	165	566	621	108	87
1927	22	20	306	325	102	140
1928	56	63	470	464	85	90
1929	54	68	569	555	104	104
1930	106	93	404	435	121	104
1931	146	104	360	327	169	172
1932	119	146	329	352	210	189
1933	134	155	449	451	228	241
1934	39	46	163	172	156	169
1935	64	74	249	245	125	150
1936	111	112	273	269	152	157
1937	51	46	119	126	125	135
1938	53	73	160	160	152	151
1939	39	49	83	82	155	137
1940	53	57	110	102	106	87
1941	67	41	127	129	90	94
1942	22	25	22	31	39	71
1943	20	20	75	55	21	22
1944	44	31	116	126	15	5
1945	61	36	146	154	10	30
1946	170	101	92	82	7	8

TABLE 10.6 (cont.)

Year Ended June 30	Civil Cases		Criminal Cases		Bankruptcy Cases	
	Commenced	Terminated	Commenced	Terminated	Commenced	Terminated
1947	76	57	147	158	8	17
1948	74	58	98	101	27	34
1949	84	65	83	78	39	42
1950	99	88	73	77	70	33
1951	79	112	154	145	61	38
1952	144	118	116	108	74	56
1953	162	85	150	147	64	104
1954	49	119	125	127	76	59
1955	63	119	112	122	83	83
1956	64	72	91	96	75	96
1957	82	64	74	72	119	67
1958	127	90	111	109	119	114
1959	78	113	112	96	110	131
1960	99	150	118	125	90	109
1961	102	81	106	102	132	141
1962	135	124	130	122	177	108
1963	119	109	89	102	220	159
1964	138	130	87	88	258	192
1965	132	126	106	81	329	282
1966	169	122	109	117	361	319
1967	155	105	83	79	420	347
1968	149	202	81	82	436	307
1969	161	177	114	103	319	460
1970	192	156	193	138	374	404
1971	139	175	161	177	384	402
1972	217	187	183	161	389	361
1973	264	238	195	168	371	376
1974	313	251	167	171	415	398
1975	382	261	160	160	549	472
1976	442	288	145	178	518	616

I. Bankruptcy data refer to year ended September 30.

Source: Annual Report of the Attorney General of the United States for 1901-1939; Annual Report of the Director of the Administrative Office of the United States Courts for 1940-1975, and records.

TABLE 10.7 STATE JUDICIARY CASELOAD, 1848 TO 1976

Year or Biennium ¹	All Cases Tried ²	By Type of Court			By Type of Case ³	
		Supreme Court ⁴	Circuit Court ⁵	District Court	Civil	Criminal
1848	...	60	...	...	...	...
1849	...	55	...	...	...	...
1850	...	145	...	...	...	...
1851	...	326	...	...	...	...
1852	...	276	...	...	...	...
1853-67	...	...	...	...	...	...
1868-69	...	251	...	...	...	...
1870-71	8,584	278	...	...	2,334	6,250
1872-73	7,928	320	...	...	2,164	5,764
1874-75	9,889	454	...	...	2,617	7,272
1876-77	12,285	430	...	...	6,934	5,351
1878-79	15,446	550	...	...	3,597	11,849
1880-81	15,632	635	...	...	6,324	9,308
1882-83	16,607	696	...	...	6,486	10,121
1884-85	17,234	801	...	...	6,502	10,732
1886-87	16,162	752	...	...	6,604	9,558
1888-89	18,079	899	...	...	6,604	11,475
1890-91	20,908	960	...	...	9,343	11,565
1892	] 18,699 [	518	...	...	] 7,130 [	11,569
1893		617	...	...
1894	] 22,040 [	74	...	...	] 7,108 [	14,932
1895		44	...	...
1896	] 22,255 [	89	858	] 20,385 [	6,500	15,755
1897		92	831			
1898	] 23,790 [	96	...	...	] 7,716 [	16,074
1899		76	...	...
1899 ⁷	] 25,796 [	76	] 2,388 [	23,272	7,196	18,849
1900 ⁷		60				
1901 ⁷	] 26,414 [	100	] 3,198 [	22,996	5,056	21,752
1902 ⁷		120				
1903 ⁷	] 25,652 [	99	] 3,070 [	22,334	6,489	20,107
1904 ⁷		149				
1905	] 22,725 [	135	] 2,640 [	19,809	5,232	17,493
1906		141				
1907	] 23,183 [	85	] 2,881 [	20,129	5,684	17,499
1908		88				
1909	] 24,546 [	96	] 3,608 [	20,765	5,783	18,763
1910		77				
1911	] 29,188 [	77	] 2,999 [	26,040	6,474	22,714
1912		72				
1913	] 31,686 [	73	] 3,555 [	27,997	6,434	25,252
1914		61				
1915	] 31,115 [	87	] 3,543 [	27,402	6,514	24,601
1916		83				

TABLE 10.7 (cont.)

Year ¹	All Cases Tried ²	By Type of Court			By Type of Case ³	
		Supreme Court ⁴	Circuit Court ⁵	District Court	Civil	Criminal
1917		84				
1918	35,177	82	4,622	30,389	9,269	25,908
1919		100				
1920	33,749	79	4,471	29,099	8,237	25,512
1921		67				
1922	30,613	63	4,857	25,626	9,724	20,889
1923		104				
1924	34,818	58	6,337	28,319	13,179	21,639
1925		71				
1926	38,911	85	6,137	32,618	16,201	22,710
1927		71				
1928	44,302	62	6,103	38,066	18,489	25,813
1929 ⁸		86				
1930 ⁸	43,175	57	6,195	36,837	17,649	25,526
1931 ⁸		67				
1932 ⁸	63,535	37	6,940	56,491	18,873	44,662
1933 ⁸		44				
1934 ⁸	74,935	26	6,489	68,376	18,434	56,501
1935 ⁸		45				
1936 ⁸	85,367	43	6,668	78,611	18,436	66,931
1937 ⁸		54				
1938 ⁸	101,392	28	9,102	92,208	23,358	78,034
1939		35				
1940	125,001	41	7,490	117,435	23,653	101,348
1941	...	...	6,284	...	...	...
1942	...	...	4,185	...	...	...
1943	60,801	22	6,438	54,341	...	...
1944	75,586	23	6,276	69,287	...	...
1945	107,166	28	6,271	100,867	...	...
1946	106,423	19	7,594	98,810	...	...
1947	105,779	29	7,723	98,027	...	...
1948	112,497	49	8,259	104,189	...	...
1949	103,178	21	7,687	95,470	...	...
1950	101,810	22	7,359	94,429	...	...
1951	110,349	16	8,015	102,318	...	...
1952	109,833	63	7,561	102,209	...	...
1953	117,182	40	8,575	108,567	...	...
1954	131,339	24	9,038	122,277	...	...

TABLE 10.7 (cont.)

Year ¹	All Cases Tried ²	By Type of Court			By Type of Case ³			
		Supreme Court ⁴	Circuit Court Proper	Family Court	District Court	Civil	Criminal	Other ⁶
1955	114,699	35	8,613		106,051	...	...	...
1956	151,774	21	8,804		142,949	...	...	...
1957	146,004	46	8,088		137,870	...	...	...
1958	161,347	50	9,001		152,296	...	...	...
1959	...	174	...	...	...	...	...	...
1960 ⁹	163,993	161	3,943	9,153	150,736	...	...	...
1961	216,449	146	3,748	10,064	202,491	...	...	...
1962	210,477	180	4,182	10,828	195,287	...	...	...
1963	289,183	192	4,521	10,504	273,966	...	...	...
1964	297,608	231	4,892	11,772	280,713	...	...	...
1965	309,514	271	5,121	13,556	290,566	...	...	...
1966	332,837	293	5,899	13,391	313,254	...	...	...
1967 ¹⁰	186,564	426	3,111	8,202	174,825	...	...	...
1968	354,372	466	5,979	17,503	330,424	...	...	...
1969	354,691	300	5,742	17,613	331,036	...	...	...
1970	425,009	324	8,045	19,213	397,427	...	...	...
1971	484,860	375	9,211	21,137	454,137	...	...	...
1972	547,590	315	8,553	17,215	521,507	23,231	15,251	509,108
1973	567,514	347	9,323	17,716	540,128	23,484	14,431	529,599
1974	592,973	383	7,686	16,310	568,594	22,568	19,026	551,379
1975	604,176	405	9,334	17,015	577,422	22,795	22,305	559,076
1976	623,453	520	8,094	17,256	597,583	21,908	18,142	583,403

1. Calendar years or biennial periods through 1966 for circuit courts and district courts and through 1967 for the Supreme Court; January 1-June 30, 1967 for circuit courts and district courts; and years ended June 30, 1968 and later years for all courts.

2. Cases disposed of or terminated for 1941 and later years; unspecified for earlier years.

3. Classification of cases varies from year to year; for example, violations of the master and servants act (deserting bound service) were classified as criminal offenses in 1870-1875 and 1878-1879 but as civil offenses in 1876-1877 and 1880-1883.

4. Data for 1848-1852 refer to the Superior Court. Data for 1848-1893 include probate cases. Excludes naturalizations, 1900-1902 and 1960.

5. Biennial totals for 1931-1940 shown here are inconsistent with annual totals published for the same years: 1931, 1,271; 1932, 1,366; 1933, 3,656; 1934, 4,277; 1935, 4,041; 1936, 4,583; 1937, 4,875; 1938, 6,197; 1939, 5,608; and 1940, 5,933. The biennial totals for these years appear to be consistent with similar data for earlier years; the annual totals, with data for later years.

TABLE 10.7 (cont.)

6. Includes traffic, other violations, and other proceedings, as follows:

Year	Traffic	Other Violations	Other Proceedings
1972	480,286	13,952	14,870
1973	499,389	14,796	15,414
1974	520,964	17,667	12,748
1975	524,345	20,733	13,998
1976	545,340	24,881	13,182

7. Totals by type of court differ from those by type of case, apparently because of exclusion of 1900-1902 naturalizations from the former.

8. Civil cases plus criminal defendants. Total cases in all courts numbered 67,301 in 1933-1934, 76,920 in 1935-1936, and 91,729 in 1937-1938.

9. Excludes district courts outside of the First Circuit.

10. Data for circuit courts and district courts are for January 1-June 30, 1967.

Source: Report of the Chief Justice of the Supreme Court (annual or biennial, 1853-1958); Hawaii State Judiciary, Office of the Administrative Director of Courts, records.

TABLE 10.8 INMATES OF CORRECTIONAL INSTITUTIONS, 1866 TO 1976

Year	State Prison System ¹			Youth Correctional Facility		
	Total	Felons	Boys ²	Girls ³	Total	Felons
1866	...	...	15	--	485	480
1868	...	...	31	2	533	...
1870	...	...	49	--	631	622
1872	...	...			686	684
1874	...	...	70		703	701
1876	...	...	56		662	661
1878	187	...	47	--	651	650
1880	...	...	53	--	347	...
1882	170	...	51	--	373	...
1884	216	...	49	--	414	...
1886	228	...	53	--	492	...
1888	172	...	52	--	430	...
1888	141	...	12	--	464	...
1890	154	...	10	--	475	...
1892	131	...	27	--	483	...
1894	158	78	33	--	525	...
1895	174	87	...	...	516	...
1896	164	91	34	...	593	...
1897	...	...	39	--	506	...
1899	153	93	39	--	476	...
1900	127	82	34	--	486	...
1902	204	104	71	--	488	...
1904	267	166	105	15	487	...
1906	218	136	95	36	536	...
1908	272	172	149	53	559	...
1910	229	193	144	47	602	...
1912	260	250	146	63	625	...
1913	276	...	...	...	...	...
1914	341	334	121	89	...	...

TABLE 10.8 (cont.)

Year	State Prison System ¹	Youth Correctional Facility			Honojulu Jail ⁶	Year	State Prison System ¹	Youth Correctional Facility			Honojulu Jail ⁶
		Boys ²	Girls ³					Boys ²	Girls ³		
1943	557	142	140	...	1961	591	...	...	130
1944	476	161	162	...	1962	603	112	67	170		
1945	482	160	182	...	1963	561	120	63	171		
1946	485	162	181	143	1964	505	99	49	161		
1947	499	183	191	117	1965	514	82	53	134		
1948	543	183	153	127	1966	480	80	43	148		
1949	616	186	137	124	1967	437	74	37	148		
1950	...	130	105	121	1968	383	60	25	127		
1951	625	110	90	103	1969	320	51	21	97		
1952	...	180	180	128	1970	281	56	11	111		
1953	601	92	68	130	1971	257	61	12	127		
1954	618	114	65	133	1972	256	49	9	121		
1955	597	89	62	131	1973	300	63	19	111		
1956	573	84	67	131	1974	302	62	17	124		
1957	553	80	69	124	1975	312	60	16	144		
1958	505	109	60	130	1976	345	44	11	145		
1959	513	134	66	145							
1960	...	102	66	122							

1. Includes Oahu Prison (built in Iwilei in 1857, relocated in Kalihi in 1918, and renamed Hawaii State Prison in 1962), the subsidiary prison (or honor) camps on other islands, the Conditional Release Center, and Adult Furlough Center; excludes the Youth Correctional Facility and Halawa Correctional Facility. Before 1911, persons convicted of misdemeanors as well as those convicted of felonies and "persons committed, awaiting trial" were confined to Oahu Prison; since that time, only those convicted of felonies have been inmates of the state prison system. Data refer to the average inmate populations for two-year periods ended March 31, 1876 to 1894; the 21-month period ended December 31, 1895; 2-year periods ended December 31, 1897, 1899, 1904, 1908, 1910, 1912, and 1916; calendar year 1900; 18-month periods ended December 31, 1902 and 1906; and fiscal years ended June 30, 1913, 1917-1922, 1932-1940, 1946-1948, and 1953 forward; and to June 30 inmate totals for 1914, 1923-1931, 1941-1945, 1949, and 1951.

TABLE 10.8 (cont.)

2. Includes the Industrial and Reformatory School (built in Kapalama in 1865 and used for boys until 1903), Waialeale Training School for Boys (built 1903 and used until 1950), Koolau Boys Home (opened 1950), and subsidiary forestry camps. Data refer to total ward population as of March 31, 1866 to 1894; December 31, 1896 to 1914; January 1, 1916 and 1917; December 31, 1918-1924 and 1928; and June 30, 1925-1927, 1929, 1931-1938, and 1960; and average ward population for the 18-month period ended December 31, 1930 and fiscal years ended June 30, 1939-1959 and 1962 forward.
3. Includes the Industrial and Reformatory School (built in Kapalama in 1865, renamed the Girls' Industrial School in 1903, and occupied until 1929) and Maunawili Training School (opened 1929 and renamed Kawaiiloa Girls' School in 1931). Data refer to ward totals for March 31, 1866-1894; December 31, 1896-1914 and 1917-1919; June 30, 1931-1934, 1939, and 1960; and January 1, 1937; and to average ward population for calendar years 1916 and 1920-1929, the 18-month period ended December 31, 1930, and fiscal years ended June 30, 1940-1959 and 1962 forward.

4. Oahu Prison data for 1905-1908 include Honolulu jail.

5. Oahu Prison data for 1915-1922 appear to include paroled prisoners as well as those actually confined.
6. Calendar year averages through 1974 and years ended June 30 thereafter. The City and County Jail was built in Iwilei in 1857, relocated to Halawa in 1962, and transferred to state control as Halawa Correctional Facility in 1975.

Source: Biennial Report of the President of the Board of Education for 1864-1896; Biennial Report of the Minister of the Interior for 1876-1890; Report of the Marshal ... 1892; Report of the Attorney General for 1894-1899, 1902-1912, and 1916; Report of the Minister of Public Instruction for 1897 and 1899; Financial Statement of the Attorney General ... 1900; Report of the Superintendent of Public Instruction for 1900-1914; Report of the Governor of Hawaii for 1913, 1914, 1918-1938, and 1941; Report of the Board of Industrial Schools for 1916-1930; Annual Report of the Board of Prison Directors for 1932-1939; Annual Report of the Department of Institutions for 1940 and 1945-1959; Lee M. Brooks and C. K. Cheng, Survey of Conditions and Needs Basic to Planning a New Jail for the City and County of Honolulu (1955), p. 41; Honolulu Police Department, Statistical Report for 1961-1971 and records; and Hawaii State Department of Social Services and Housing, Corrections Division, records.

TABLE 10.9 LEGAL EXECUTIONS, 1889 TO 1957

Year	Number ¹	Year	Number ¹	Year	Number ¹
1889	3	1909	2	1929	2
1890	--	1910	1	1930	--
1891	--	1911	1	1931	--
1892	--	1912	1	1932	1
1893	--	1913	3	1933	2
1894	--	1914	1	1934	--
1895	--	1915	4	1935	--
1896	--	1916	--	1936	--
1897	1	1917	5	1937	1
1898	3	1918	--	1938	--
1899	--	1919	--	1939	--
1900	--	1920	--	1940	1
1901	--	1921	1	1941	2
1902	1	1922	--	1942	--
1903	--	1923	1	1943	--
1904	1	1924	--	1944	1
1905	--	1925	--	1945	--
1906	6	1926	--	1946	--
1907	--	1927	4	1947	--
1908	--	1928	--	1948-57 ²	--

1. All 49 persons executed during this period were males convicted of murder in the first degree, and hanged at Oahu Prison.

2. Capital punishment was abolished by Act 282, S.L.H. 1957, reg., approved and effective June 4, 1957.

Source: Biennial Report of the Attorney-General to the Legislative Assembly of 1890, pp. 6-7; Biennial Report of the Chief Justice of the Supreme Court for the Years 1896 and 1897, pp. 13-14; Hawaii State Department of the Attorney General, Bureau of Crime Statistics and Civil Identification, records for 1897 forward.

TABLES IN SECTION 11

- 11.1 Parks, 1900 to 1976
- 11.2 Freshwater game fishing licenses and hunting licenses issued, 1943 to 1976
- 11.3 Attendance at selected museums and other attractions, 1899 to 1976
- 11.4 Performing arts, 1915-1916 to 1975-1976
- 11.5 Licensed dogs, by county, 1925 to 1976
- 11.6 Mode and direction of travel and visitor status of passengers arriving in Hawaii, 1951 to 1976
- 11.7 Visitor arrivals, average visitor census, and visitor expenditures, 1886 to 1976
- 11.8 Characteristics of westbound visitors to Hawaii, 1951 to 1976
- 11.9 Family income, islands visited, and trip reaction of westbound visitors from the United States, 1951 to 1975
- 11.10 Average expenditure per visitor day in Hawaii, 1931 to 1974
- 11.11 Hawaii Visitors Bureau expenditures and state appropriations for tourism promotion, 1903 to 1977
- 11.12 Returning residents, 1921 to 1976

SECTION 11

Recreation and Tourism

This section presents statistics on park acreage and use, game fishing and hunting licenses, museum attendance, the performing arts, pet ownership, tourists and other visitors to Hawaii, tourism promotion, and out-of-state travel by island residents. Additional information on passenger movement is included in section 17. Hotel statistics appear in section 20.

Public parks were first established in Hawaii more than a century ago, but few if any statistics on these facilities were compiled until relatively recently. Hawaii National Park, the first national park in the territory, was authorized in 1916, but estimates of attendance were not made until 1921. The Division of Territorial Parks was created by the 1949 legislature, and the first territorial parks, Kokee and Waimea Canyon, were established in 1952; both areas had been under the jurisdiction of the Division of Forestry for many years, however, and had long been used for parks. Acreage and attendance data for these areas were compiled from the date of their establishment as parks. The first local park in the islands was Thomas Square, Honolulu, created in 1850. Although the counties have maintained records on park acreage for a number of years, all-island totals are available for only a few earlier dates. Published sources for data on federal, state, and county parks are miscellaneous reports of the National Park Service, the annual or biennial reports of the Department of Land and Natural Resources, occasional county reports, and, since 1962, the compilations made by the Department of Planning and Economic Development for inclusion in The State of Hawaii Data Book. The acreage statistics contained in these sources are presumably quite accurate, but the estimates of attendance are frequently only rough approximations.

Freshwater game fishing licenses and hunting licenses have been required since 1925, but statistics on the number of licenses issued were not tabulated until the mid-1940s. These data have appeared in the annual and biennial reports of the Board of Commissioners of Agriculture and Forestry, the Department of Agriculture and Conservation, and, since 1962, the Department of Land and Natural Resources. No license is required for saltwater sports fishing, and statistics for this activity are accordingly unavailable.

Attendance totals for museums and similar attractions are generally compiled by the institutions but are frequently left unpublished. The Bernice P. Bishop Museum was opened in 1889 and attendance data were first

collected in 1899. The Waikiki Aquarium was built in 1904 by the Honolulu Rapid Transit and Land Company, which regularly included attendance totals in its annual reports; after 1919, when the aquarium was acquired by the City and County of Honolulu, these data were compiled but left unpublished. Honolulu Zoo was opened in Kapiolani Park in 1914; attendance estimates go back to August 1949. The Honolulu Academy of Arts, opened in 1927, maintained attendance data from its inception. Since 1962, attendance statistics for such attractions have been published by the Department of Planning and Economic Development, either in its Statistical Report series or in The State of Hawaii Data Book.

Data on the performing arts are scattered and incomplete. Honolulu's first theater, the Thespian, opened in 1847, and performances of plays, operas, and concerts by both touring and local companies were common from that time forward. The oldest and largest of the community theater groups, the Honolulu Community Theatre, was established as the Footlights in 1915 and reorganized under its present name in 1935. The earliest reported performance by University (then College) of Hawaii students and faculty took place in 1912. The Honolulu Theatre for Youth presented its first production in 1955. The most important of the musical organizations, the Honolulu Symphony Orchestra, gave its first public concert in 1902, and has performed regularly since 1924. By 1976 at least ten community and university theater groups and a number of musical groups were active on Oahu, while other organizations served the neighbor islands. Notwithstanding this rich and varied cultural history, statistics on Hawaii's performing arts have been virtually nonexistent. Published data are for all practical purposes limited to the tabulations prepared by the Department of Planning and Economic Development and included in its Statistical Report series (1962-1972) and The State of Hawaii Data Book. These data are unfortunately incomplete for years before 1966 and far from comprehensive even for more recent periods.

Trend data on pet ownership are restricted to dog license totals, as compiled by the county treasurers. Although these figures are available back to the early decades of the century, their value is considerably diminished by the large (and apparently fluctuating) number of unlicensed dogs.

Statistics on tourism were first systematically compiled in the 1920s, long after providing services to visitors became an important economic activity. During the first two-thirds of the nineteenth century, most visitors

were ships' crews, but the initiation of regular steamship service in 1867 and construction of the first luxury hotel five years later eventually attracted more conventional tourists. Estimates of visitor totals for some of these early years were published by L. J. Crampon (in "Hawaii's Visitor Industry," Journal of Travel Research) in the fall of 1974. Beginning in 1921 and 1922, the Hawaii Tourist Bureau began the collection of monthly statistics on cabin passenger arrivals, classifying passengers by visitor status (tourists staying two days or longer, through passengers, and local residents) and further breaking down the tourists by direction of travel. These tabulations appeared in various reports of the Hawaii Tourist Bureau and Chamber of Commerce of Honolulu, the annual report of the governor, and in the First Progress Report of the Territorial Planning Board (1939).

The present visitor research program was initiated in October 1950. At that time the Hawaii Visitors Bureau (HVB) received permission to include questions on visitor status, place of residence, length of stay, age, sex, occupation, and similar matters on the lower half of the territory's agricultural declaration form, distributed to all passengers arriving from the mainland. A random sample of visitors completing this form later received follow-up questionnaires seeking information on their reactions to their Hawaiian trip as well as data on educational attainment, family income, and other characteristics. Statistics on passengers arriving from Asia and the South Pacific were limited to estimates based on carrier reports and other available sources. The basic data survey, based on the agricultural form, has been conducted continuously since its inception, and results have been published since 1952 in the HVB annual research report. The visitor reaction survey has had a more sporadic existence, with findings currently released in special quarterly and annual reports. Since 1970, when the State Department of Agriculture discontinued mandatory reporting, nonresponse has become a serious problem in the basic data survey. The lack of comprehensive data on eastbound and northbound passengers has also limited the value of the survey.

Visitor expenditure surveys have been made on several occasions. The first such study, conducted in 1931 and 1932, was reported in Merton K. Cameron's Tourist Expenditures in the Territory of Hawaii (University of Hawaii Occasional Papers, No. 17, January 1933). A considerably more ambitious study was undertaken for HVB by John Child and Company in 1951

and issued as The Impact of Visitor Dollars in Hawaii in 1953. A study conducted by the University of Hawaii Economic Research Center for the HVB and based on 1960-1961 data was published in 1962 as Surveys of Visitor Expenditures, Transpacific Carrier and Carrier Crew Expenditures, and Inter-Island Passenger Characteristics in Hawaii. Results of a survey made by the HVB in 1965-1966 but limited to Oahu visitors were summarized in the First National Bank of Hawaii's Economic Indicators for November 1967. The most recent HVB survey, conducted in 1974, was described in the HVB's 1974 Visitor Expenditure Survey (July 1975). The results of these surveys have provided the basis for annual estimates of total visitor expenditures going back to 1922.

Annual data on appropriations and expenditures for the promotion of tourism have been available since the early 1900s. The Hawaii Promotion Committee was established in 1903 and renamed the Hawaii Tourist Bureau in 1919, the Hawaii Travel Bureau in 1944, and the Hawaii Visitors Bureau in 1945. Since its creation, the bureau has received territorial and state funds for promotion and research in tourism. These appropriations have been listed regularly in Statute Laws of Hawaii. Totals for HVB expenditures have usually remained unpublished.

National statistics on recreation and travel appear in Historical Statistics of the United States, Colonial Times to 1970, chapter H, series H806 to H951, and in the section on "Public lands, parks, recreation, and travel" of Statistical Abstract of the United States, issued annually.

TABLE 11.1 PARKS, 1900 TO 1976

Year	National Parks ¹			State Parks ²			County Parks ³	
	Areas ⁴	Acres ⁴	Visits ⁵ (1,000)	Areas	Acres	Visits (1,000)	Areas	Acres
1900	--	--	--	--	--	--	8	21
1916	1	120,985	...	--	--	--	...	...
1917	1	120,985	...	--	--	--	...	...
1918	1	120,985	...	--	--	--	...	...
1919	1	120,985	...	--	--	--	...	...
1920	1	120,985	...	--	--	--	48	1,634
1921	1	120,985	17	...	...	...	...	...
1922	1	164,385	40	...	...	...	...	...
1923	1	164,385	51	...	...	...	...	...
1924	1	164,385	52	...	...	...	...	...
1925	1	164,385	64	...	...	...	...	...
1926	1	164,385	38	...	...	...	...	...
1927	1	160,365	78	...	...	...	...	...
1928	1	159,031	110	...	...	...	...	...
1929	1	159,031	90	...	...	...	...	...
1930	1	159,031	125	...	...	...	...	...
1931	1	159,031	140	...	...	...	...	...
1932	1	159,031	240	...	...	...	...	...
1933	1	159,031	407	...	...	...	...	...
1934	1	159,031	207	...	...	...	...	...
1935	1	159,031	186	...	...	...	...	...
1936	1	159,031	183	...	...	...	...	...
1937	1	159,031	216	...	...	...	...	...
1938	1	214,101	196	5	152	...	187	4,662
1939	1	214,101	227	...	...	...	...	...
1940	1	207,651	286	...	...	...	140	3,865
1941	1	207,651	325	...	...	...	...	...
1942	1	207,651	338	...	...	...	...	...
1943	1	207,651	466	...	...	...	...	...
1944	1	207,651	441	...	...	...	...	...
1945	1	207,651	381	...	...	...	...	...
1946	1	207,651	427	...	...	...	...	...
1947	1	207,651	383	...	...	...	...	...
1948	1	207,651	393	...	...	...	...	...
1949	1	207,651	372	...	...	...	...	...
1950	1	214,101	348	...	...	...	174	4,048
1951	1	256,020	511	...	...	...	...	...
1952	1	256,020	703	5	5,422	...	...	...
1953	1	256,020	422	7	5,500	76	...	...
1954	1	256,020	449	9	5,739	79	...	...
1955	2	256,201	422	14	5,829	148	...	...
1956	2	256,201	525	15	5,846	154	...	...
1957	2	256,201	519	16	6,138	164	235	4,764
1958	2	256,201	462	18	6,166	239	236	4,867
1959	2	256,201	789	18	6,166	243	...	...
1960	3	256,201	771	18	6,166	267	...	...

TABLE 11.1 (cont.)

Year	National Parks ¹			State Parks ²			County Parks ³	
	Areas ⁴	Acres ⁴	Visits ⁵ (1,000)	Areas	Acres	Visits (1,000)	Areas	Acres
1961	3	256,201	862	18	6,166	297	...	...
1962	3	256,201	531	21	6,410	489	280	5,142
1963	3	256,201	621	23	6,410	666	370	5,638
1964	3	256,201	647	22	6,412	1,196	...	...
1965	3	256,201	832	22	7,514	1,893	...	...
1966	3	256,201	913	27	7,514	2,710	...	...
1967	3	256,201	1,098	34	7,536	3,204	320	4,732
1968	3	256,201	1,301	36	7,541	4,767	...	...
1969	3	257,181	1,087	38	8,231	6,142	411	5,884
1970	3	257,181	1,233	41	15,584	9,520	...	...
1971	3	257,181	1,479	44	15,983	13,007	376	6,334
1972	4	257,281	2,046	46	16,000	9,798	479	6,662
1973	4	257,219	2,026	46	16,108	13,271	490	7,160
1974	4	247,910	2,299	53	16,629	12,907	535	7,211
1975	4	247,910	2,559	53	18,181	12,124	560	7,376
1976	4	247,910	2,896	55	18,577	14,305	572	7,775

1. Includes Hawaii National Park, established August 1, 1916, with sections at Kilauea and Haleakala; Hawaii Volcanoes National Park and Haleakala National Park, created from the two sections of Hawaii National Park on July 1, 1961; City of Refuge National Historical Park, established July 1, 1961; and Puukohola Heiau National Historic Site, authorized in 1972 and dedicated in 1975.

2. Data for years ended June 30. The Division of Territorial Parks was created by the 1949 legislature, and the first territorial parks, Kokee and Waimea Canyon, were established March 27, 1952. Both areas had been under the jurisdiction of the Division of Forestry for many years, and, like Akaka Falls and other areas later added to the system, had long been used as parks.

3. Unspecified dates for 1900-1938; July 1, 1940-1958 and 1967; April 1, 1962 and 1963; December 31, 1969 and later years. Data for 1940 and 1950 exclude Maui County (22 areas and 221 acres in 1938; 20 areas and 117 acres in 1957). Data prior to 1940 refer to county recreational areas open to the public. The first local public park in the islands was Thomas Square, Honolulu, establishment in 1850 but not improved until 1873. The first improved and regularly maintained park was Emma Square, Honolulu (1871).

4. Area authorized but not necessarily acquired. As of December 31.

5. No official statistics are available before July 1, 1921, although unofficial data go back at least to 1865, when "there were over four hundred visitors at the volcano" (Frances Jackson, National Parks in Hawaii, 1966, p. 18). Totals exclude the Haleakala Section before October 1, 1936, and City of Refuge before April 1, 1961. The 1921 total is limited to the last six months of the year.

TABLE 11.1 (cont.)

Source: U.S. Department of the Interior, National Park Service, Hawaii Group, records; Hawaii State Department of Land and Natural Resources, Report to the Governor (annual) and records; Territorial Planning Board, An Historic Inventory of the Physical, Social and Economic and Industrial Resources of the Territory of Hawaii (1939), p. 162; Honolulu Department of Parks and Recreation, records; Hawaii County Department of Parks and Recreation, records; Kauai Department of Public Works, records; Maui Department of Parks and Recreation, records.

TABLE 11.2 FRESHWATER GAME FISHING LICENSES AND HUNTING LICENSES ISSUED, 1943 TO 1976

Years Ended June 30	Freshwater		Years Ended June 30	Freshwater	
	Game Fishing	Hunting		Game Fishing	Hunting
1943 ¹	] 69	NA	1962	4,209	6,924
1944		NA	1963	4,264	7,095
1945	46	] 3,695	1964	5,269	7,766
1946	23		1965	4,357	7,613
1947	38	4,521	1966	3,743	6,903
1948	155	5,589	1967	3,424	7,142
1949	545	5,453	1968	3,867	8,510
1950	²	5,042	1969	3,798	8,629
1951	392	4,230	1970	5,070	9,773
1952	627	4,471	1971	5,551	10,302
1953	2,617	4,695	1972	7,759	11,178
1954	1,734	4,514	1973	6,902	12,764
1955	1,950	4,522	1974	8,309	11,452
1956	2,288	4,742	1975	7,277	12,500
1957	2,595	5,179	1976	8,574	12,754
1958	3,320	5,290			
1959	2,383	5,222			
1960	1,682	5,290			
1961	3,014	6,214			

1. Earliest year available. Freshwater game fishing licenses and hunting licenses were established by Act 75, S.L.H. 1925, effective July 1, 1925.

2. Fresh and saltwater fishing licenses (required May 21, 1949-June 30, 1950) numbered 21,430.

Source: Report of the Board of Commissioners of Agriculture and Forestry (biennial, 1944-1952); Hawaii State Department of Land and Natural Resources, Annual Report for 1962-1975 and records.

TABLE 11.3 ATTENDANCE AT SELECTED MUSEUMS AND OTHER ATTRACTIONS, 1899 TO 1976

Year	Bernice P. Bishop Museum ¹	Waikiki Aquarium ²	Year	Bernice P. Bishop Museum ¹	Honolulu Academy of Arts ³	Honolulu Zoo ⁴	Waikiki Aquarium ²
1899	8,399	...	1930	26,374	47,274	...	27,861
1900 ⁵	6,940	...	1931	24,755	...	...	21,833
1901	8,323	...	1932	20,103	...	...	16,499
1902	8,536	...	1933	20,468	...	...	13,515
1903 ⁶	5,494	...	1934	24,572	...	...	18,864
1904	12,672	...	1935	28,108	92,461	...	22,113
1905	14,296	25,735	1936	31,554	...	...	20,736
1906	11,494	19,232	1937	29,891	...	...	21,050
1907	11,024	17,909	1938	33,341	...	...	19,693
1908	9,706	...	1939	32,082	...	...	18,592
1909	11,846	17,212	1940	27,736	96,399	...	23,779
1910	11,012	17,107	1941	25,968	...	...	144,793
1911	11,202	17,988	1942	8,851	...	...	168,520
1912	12,581	19,939	1943	23,351	...	...	151,332
1913	14,980	21,568	1944	32,835	...	...	251,630
1914	15,573	17,944	1945	34,979	126,997	...	389,224
1915	13,985	16,444	1946	25,105	94,630	...	250,105
1916	15,529	16,497	1947	31,881	163,637	...	142,501
1917	15,637	18,995	1948	26,261	139,666	...	158,778
1918	14,029	22,242	1949	27,509	137,109	...	162,780
1919	19,074	28,946	1950	28,240	109,610	590,591	159,523
1920	29,159	34,589	1951	34,953	99,700	513,577	150,021
1921	30,313	26,523	1952	40,595	91,543	522,426	132,818
1922	33,303	23,444	1953	73,739	114,513	644,330	103,741
1923	33,280	23,653	1954	21,462	113,771	501,688	91,356
1924	34,337	23,828	1955	76,802	129,743	537,473	372,940
1925	35,771	26,280	1956	83,896	122,195	694,651	247,148
1926	32,754	22,378	1957	96,526	109,108	497,748	264,224
1927	32,183	23,439	1958	95,615	100,551	554,515	249,886
1928	32,249	27,115	1959	97,151	98,837	558,466	257,714
1929	32,622	30,207	1960 ⁷	98,601	31,822	519,186	274,733

TABLE 11.3 (cont.)

Year	Bernice P. Bishop Museum ¹						Honolulu Zoo ⁴	Waikiki Aquarium ²
	Exhibition Halls	Science Center	Falls of Clyde	Heritage Theatre	Other Facilities ⁸	Honolulu Academy of Arts ³		
1961 ⁷	116,634	...	...	...	...	76,552	489,225	239,743
1962	102,276	44,165	...	...	...	104,993	481,389	251,522
1963	91,305	39,826	...	...	...	119,000	593,814	236,180
1964	101,473	24,430	...	...	...	102,000	692,706	244,612
1965	80,012	43,665	...	...	44	107,222	761,246	225,864
1966	74,846	50,774	...	...	74	119,736	736,049	239,345
1967	75,321	49,489	...	...	67	112,582	898,178	268,566
1968	84,758	58,140	...	...	116	150,207	890,284	269,379
1969	97,328	59,275	...	...	251	108,642	1,108,823	258,860
1970	119,112	77,629	10,019	...	5,912	127,807	1,016,809	251,450
1971	113,176	66,282	11,535	...	8,107	109,920	1,107,193	231,149
1972	126,607	68,731	15,983	...	10,437	115,173	1,094,718	230,812
1973	123,930	57,985	35,037	14,421	8,571	135,110	1,329,000	207,260
1974	138,219	71,554	48,532	31,339	10,685	135,872	1,089,657	299,300
1975	137,106	62,486	35,436	23,158	13,949	142,227	1,200,000	235,054
1976	166,907	72,266	36,506	27,845	8,134	153,240	1,300,000	240,890

1. Calendar years 1899-1971; years ended June 30, 1972 and thereafter. The Bishop Museum was established in 1889 but was not opened to the public without an invitation or permit until 1899. The Science Center, initially called the Planetarium-Observatory, was dedicated December 12, 1961. The Falls of Clyde Maritime Museum was opened to the public in September 1970; Heritage Theatre, on December 13, 1972.

2. Calendar years. Waikiki Aquarium was built in 1904 by Honolulu Rapid Transit and Land Company. Data through June 30, 1919 refer to paid attendance; thereafter, to total attendance.

3. Calendar years. The Honolulu Academy of Arts was opened April 8, 1927.

4. Calendar years. The Honolulu Zoo was established in 1914. Attendance was first recorded August 1, 1949.

5. Bishop Museum closed two months because of bubonic plague.

6. Bishop Museum closed six months for reinstallation of Hawaiian exhibit.

7. Academy of Arts closed part of the year.

8. Persons attending museum classes or from organizations using museum facilities for special purposes.

Source: Annual Report of the Honolulu Rapid Transit and Land Company, 1904-1919; data supplied by the Bernice P. Bishop Museum, Honolulu Academy of Arts, Honolulu Department of Parks and Recreation, and Waikiki Aquarium.

TABLE 11.4 PERFORMING ARTS, 1915-1916 TO 1975-1976

Season	Oahu Theater Groups ¹				Honolulu Symphony Orchestra		
	Number Reporting	Productions	Performances	Attendance	Performances ²	Attendance ²	Expenditures (dollars)
1915-1916	1	4	12	NA	...	...	...
1920-1921	2	5	7	NA	...	...	...
1925-1926	2	9	14	NA	5	NA	NA
1930-1931 ³	2	14	27	NA	7	4,477	8,842
1935-1936	2	13	37	NA	4	NA	6,911
1940-1941	2	9	39	NA	4	NA	NA
1945-1946	2	5	16	NA	6	8,512	22,167
1950-1951	2	16	160	NA	21	31,377	68,813
1955-1956	3	14	139	36,000	39	NA	86,000
1961-1962	4	22	256	104,000	58	NA	213,179
1966-1967	9	61	531	190,000	105	156,678	532,542
1970-1971	8	52	402	161,000	142	NA	711,300
1971-1972	7	53	503	188,000	138	181,992	901,866
1972-1973	9	63	549	177,000	109	200,931	1,042,262
1973-1974	10	79	1,020	253,000	119	177,000	1,439,486
1974-1975	11	149	1,078	272,000	135	198,000	1,423,911
1975-1976	10	165	1,590	464,000	128	216,225	1,654,510

1. Major community and university groups. Incomplete prior to 1966-1967. Include off-island performances. Statistics for years before World War II include one-act plays (three in 1925-1926, two in 1935-1936), pageants (one each in 1930-1931 and 1935-1936), readings (four in 1920-1921, one in 1925-1926, and five in 1930-1931), and talks (one in 1940-1941) as well as full-scale plays (four in 1915-1916, one in 1920-1921, five in 1925-1926, eight in 1930-1931, ten in 1935-1936, and eight in 1940-1941).

2. Exclude demonstration concerts by small symphony ensembles in schools.

3. Honolulu Symphony Orchestra attendance and expenditure data refer to 1933.

Source: Hawaii State Department of Planning and Economic Development, Statistics on Cultural Activities in Hawaii for 1961-1962, 1966-1967, 1970-1971, and 1971-1972, The State of Hawaii Data Book for 1974, 1975, and 1976, and records.

TABLE 11.5 LICENSED DOGS, BY COUNTY, 1925 TO 1976

Year	All Reporting Counties	City and County of Honolulu	County of Hawaii	County of Kauai ¹	County of Maui
1925	...	...	...	...	695
1930	2,108	825	918	...	365
1935	11,751	5,512	5,090	...	1,149
1940	5,380	3,976	633	...	771
1945	30,607	21,446	6,222	...	2,939
1950	39,033	27,557	8,215	...	3,261
1955	37,603	25,670	7,565	...	4,368
1960	33,859	23,101	6,289	...	4,469
1965	35,728	27,782	3,347	...	4,599
1970	39,546	31,559	2,868	...	5,119
1971	46,611	37,693	3,067	...	5,851
1972	52,505	39,104	3,997	2,942	6,462
1973	52,049	37,438	4,579	2,664	7,368
1974	50,169	35,256	5,105	3,249	6,559
1975	55,471	38,564	5,720	3,696	7,491
1976	49,639	36,025	4,965	2,730	5,919

1. Records for years before 1972 lost in fire.

Source: Honolulu Department of Finance, Division of Licenses; Hawaii County Department of Finance, Treasury Division; Kauai Department of Finance, County Treasurer; Maui Department of Finance, Treasury Division.

TABLE 11.6 MODE AND DIRECTION OF TRAVEL AND VISITOR STATUS OF PASSENGERS
ARRIVING IN HAWAII, 1951 TO 1976

Year	All Arriving Passengers	Mode of Travel		Direction	
		Air	Surface	Eastbound or Northbound	Westbound
1951	130,437	90,074	40,363	37,345	93,002
1952	141,192	104,539	36,653	35,062	106,130
1953	163,305	120,739	42,566	36,827	126,478
1954	186,008	137,991	48,017	44,505	141,503
1955	232,060	176,653	55,407	56,691	175,369
1956	272,619	215,033	57,586	68,975	203,644
1957	353,590	268,207	85,383	92,308	261,282
1958	363,848	479,768	84,080	100,655	263,193
1959	452,417	370,072	82,345	116,327	336,090
1960	532,547	449,052	83,495	132,743	399,804
1961	615,209	532,182	83,027	166,663	448,546
1962	690,378	606,972	83,406	193,343	497,035
1963	790,378	708,257	82,121	215,394	574,984
1964 ²	909,436	832,075	77,361	228,045	681,391
1964 ³	909,436	832,075	77,361	228,045	681,391
1965	1,064,657	988,892	75,765	250,033	814,624
1966	1,279,151	1,200,697	78,454	304,732	974,419
1967	1,562,414	1,482,884	79,530	346,440	1,215,974
1968	1,683,326	1,608,706	74,620	335,214	1,348,112
1969	1,941,638	1,876,821	64,817	375,625	1,566,013
1970	2,219,559	2,174,303	45,256	484,999	1,734,560
1971	2,500,462	2,455,147	45,315	597,332	1,903,130
1972	3,053,557	3,013,488	40,069	744,845	2,308,712
1973	3,624,667	3,598,312	26,355	928,252	2,696,415
1974	3,882,957	3,861,208	21,749	1,080,492	2,802,465
1975	3,849,525	3,832,790	16,735	1,043,001	2,806,524
1976	4,340,442	4,324,029	16,413	1,134,663	3,205,779

TABLE 11.6 (cont.)

Visitor Status of Westbound Passengers ¹							
Year	Visitors Destined to Hawaii	Visitors Destined Beyond		Returning Residents	Intended Residents	Not Classified	Unsur- veyed
		Overnight or Longer	Transits				
1951	43,426	3,994	12,917	16,600	5,853	1,510	8,702
1952	49,432	5,280	15,952	16,708	6,084	1,932	10,142
1953	66,296	5,956	16,992	17,440	6,472	3,084	9,938
1954	74,452	7,224	19,584	19,972	5,852	3,312	11,107
1955	89,772	8,316	31,312	21,996	8,332	6,092	9,549
1956	102,352	12,524	36,012	24,100	11,268	4,872	12,516
1957	128,832	13,468	46,924	28,768	16,676	4,780	21,834
1958	123,576	19,465	38,425	35,888	16,412	8,372	21,055
1959	177,550	30,185	38,714	36,100	18,825	4,325	30,391
1960	213,670	36,475	43,439	38,630	15,030	4,705	47,855
1961	202,850	45,825	47,155	43,590	16,715	1,330	91,081
1962	219,005	60,625	42,690	53,800	21,070	490	99,355
1963	258,765	73,915	38,860	54,140	20,200	455	128,649
1964 ²	316,550	88,685	36,445	73,060	24,040	255	142,356
1964 ³	359,554	100,736	110,034	83,313	27,446	308	--
1965	460,603	106,615	118,020	99,792	28,973	621	--
1966	558,388	128,498	137,136	117,605	32,031	761	--
1967	754,910	138,193	147,136	130,995	44,117	623	--
1968	869,116	146,728	148,802	140,592	42,236	638	--
1969	1,008,802	172,227	190,710	152,404	41,162	708	--
1970	1,127,950	198,185	193,798	173,252	40,073	1,302	--
1971	1,207,898	222,457	268,001	162,967	41,562	245	--
1972	1,540,268	242,469	309,595	171,772	44,388	220	--
1973	1,815,443	252,418	396,508	194,974	36,886	186	--
1974	1,899,632	284,988	426,507	154,154	37,007	177	--
1975	1,935,396	272,021	381,419	178,040	39,233	415	--
1976	2,245,252	306,349	426,666	186,684	40,690	138	--

1. Beginning with data for 1964, unsurveyed passengers have been distributed on the basis of carrier control totals and surveyed passengers' response. Accordingly, the data for 1964 and later years are not directly comparable to earlier years.

2. Unadjusted for unsurveyed passengers, and comparable to earlier years.

3. Adjusted for unsurveyed passengers and comparable to later years.

Source: Hawaii Visitors Bureau, Annual Research Report for 1952 and succeeding years.

TABLE 11.7 VISITOR ARRIVALS, AVERAGE VISITOR CENSUS, AND VISITOR EXPENDITURES, 1886 TO 1976

Year	Visitors Staying Overnight of Longer ¹			Average Number Present ²	Visitor Expenditures ³
	Total	Westbound	Other ⁴		
1886	2,040	NA	NA	NA	0.3
1922	9,676	8,493	1,183	NA	4.4
1923	12,021	10,699	1,322	NA	5.5
1924	12,468	11,311	1,157	NA	5.7
1925	15,193	13,689	1,504	NA	7.2
1926	16,762	15,177	1,585	NA	8.0
1927	17,451	15,693	1,758	NA	8.2
1928	19,980	18,275	1,705	NA	9.2
1929	22,190	20,041	2,149	NA	10.3
1930	18,651	16,995	1,656	NA	8.7
1931	15,780	14,332	1,448	1,200	6.9
1932	10,370	9,464	906	NA	4.1
1933	10,111	9,345	766	NA	3.8
1934	16,161	14,841	1,320	NA	6.3
1935	19,933	18,030	1,903	NA	7.9
1936	22,199	20,039	2,160	NA	8.9
1937	21,987	19,489	2,498	NA	9.5
1938	23,043	20,853	2,190	NA	10.2
1939	24,390	21,737	2,653	NA	11.0
1940	25,373	23,369	2,004	1,648	12.0
1941	31,846	30,425	1,421	2,069	16.4
1942-45 ⁵	...	...	...	...	...
1946	15,000	NA	NA	975	6.3
1947	25,000	NA	NA	1,625	12.1
1948	36,397	NA	NA	2,366	18.9
1949	34,386	NA	NA	2,235	17.7
1950	46,593	NA	NA	3,027	24.2
1951	51,565	47,634	3,931	3,350	29.0
1952	60,539	54,618	5,921	3,796	32.8
1953	80,346	72,152	8,194	4,746	42.6
1954	91,289	81,388	9,901	5,369	48.9
1955	109,798	98,105	11,693	6,042	55.0
1956	133,815	114,813	19,002	6,947	65.0
1957	168,829	141,518	27,311	8,205	77.6
1958	171,588	139,984	31,604	8,397	82.7
1959	243,216	207,645	35,571	10,390	109
1960	296,517	250,795	45,722	11,797	131
1961	319,807	248,540	71,267	11,960	137
1962	362,145	279,625	82,520	13,125	154
1963	429,140	332,680	96,460	15,316	186
1964 ⁶	508,870	405,235	103,635	16,739	225

TABLE 11.7 (cont.)

Year	Visitors Staying Overnight or Longer ¹			Average Number Present ²	Visitor Expenditures ³
	Total	Westbound	Other ⁴		
1964 ⁷	563,925	460,290	103,635	16,354	205
1965	686,928	567,218	119,710	17,991	225
1966	835,456	686,886	148,570	21,572	280
1967	1,124,818	893,103	231,715	28,202	380
1968	1,314,571	1,015,844	298,727	33,288	440
1969	1,527,012	1,181,029	345,983	38,078	550
1970	1,746,970	1,326,135	420,835	37,631	595
1971	1,818,944	1,430,325	388,619	41,909	705
1972	2,244,377	1,782,737	461,640	51,270	840
1973	2,630,952	2,067,861	563,091	61,633	1,020
1974	2,786,489	2,184,620	601,869	65,991	1,225
1975	2,829,105	2,207,417	621,688	68,837	1,270
1976	3,220,151	2,551,601	668,550	78,540	1,450

1. Data for 1951-1964 are not adjusted for survey nonresponse. Data for 1964 and later years are adjusted for survey nonresponse and hence are not precisely comparable to the earlier estimates.

2. Based on survey data for westbound visitors and rough estimates for eastbound and northbound visitors.

3. In millions of dollars. Excludes expenditures for transpacific transportation.

4. Eastbound and northbound arrivals.

5. The visitor industry was suspended during World War II.

6. Unadjusted for survey nonresponse, and comparable to earlier years.

7. Adjusted for survey nonresponse and comparable to later years.

Source: Anson Chong, Economic Development of Hawaii and the Growth of Tourism Before 1945 (May 1963), p. 112; Hawaii Visitors Bureau, Annual Research Report for 1952-1975, Revised Visitor Statistics, 1964-1970 (July 1971), and records; Hawaii State Department of Planning and Economic Development, estimates of average visitor census before 1951 based on HVB data.

TABLE 11.8 CHARACTERISTICS OF WESTBOUND VISITORS TO HAWAII, 1951 TO 1976

Year	California Residents ¹ (percent)	Males per 1,000 Females	Median Age (years)	High Status Occupations ² (percent)	Persons per Party	Arriving June 1- August 31 (percent)
1951	52.3	739	44.8	51.3	1.47	31.0
1952	48.9	697	46.4	50.2	1.49	25.3
1953	47.3	666	46.9	50.4	1.49	31.5
1954	43.7	676	47.4	49.5	1.50	30.7
1955	43.8	668	46.9	48.3	1.50	32.0
1956	45.1	706	46.1	47.6	1.52	32.6
1957	47.9	688	46.4	47.2	1.52	35.5
1958	45.6	765	45.3	49.7	1.49	33.2
1959	46.0	701	45.9	47.2	1.56	35.4
1960	42.5	743	45.2	51.7	1.54	33.3
1961	46.9	749	45.4	52.3	1.49	36.5
1962	42.8	751	45.5	54.1	1.53	36.7
1963	45.1	722	45.2	56.5	1.59	33.7
1964	46.5	780	45.5	59.4	1.58	33.2
1965	45.7	807	45.2	60.9	1.61	35.0
1966	39.7	798	45.3	59.9	1.58	30.9
1967	36.5	682	43.2	52.3	1.55	32.7
1968	34.2	631	41.7	48.3	1.52	31.9
1969	33.4	641	40.1	48.3	1.53	30.5
1970	33.4	663	40.7	49.6	1.55	33.1
1971	32.0	741	42.6	54.0	1.61	30.8
1972	27.7	801	44.7	58.9	1.71	29.2
1973	25.5	762	44.0	56.4	1.69	30.2
1974	24.4	788	44.1	59.3	1.72	28.6
1975	24.8	810	44.5	60.4	1.75	28.6
1976	24.0	787	44.8	58.4	1.75	28.3

TABLE 11.8 (cont.)

Year	Arriving by Sea (percent)	Repeat Visitors ³ (percent)	Pleasure Trip (percent)	Staying in Hotel (percent)	Average Intended Stay ⁴ (days)	Intending to Visit Neighbor Islands ⁵ (percent)
1951	43.6	22.3	72.3	NA	25.0	63.9
1952	30.6	25.7	73.6	77.8	25.3	66.2
1953	31.1	23.5	77.5	77.0	23.9	68.4
1954	27.1	24.5	78.2	78.2	23.6	67.3
1955	23.3	25.6	75.6	79.7	22.0	66.2
1956	19.5	27.5	77.6	79.2	22.0	66.0
1957	24.9	27.4	76.2	NA	20.8	64.7
1958	NA	30.4	74.6	NA	20.7	NA
1959	NA	26.9	73.9	NA	18.1	NA
1960	NA	25.8	67.3	NA	16.9	NA
1961	12.3	29.1	68.4	NA	17.2	NA
1962	11.3	29.9	75.4	NA	16.8	57.2
1963	7.9	30.8	68.1	83.1	15.4	65.7
1964	6.8	30.6	71.9	83.4	14.2	67.6
1965	5.0	31.7	75.2	90.1	13.0	67.1
1966	4.1	32.1	71.6	87.1	12.7	64.1
1967	2.9	29.0	74.9	84.9	12.3	56.5
1968	2.1	28.5	76.8	84.6	12.1	54.9
1969	1.2	30.6	72.9	83.2	12.3	53.2
1970	0.4	32.8	74.8	84.0	10.9	54.8
1971	0.3	36.4	76.0	84.9	11.0	60.6
1972	0.4	35.1	77.4	89.0	10.9	61.5
1973	0.3	34.3	78.3	89.3	10.7	58.8
1974	0.1	37.3	78.2	91.4	10.7	62.0
1975	0.1	39.7	76.4	91.7	10.8	66.0
1976	0.1	38.7	79.0	93.4	10.7	65.6

1. Base for 1970 and later years includes visitors arriving directly from Canada. The base for earlier years included only those passengers from Canada who made an intermediate stop in the United States.

2. Party heads only. Professional, technical, business, managerial, and official workers as a percent of all party heads responding to this question.

3. Party heads only.

4. Computed from total visitor days and total visitor arrivals for westbound visitors destined for Hawaii. These data differ somewhat from those in the source because of different computation procedures.

5. Base includes nonrespondents to this question among surveyed visitors assumed to intend not to visit the neighbor islands.

Source: Hawaii Visitors Bureau, Annual Research Report, 1952-1975; Revised Visitor Statistics, 1964-1970 (July 1971); and records.

TABLE 11.9 FAMILY INCOME, ISLANDS VISITED, AND TRIP REACTION OF WESTBOUND VISITORS FROM THE UNITED STATES, 1951 TO 1975

Year	Family Income (percent distribution)						Median Income (dollars)
	Under \$5,000	\$5,000 to \$7,499	\$7,500 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 and Over	
1951	100.0	32.3	29.2	38.5	8,000		
1971	100.0	3.6	8.1	13.7	26.4	18.8	
1972	100.0	2.6	5.6	8.1	23.0	26.7	
1973	100.0	2.5	5.4	8.5	21.8	28.5	
1974	100.0	1.7	4.2	6.9	19.5	32.8	
1975	100.0	1.5	3.6	6.1	18.1	37.4	

Year	Islands Visited (percent distribution) ¹					
	Total	Oahu Only	One or More Neighbor Islands			Three or More
			Hawaii	Maui	Kauai	N.I.
1951	100.0	38.7	61.3	32.9	29.7	NA
1962-63 ²	100.0	35.9	64.1	35.9	48.7	23.7
1968	100.0	44.4	55.6	40.3	39.5	27.5
1969	100.0	42.3	57.7	32.3	34.3	19.4
1970	100.0	43.7	56.3	37.0	36.7	21.4
1971	100.0	37.8	62.2	43.0	41.6	25.6
1972	100.0	33.7	66.3	48.4	44.0	26.0
1973	100.0	34.7	65.3	46.8	42.9	25.1
1974	100.0	31.7	68.1	47.5	41.6	22.6
1975	100.0	32.0	68.0	48.7	39.0	21.2

TABLE 11.9 (cont.)

Year	Hawaii Compared with Other Vacation Areas Visited (percent distribution)					Quite Inferior
	Total	Far Superior	Above Average	Average	Below Average	
1962-63 ²	100.0	35.0	51.8	11.9	1.0	0.3
1968	100.0	40.4	49.4	9.0	0.8	0.4
1969	100.0	38.4	48.3	11.7	1.4	0.3
1970	100.0	38.1	50.0	10.7	1.0	0.2
1971	100.0	39.2	50.4	9.3	0.8	0.2
1972	100.0	36.6	51.8	10.4	1.1	0.1
1973	100.0	38.6	50.4	9.8	1.0	0.2
1974	100.0	38.3	50.9	9.7	1.0	0.1
1975	100.0	40.2	49.7	9.1	0.9	0.2

1. Some persons visited more than one Neighbor Island; detail accordingly does not add to indicated totals and subtotals.

2. June 1, 1962 to May 31, 1963.

Source: Hawaii Visitors Bureau, Annual Research Report on Visitors to Hawaii 1952 (March 1953), table 26; Tourism by Islands (April 1957), pp. 11, 31, 34, and 37; Visitor Reaction Survey (November 1963), pp. 8, 27, and 32; Visitor Reaction Survey 1974 (April 1975), pp. 1, 21, and 30; and Visitor Reaction Survey 1975 (April 1976), pp. 1, 21, and 30.

TABLE 11.10 AVERAGE EXPENDITURE PER VISITOR DAY IN HAWAII, 1931 TO 1974
(Excludes transpacific fares. Categories are not strictly comparable from survey to survey.)

Item	Statewide			Oahu Only		
	1951	1960- 1961	1974	1931	1965- 1966	1974
All items (amount)	\$ 28	\$ 32	\$ 46.20	\$17.50	\$ 37.23	\$ 46.75
Percent, total	100.0	100	100.0	...	100.0	100.0
Lodging	25.4	23	28.9	...	29.1	28.3
Food	32.0	31	28.4	...	24.9	28.5
Beverages	6.8			...	6.8	
Night clubs	...			...	8.3	
Other entertainment	...	24	4.6	...	2.7	4.8
Clothing	10.1		10.7	...	11.5	11.9
Gifts and souvenirs	10.7	8	9.7	...	5.9	10.2
Interisland transportation	4.5		2.7	...	...	2.7
Local transportation	3.6	14	8.4	...	5.4	6.9
Other expenditures	6.9		4.8	...	5.4	4.9
Unallocated	...	...	1.8	...	...	1.8

Source: Hawaii Visitors Bureau, 1974 Visitor Expenditure Survey (July 1975), pp. 26-29.

TABLE 11.11 HAWAII VISITORS BUREAU EXPENDITURES AND STATE APPROPRIATIONS FOR TOURISM PROMOTION, 1903 TO 1977
(dollars)

Year	HVB expenditures ¹	State Appropriations ²	HVB Expenditures ¹				State Appropriations ²	
			Year	Total	Private Funds	Public Funds Amount Percent		
1904 ³	30,385	15,000	1941	205,762	NA	NA	NA	62,500
1905	4	--	1942	5	NA	NA	NA	62,500
1906	4	--	1943	5,092	NA	NA	NA	62,500
1907	4	--	1944	--	--	--	0	--
1908	18,468	3,000	1945	7,015	7,015	--	0	--
1909	4	3,000	1946	62,955	62,955	--	0	--
1910	4	--	1947	90,230	90,230	--	0	--
1911	4	--	1948	6	6	27,388	NA	37,500
1912	NA	6,000	1949	6	6	47,612	NA	37,500
1913	NA	6,000	1950	489,710	266,950	222,760	45.5	250,000
1914	31,778	6,000	1951	504,083	253,147	250,936	49.8	250,000
1915	NA	6,000	1952	535,593	267,029	268,564	50.1	250,000
1916	32,027	6,000	1953	558,065	280,392	277,673	49.8	250,000
1917	31,913	6,000	1954	573,325	298,325	275,000	48.0	262,500
1918	27,004	6,000	1955	614,838	300,738	314,100	51.1	262,500
1919	17,845	6,000	1956	741,915	353,504	388,411	52.4	375,000
1920	41,096	9,000	1957 ⁷	358,831	167,055	191,776	53.4	375,000
1921	40,140	9,000	1958	870,231	391,854	478,377	55.0	500,000
1922	59,552	22,500	1959	870,042	428,414	441,628	50.8	500,000
1923	71,797	22,500	1960	1,214,481	456,231	758,250	62.4	750,000
1924	97,820	50,000	1961	1,577,332	472,404	1,104,928	70.1	1,104,928
1925	114,698	50,000	1962	1,482,640	288,140	1,194,500	80.6	1,212,985
1926	128,116	62,500	1963	1,559,754	329,754	1,230,000	78.9	1,230,000
1927	159,115	62,500	1964	1,553,470	323,470	1,230,000	79.2	1,230,000
1928	196,091	75,000	1965	1,395,879	295,879	1,100,000	78.8	1,130,000
1929	246,351	75,000	1966	1,534,656	334,656	1,200,000	78.2	1,240,000
1930	220,087	75,000	1967	1,831,304	498,474	1,332,830	72.8	1,372,830
1931	257,911	75,000	1968	1,945,653	521,966	1,423,687	73.2	1,441,000
1932	175,629	75,000	1969	2,350,549	902,646	1,447,903	61.6	1,478,554
1933	116,008	75,000	1970	2,081,517	544,780	1,536,737	73.8	1,550,536
1934	121,714	--	1971	2,224,835	555,553	1,669,282	75.0	1,892,963
1935	138,766	--	1972	2,252,435	563,174	1,689,261	75.0	1,842,963
1936	175,268	50,000	1973	2,254,796	566,888	1,687,908	74.9	1,842,963
1937	175,407	50,000	1974	2,259,602	566,639	1,692,963	74.9	1,702,125
1938	245,425	87,500	1975 ⁸	2,291,405	603,709	1,687,696	73.7	1,702,124
1939	259,225	87,500	1976 ⁸	2,459,557	629,418	1,798,452	73.1	1,799,000
1940	191,024	62,500	1977	NA	NA	NA	NA	1,883,000

TABLE 11.11 (cont.)

1. Established as the Hawaii Promotion Committee on July 15, 1903; renamed the Hawaii Tourist Bureau in July 1919, the Hawaii Travel Bureau in October 1944, and the Hawaii Visitors Bureau in October 1945. Data refer to fiscal years ended June 30, 1904 and August 19, 1908, calendar years 1914 through 1937, fiscal years ended June 30, 1938 through 1941, the nine-month period ended March 31, 1943, fiscal years ended June 30, 1945 through 1949, calendar years 1950 through 1956, the six-month period ended June 30, 1957, and fiscal years ended June 30, 1958 and thereafter.

2. Territorial or state appropriations for "advertising the resources and advantages of the Territory" (1904), "support of promotion" (1908-1913), the Hawaii Promotion Committee (1914-1919), the Hawaii Tourist Bureau (1920-1943), the Hawaii Visitors Bureau (1948-1960), and "tourism promotion" (1961 and thereafter). Exclude separate appropriations for the Tourism Advisory Committee, Visitor Information Program, and special studies. The appropriation for 1904 covered the first half of the fiscal year ended June 30 (that is, July-December 1903); data for 1908 through 1959 are annual equivalents (for years ended June 30) of biennial periods ended June 30 of odd-numbered years; data for 1960 and later years refer to annual periods ended June 30.

3. Actual expenditure from the territorial appropriation was \$11,684.

4. Not available. According to the Minutes of the Board of Directors of the Honolulu Chamber of Commerce for March 15, 1911, income of the Hawaii Promotion Committee amounted to \$34,000 for its first year, \$10,000 for its second year (fiscal 1905), and since that time averaged about \$18,000 annually.

5. Not available. The HTB budget for the year ended June 30, 1942 was \$212,500, but activities were reduced after the Pearl Harbor attack on December 7 and completely curtailed at the end of the fiscal year.

6. Not available. The budget for calendar 1948 was \$136,650, and the Honolulu Advertiser on June 17, 1948, noted a "limited budget of \$37,500 legislative funds and about \$125,000 of business funds per year." Based on the matching provisions of Act 203, S.L.H. 1947, private contributions must have amounted to at least \$54,777 in fiscal 1948 and \$95,223 in fiscal 1949. Private income was sharply reduced during the 1949 shipping strike.

7. Six-month period ended June 30, 1957 for expenditures.

8. Total HVB expenditure includes funds from interest and other miscellaneous sources, not shown separately.

Source: Appropriated amounts from Session Laws of Hawaii, 1903 and later years. Expenditures from Clarence L. Hodge and Peggy Ferris, Building Honolulu (1950), pp. 61-64 (for 1904); Annual Report of the Chamber of Commerce of Honolulu for 1915 (pp. 45-46) and 1916 (p. 33) (for 1914 and 1916); Anson Chong, Economic Development of Hawaii and the Growth of Tourism Before 1945 (1963), pp. 174-175 (for 1917-1927, 1929-1933, and 1935-1940); Report of the President ... Chamber of Commerce of Honolulu for 1928, p. 33; Minutes of the Board of Directors ... Chamber of Commerce of Honolulu from January 18, 1935 to January 16, 1936 (typed copy in State Archives, p. 60; for 1934 data); HTB budget for 1941-1942, auditor's report for 1942-1943, and HVB budget for 1948, in files of the Chamber of Commerce of Honolulu; Hawaii Visitors Bureau, records (for 1945-1947 and 1950 forward); Report of the Auditor, Territory of Hawaii to the 1949 Legislature (p. 68) and 1951 Legislature (p. 74).

TABLE 11.12 RETURNING RESIDENTS, 1921 TO 1976
 (Data for 1921-1941 refer to cabin passengers returning from either the mainland U.S. or foreign countries, and exclude steerage passengers. Data for 1951 and later years refer to all westbound returning residents and exclude those returning from Asia or the South Pacific.)

Year	Number	Year	Number	Year	Number
1921	3,236	1939	8,285	1963 ¹	54,140
1922	3,266	1940	7,140	1964 ¹	73,060
1923	3,754	1941	9,340		
1924	3,886			1964 ²	83,313
1925	3,591	1942-50	NA	1965	99,792
1926	3,706			1966	117,605
1927	NA	1951 ¹	16,600	1967	130,995
1928	NA	1952 ¹	16,708	1968	140,592
1929	NA	1953 ¹	17,740	1969	152,404
1930	5,000	1954 ¹	19,972	1970	173,252
1931	4,293	1955 ¹	21,996	1971	162,967
1932	3,953	1956 ¹	24,100	1972	171,772
1933	4,597	1957 ¹	28,768	1973	194,974
1934	5,172	1958 ¹	35,888	1974	154,154
1935	5,529	1959 ¹	36,100	1975	178,040
1936	5,615	1960 ¹	38,630	1976	186,684
1937	6,850	1961 ¹	43,590		
1938	6,156	1962 ¹	53,800		

1. Survey results not adjusted for nonresponse.

2. Survey results adjusted for nonresponse beginning in 1964.

Source: Hawaii State Department of Planning and Economic Development, Out-of-State Travel by Hawaii Residents During 1972 (Statistical Report 93, April 10, 1973), p. 3; Hawaii Visitors Bureau, 1975 Annual Research Report, p. 6, and records.

TABLES IN SECTION 12

- 12.1 Land use, for the state and Oahu, 1930 to 1971-1974
- 12.2 Land use, for Oahu, 1956 to 1974
- 12.3 Land use, for the city of Honolulu, 1939 to 1974
- 12.4 Approximate division of lands, 1848 to 1855
- 12.5 Land ownership, public and private, 1938 to 1968
- 12.6 Government land, 1890 to 1975
- 12.7 Assessed valuation of real property, 1860 to 1976
- 12.8 Number of deeds filed and recorded and approximate value of land conveyed, 1860 to 1976
- 12.9 Volcanic eruptions, 1750 to 1977
- 12.10 Earthquakes of magnitude 6 or greater, 1838 to 1976
- 12.11 Tsunamis with runup of 2 meters or more, 1819 to 1976
- 12.12 Water production, 1920 to 1972
- 12.13 Water use, 1950 to 1975
- 12.14 Average daily water consumption from county waterworks, 1895 to 1976
- 12.15 Water services for county water supply systems, 1939 to 1976
- 12.16 Coliform organisms per 100 milliliters (logarithmic averages), for Oahu beaches, 1949 to 1976
- 12.17 Suspended particulate matter, for Honolulu, 1957 to 1976
- 12.18 Temperature and rainfall, for specified locations, 1873 to 1976
- 12.19 Climatic data for the period of record
- 12.20 Hawaii Audubon Society bird counts of the Honolulu area, 1945-1976

SECTION 12

Land, Water, and Climate

This section presents statistics on land use, land ownership, real property values, land conveyed, volcanic eruptions, earthquakes, tsunamis, water production and use, water and air pollution, temperatures, rainfall, and birdlife. Data on park acreage appear in section 11; agricultural land, in section 13; forest reserves, in section 14; and street, highway, and railroad mileage, in section 17.

Geographic statistics were among the earliest series to be published for the islands. Captain James Cook and his men estimated the circumferences of "Owhyhee" and "Mowee," the heights of "Mouna Kaah" and "Mouna Roa," and the temperatures at "Wymoa" and "Karakakooa." Forty-five years later, William Ellis compiled data on island areas, mountain heights, and temperatures.

Areas and elevations are presumably subject to little or no change, except in the long span of geologic history, but such was not the case for Hawaii. The summit of Mauna Kea was reported to be 18,400 feet above sea level in the 1785 edition of Cook's voyages, 13,973 feet in Wilkes' 1845 report, and 13,796 in 1967. Kaala, the highest peak on Oahu, dropped from 4,060 feet in 1878 to 4,025 feet in 1937, rose to 4,040 in 1967, and fell to 4,020 a few years later. The area of the archipelago was given as 6,050 square miles in 1825, 6,740 in 1878, 6,406 in 1916, and 6,450 in 1967. For Lanai, area estimates ranged from 100 square miles in 1825 to 150 in 1878 and finally stabilized at 139.5. Such fluctuations obviously reflected improved maps and measurement methods rather than actual changes in island geography. These shifting estimates are charted in greater detail in two publications of the Department of Planning and Economic Development, Revised Measurements of the Area of the Hawaiian Islands (Statistical Report 49, October 23, 1967) and Elevations of Major Mountains in Hawaii (Statistical Report 52, November 7, 1967).

Notwithstanding the long recognized importance of land in the islands' economy, data on land use and ownership have been notoriously deficient. Statistics have been compiled only at widely spaced intervals, breakdowns have lacked adequate detail, and comparability over time has been (at best) questionable.

The longest extant statistical series on land use are those relating to agricultural land. The Hawaiian Sugar Planters' Association has published

annual data on total cane land and acreage harvested since 1909, and has listed records for scattered years going back to 1825, when Wilkinson and Boki established a sugar plantation in Manoa Valley. Other sources have provided sporadic data on pineapples, coffee, rice, and other crops. The U.S. Census of Agriculture has been taken in Hawaii since 1900, decennially at first and quinquennially since statehood. The census reports have regularly presented data on the total acreage in farms, total cropland, acreage harvested, land used only for pasture or grazing, woodland (including woodland pasture), irrigated land, and data for individual crops. Similar statistics have been compiled on an annual basis since 1946 by the Hawaii Crop and Livestock Reporting Service.

General land use studies for the state as a whole have been published for 1930, 1960, 1968, and 1971-1974. The first comprehensive analysis of land use on a statewide basis was prepared by John Wesley Coulter from 1930 data, and published, under the title Land Utilization in the Hawaiian Islands, by the University of Hawaii around 1933. The next two surveys were issued by the university's Land Study Bureau: Land Use on the Six Major Islands of Hawaii, 1960 (November 1960) and Land Use and Productivity Rating, State of Hawaii, 1968 (July 1969). The most recent data are those available from surveys conducted on the Big Island in 1971, in Maui and Kauai Counties in 1972, and on Oahu in 1974, and published by the Department of Planning and Economic Development and its Hawaii Urban Planning Information Center. The 1971-1974 surveys followed standard definitions on all islands and were thus internally consistent, but comparability among these data and those for 1930, 1960, and 1968 is restricted to relatively few of the listed categories.

Several land use surveys have been confined to Oahu or Honolulu proper. Examples include a 1939 study published by the Territorial Planning Board, 1953 data from the Honolulu City Planning Commission, a tabulation of 1956 data from property tax records, an analysis of 1960 statistics by the Honolulu Planning Department, and 1964 and 1969 surveys by the Oahu Transportation Study and its successor agency, the Advance Transportation Planning Office. The 1964 and 1969 statistics are generally comparable, but not the earlier data.

The earliest data on land ownership refer to the distribution resulting from the Great Mahele of 1848. Initially all land was controlled by the king. The Mahele, or division of land, divided the land of the kingdom into four categories: "crown land" for the king and his family, land for the chiefs,

"government" or public land, and "kuleanas" for commoners. Statistics on this distribution were published in 1893.

Totals for land in government ownership have been published sporadically since the last years of the monarchy. Statistics on land owned by the Hawaiian government were compiled for various dates between 1890 and 1968; federal holdings have been compiled for 1900, 1920, 1938, 1942, 1944, 1948; and annually or biennially beginning in 1960. Sizeable tracts are controlled by the U.S. Department of Defense, either through direct ownership, as ceded lands held under executive orders of the president or governor, or under lease, license, easement, or permit.

More comprehensive studies of land ownership, presenting data for private as well as public land, have been published for only six years: 1938, 1942, 1948, 1956, 1964, and 1968. The last three also distinguished between the holdings of major private owners (variously defined) and smaller owners. These studies have been conducted by the Territorial Planning Board, Commissioner of Public Lands, Economic Planning and Coordination Authority, Legislative Reference Bureau, and Department of Land and Natural Resources.

The foregoing statistics are summarized in a publication of the Department of Planning and Economic Development, Land Use and Ownership Trends in Hawaii (Statistical Report 98, December 28, 1973). The DPED report includes a detailed statement on the limitations of the data.

Annual totals on the assessed valuation of real property go back as far as 1860. Separate tabulations for land and improvements were first published in 1944. Real property was legally assessed at 30 percent of its fair market value from 1943 to 1951, 60 percent from 1952 to 1956, 70 percent from 1957 to 1975, and 60 percent beginning in 1976; assessment ratios before 1943 are unknown. Valuations are recorded in a variety of official reports, including those of the minister of finance, auditor general, governor, treasurer, tax commissioner, and Department of Taxation.

Statistics on the number of deeds filed and recorded have been published since 1886 except for one nine-year break in the series. Annual totals on the approximate value of land conveyed have been available since 1935. The latter figures are limited to deeds through December 1966, but thereafter the data also include leases, subleases, and agreement of sale assignments. Statistics prior to 1900 appeared in Biennial Report of the Minister of the Interior, and in later years, in reports of the treasurer, commissioner of public lands, and Department of Land and Natural Resources.

Data on volcanic activity were first systematically compiled near the end of the nineteenth century. Studies of Hawaiian volcanoes were published by the U.S. Geological Survey in 1883-1884 and the Bernice P. Bishop Museum in 1891. The Hawaiian Volcano Observatory was built at Kilauea in 1912. Information on island volcanic activity appeared in a Weekly Bulletin from 1913 to 1918, Volcano Letter from 1925 to 1955, and Hawaii Volcano Observatory Summary beginning in 1955. Statistics on the historic eruptions of Haleakala, Hualalai, Mauna Loa, and Kilauea were published in a book by Gordon A. Macdonald and Agatin T. Abbott, Volcanoes in the Sea (1970). For each eruption, the authors provided data on duration of activity, altitude of main vent, repose period, area covered, and volume of lava. Estimates for some of the earlier eruptions, such as those of Haleakala and Kilauea in 1790 and Hualalai in 1801-1802, inevitably entail considerable uncertainty.

Earthquake magnitudes have been calculated in a systematic and relatively accurate way only in recent decades, although magnitudes have been retrospectively estimated for earlier earthquakes as far back as the 1830s. According to Macdonald and Abbott,

Magnitude scale is a measure of the actual amount of energy released during the earthquake, and does not depend on the kind or amount of damage done by the quake. The magnitude scale that is in common use was devised by Beno Gutenberg and C. F. Richter and is often called the Richter scale. The magnitude scale is determined by means of standard recording instruments (seismographs), taking into consideration the distance of origin of the quake from the instrument; theoretically the value should be the same everywhere. ... There is no upper limit to this scale, but an earthquake of magnitude 7 or higher is a very big earthquake. ... (The scale is logarithmic, not linear, so that a quake with a magnitude 4 is not twice as large as one with magnitude 2, but 100 times as large).

Local calculation of magnitudes first became possible in 1903, when the U.S. Coast and Geodetic Survey installed a Milne seismograph at its Barbers Point Magnetic Observatory. In 1912 the U.S. Geological Survey installed an Omori seismograph at the Volcano Observatory, and beginning in 1939 there was a gradual improvement in the island seismographic network and its instrumentation. The Hawaii Institute of Geophysics was established at the University of Hawaii in 1957, and a year later the magnitudes of island quakes were first routinely determined. A chronological listing of major earthquakes, together with their Richter magnitudes, was published by Furumoto, Nielsen, and Phillips in A Study of Past Earthquakes, Isoseismic Zones of Intensity and

Recommended Zones for Structural Design for Hawaii (1972). A similar listing, including some speculative magnitudes for earlier quakes, was compiled by Wm. Mansfield Adams. These estimates and records indicate that the biggest earthquakes in island history were the Ka'u quakes of April 2, 1868 (7 1/4 to 7 3/4 on the Richter scale) and November 29, 1975 (7.2), the Maui quake of January 23, 1938 (6 3/4), the Kona quake of August 21, 1951 (6.9), and the Molokai and Maui quake of February 19, 1871 (perhaps 6.5).

Information on tsunamis ("tidal waves") striking Hawaii is available back to 1819. A comprehensive listing, prepared by George Pararas-Carayannis, was published by the U.S. Coast and Geodetic Survey in May 1969. This work, Catalog of Tsunamis in the Hawaiian Islands, includes for each tsunami its date, related earthquake information (time, epicenter, magnitude, and depth), place of origin, magnitude, place of observation, maximum runup height or amplitude, travel time, and average period of the first three waves. In terms of runup, the biggest tsunamis were those of April 2, 1868 (40 feet), April 1, 1946 (56 feet), and March 9, 1957 (52 feet). The 1946 wave was the most catastrophic in both deaths (159) and damage (\$26,000,000).

Statistics on floods were not compiled on a systematic basis until the first quarter of the twentieth century. A cumulative listing, which presents "water year maxima" in gage heights and cubic feet per second of discharge for major streams for the period of record, is issued annually by the U.S. Geological Survey. Notable examples reported in a recent edition (An Investigation of Floods in Hawaii through September 30, 1973) include the Kalihi Stream flood of November 18, 1930, and the Wailuku River flood at Piihonua on August 11, 1940; gage heights were respectively 13.81 and 28.6 feet, and discharges amounted to 12,400 and 63,400 cubic feet per second.

Data on water production and consumption were first published in the 1890s, almost half a century after construction of the first urban water supply system in the islands. According to a report of the Minister of the Interior, "during the year ending March 31, 1848, a water tank, for the convenience of shipping, was placed in the basement of the new Harbor Master and Pilots' Office, near the wharf (foot of Nuuanu Street), and it was supplied through a leaden pipe from a reservoir at 'Pelekane.' ..." With completion of a reservoir off Bates Street in 1851, piped water was made available to businesses and homes. Financial records for the new water supply system were initiated the same year, but data on the amount pumped, supplied, or consumed were not reported until 1895.

Public water supplies were extended to a rapidly increasing percentage of the population after 1900. Within a few years, waterworks served Honolulu, Hilo, Laupahoehoe, Wailuku and Kahului, Lahaina, Koloa, and Waimea. In Honolulu, control of the system shifted from the minister of the interior to the Territorial Department of Public Works, Honolulu Department of Public Works, and finally, in 1929, the Honolulu Board of Water Supply. Beginning in 1926, Oahuans outside Honolulu were served by the Suburban Water System, which in 1959 was absorbed by the Board of Water Supply. Similar agencies were eventually created on the neighbor islands. Statistics on average daily water consumption (as distinguished from the amount pumped) were reported for Honolulu beginning in 1902, rural Oahu in 1928, and the other islands in the 1950s. Data on water services (the number of residential, commercial, and industrial users) covered all county systems by 1949. These statistics have usually appeared in annual reports of the responsible agencies. Additional information on water availability has been published since 1940 in the decennial U.S. Census of Housing.

Statewide estimates of water use, covering private as well as public systems, were prepared for 1950, 1960, 1965, 1970, and 1975 by the U.S. Geological Survey. These studies presented separate data, in millions of gallons withdrawn daily, for fresh and saline ground water, fresh and saline surface water, and reclaimed sewage. Estimates on water production by island, classified by nature of occurrence and distributor, were prepared for 1953-1957 by the Hawaii Water Authority (now the Division of Water and Land Development), and, for individual islands or types of supply, by other agencies for 1920, 1937, and 1972. Annual and quinquennial compilations on surface water supplies, going back as far as 1909, have been published by the U.S. Geological Survey. Long-term historical series have also appeared in occasional reports of the Territorial Planning Board and Hawaii Water Authority.

Statistics on environmental pollution are a relatively recent development. The first Honolulu sewer system was constructed in 1899-1901, but data on waste disposal both before and after that time were either sketchy or non-existent. An annual series on water pollution at major Oahu beaches, expressed as logarithmic averages of coliform organisms per 100 milliliters, was initiated by the Territorial Department of Health in 1949. The same department began measuring suspended particulate matter (in mean micrograms per cubic meter) from the roof of its downtown Honolulu headquarters in 1957.

Other environmental indexes, such as levels of radioactivity, noise, or solid waste produced, have been calculated only on a one-time-only basis or for limited periods, mostly since 1970. These data, when available, have generally appeared in annual statistical reports of the Department of Health.

Climatic data have been compiled more or less systematically in Hawaii since the 1870s, and sporadically since the eighteenth century. As noted previously, Cook's men recorded the temperatures at Waimea, Kauai, and Kealahou. Similar observations were made by the American missionaries in Honolulu beginning in August 1821. The staff of the Hawaiian Government Survey began keeping regular records in November 1874, and in 1890, as the Hawaiian Weather Bureau, initiated the publication of an annual (and later monthly) bulletin, Weather Record for Honolulu and the Hawaiian Islands. This bulletin was issued regularly through 1903. Beginning in January 1905, the record was picked up by the U.S. Weather Bureau (then a part of the Department of Agriculture), which issued a monthly and annual summary, Hawaiian Section of the Climate and Crop Service of the Weather Bureau. Now known as the National Weather Service of the U.S. Department of Commerce, this agency issues an annual summary for selected stations, Local Climatological Data, containing statistics on temperature, precipitation, relative humidity, wind, sunshine, and other topics. Historical data on weather are recapitulated in a number of special publications: Report of Assistant in Charge of Meteorology, issued by the Hawaiian Weather Bureau in 1890; Summary of the Climatological Data for the United States, by Sections ... from the Establishment of Stations to 1918, Inclusive, Hawaii Section, published by the U.S. Weather Bureau; and two supplements to the U.S. Weather Bureau's Climatology of the United States, one in 1960 (Climatic Summary of Hawaii, Supplement for 1919 through 1952) and one in 1965 (Supplement for 1951 through 1960, Hawaii and the Pacific). Basic information on all of the weather stations in the islands appears in A Key to Climatologic Observations in Hawaii, published by the U.S. Weather Bureau in 1961.

The long-term comparability of many climatic series is unfortunately only approximate. The current series on rainfall in downtown Honolulu, for example, extends back only to May 1922, when the present station on the roof of the Federal Building was established, 67 feet above the ground at a point 12 feet above sea level. From September 1904 until May 1922, observations were made from the roof of the Alexander Young Building, 99 feet above the

ground at a point 9 feet above sea level. Data for 1895-1904 were recorded at Kinau and Victoria Streets, 3 feet above the ground and 30 feet above sea level. Still earlier data came from stations at Miller and Beretania Streets (1878-1894) and Kalakaua Avenue near King Street (1873-1877). Similar discontinuities have occurred in the locations and heights of the thermometers used for official temperature measurements. Such variations greatly affect the comparability of data in an area like Hawaii, where both temperature and rainfall are significantly influenced by elevation and location.

Time series for other geographic and environmental conditions are not readily available. One of the few such series going back two decades or more is the Hawaii Audubon Society bird counts of the Honolulu area. These bird censuses are made annually in late December, in a circle fifteen miles in diameter, centered near Nuuanu Pali; results for the years since 1945 have been published in the society's monthly bulletin, The Elepaio. Statistics on trees along city and county thoroughfares and in Oahu parks were first compiled in 1960. Trend data on fish and insect populations appear to be unavailable.

Nationwide statistics on land, water, and climate can be found in Historical Statistics of the United States, Colonial Times to 1970, chapter J, and Statistical Abstract of the United States.

TABLE 12.1 LAND USE, FOR THE STATE AND OAHU, 1930 TO 1971-1974
(Acres)

Year and Land Use	State Total	Oahu	Year and Land Use	State Total	Oahu
1930, all uses	4,118,400	386,560	1960, all uses (cont.)	65,600	--
Sugarcane	252,128	43,366	Coop. game management	61,400	--
Pineapples	78,750	35,500	Timber trees	928,000	112,400
Coffee	5,498	--	Forest reserve	114,900	43,100
Other cult. land	15,353	4,773	Unused; steep slopes	1,800	1,200
Pasture	2,076,347	106,889	Lakes		
Forest reserve	1,021,814	119,483			
Roads, city, town, and "camp" sites	42,144	17,813	1968, all uses	4,050,176	388,928
Mil. and naval res.	24,556	23,924	Sugarcane	262,377	40,852
Wasteland and unaccounted for	601,810	34,812	Pineapple	69,276	18,987
			Nonplantation agric. Vegetable	1,197,688	51,741
			Orchard	6,708	2,102
			Grazing	24,294	1,670
			Other agriculture	1,150,534	38,608
			Idle agric. land	2,567	1,434
1960, all uses	4,044,200	386,600	Forest	13,585	7,927
Sugarcane	287,400	40,100	Forest reserve	289,039	30,033
Pineapple	96,500	35,900	Recreation	1,190,954	118,766
Orchard	18,400	1,100	Game management	17,248	5,184
Truck crops	12,700	2,300	National park	87,585	--
Rice and taro	1,600	800	Military	229,423	--
Water and truck crops	300	100	Military	38,048	35,055
Forage crops	600	--	Urban	155,705	56,850
Truck crops and orchard	2,900	2,900	Undevel. subdiv.	76,814	2,385
Livestock and truck crops	300	300	Military	17,658	17,508
Livestock specialties	300	300	Civilian	61,233	36,957
Noncommercial agric.	1,200	--	Pali and barren land	503,308	23,799
Grazing	2,100,300	55,600	Quarry	1,462	1,077
Idle	2,400	300	Water	8,063	6,584
Urban	62,600	31,100			
Military	55,500	51,700			
Misc. public uses	229,500	7,400			

TABLE 12.1 (cont.)

Year and Land Use	State Total	Oahu	Year and Land Use	State Total	Oahu
1971-74, all uses ²	4,043,371	373,636	1971-74, all uses ² (cont.)	102,390	7,230
Residential	73,603	26,481	Public open spaces	5,957	1,874
Industrial	21,366	6,069	Highways and streets ²	1,229,311	76,124
Commercial	5,425	1,809	Agriculture	98,342	47,294
Hotel	663	207	Military	2,487,522	201,416
Public buildings	18,791	5,132	Unused open space		

1. Data for 1960 and 1968 exclude Kahoolawe (28,800 acres in 1930, all in pasture or wasteland) and Niihau (46,080 acres in 1930, almost all in pasture or wasteland). For data by island, see sources.

2. From surveys made in Hawaii County in December 1971, Kauai County in May 1972, Maui County in Spring 1972, and on Oahu in December 1974. Data for highways and streets include undedicated thoroughfares but (except in Hawaii County) exclude public rights of way.

Source: John Wesley Coulter, Land Utilization in the Hawaiian Islands (University of Hawaii, Research Publications, No. 8, c. 1933), pp. 50-52; University of Hawaii, Land Study Bureau, Land Use on the Six Major Islands of Hawaii, 1960 (L.S.B. Report No. 3, November 1960), p. 3; A. Y. Ching and T. Sahara, Land Use and Productivity Rating, State of Hawaii, 1968 (University of Hawaii, Land Study Bureau, L.S.B. Circular No. 15, July 1969), pp. 18-19; County of Hawaii, Planning Department, Hawaii County land use summary (1971); Hawaii State Department of Planning and Economic Development, Hawaii Urban Planning Information Center, Kauai and Maui County land use surveys (1972); City and County of Honolulu, Department of General Planning, Oahu land use inventory (1974).

TABLE 12.2 LAND USE, FOR OAHU, 1956 TO 1974
(Acres. For 1930, 1960, and 1968, see table 12.1.)

Land Use ¹	1956	Land Use	1964	1969	1974
All uses ²	372,028	All uses ²	381,310	381,935	373,636
Cities and villages	35,891	Residential ³	16,550	22,676	26,481
Federal, incl. military	54,571	Industrial	6,352	6,305	6,069
Public, semi-public	6,496	Commercial	1,450	1,645	1,809
Sugarcane	35,125	Hotel	73	98	207
Pineapple	23,833	Public buildings	4,741	5,226	5,132
Grazing	42,879	Public open spaces ²	7,861	7,795	7,230
Other agriculture	13,243	Highways and streets ²	7,405	8,495	1,874
Forest reserve	116,999	Agriculture	94,474	88,740	76,124
Unimproved	29,919	Military	48,633	47,650	47,294
Wasteland	14,328	Unused open space ³	193,774	193,304	201,416

1. For greater detail, see source, appendix B, p. 99.

2. Data for 1974 (and probably 1956) exclude area in public streets and highways (approximately 8,300 acres in 1974).

3. Data for 1964 revised for comparability with figures for 1969 and 1974.

Source: Harland Bartholomew and Associates, An Inventory of Available Information on Land Use in Hawaii, vol. 1, Evaluation and Recommendations (Hawaii Economic Planning and Coordination Authority, January 1957), p. 64; State of Hawaii and City and County of Honolulu, Oahu Transportation Study, 1967, vol. 1, Economic, Population, and Land Use (undated), p. IV-A-1; Hawaii State Department of Transportation, Advance Transportation Planning Office, 1969 land use files; City and County of Honolulu, Department of General Planning, Oahu Land Use Inventory, December 1974, special tabulation.

TABLE 12.3 LAND USE, FOR THE CITY OF HONOLULU, 1939 TO 1974
(Acres)

Land Use	1939	Land Use	1953	1960	
All uses	52,600	All uses ¹	52,990	28,490	
Urban	15,600	Single-family	6,140	6,544	
Forest	15,600	Hotel and apartment	600	880	
Pastoral	10,000	Business ²	440	770	
Forest-pastoral	6,000	Industrial ³	800	865	
Agriculture	2,900	Public and semi-public	3,200	3,028	
Waste	2,500	Public parks, playgrounds	1,800	1,895	
		Public schools	490	772	
		Golf course	...	570	
		Military reservation	6,460	6,460	
		Farming	1,760	1,600	
		Streets and alleys	2,330	2,767	
		Vacant: usable ⁴	4,470	2,339	
		Vacant: unusable ⁵	6,740	...	
		Forest reserve	17,760	...	
Land Use			1964	1969	1974
All uses ⁶			54,561	54,738	51,753
Residential ⁷			7,766	8,309	9,023
Industrial			2,377	2,623	2,875
Commercial			899	1,025	1,001
Hotel			70	91	109
Public buildings			2,469	2,373	2,285
Public open spaces			3,339	2,660	2,853
Highways and streets ⁶			3,320	3,718	335
Agriculture			1,343	1,005	319
Military			5,003	5,395	5,176
Unused open space ⁷			27,975	27,540	27,778

1. Total for 1960 apparently excludes vacant steep hillsides and forest reserve (24,500 acres in 1953).

2. "Commercial" in 1960.

3. Includes semi-industrial (60 acres), general industrial (660), and noxious industrial (80) in 1953, and heavy industrial (784 acres) and light industrial (81) in 1960.

4. "Vacant" in 1960.

5. Steep hillsides.

6. Data for 1964 and 1969 include both public and private streets and highways; data for 1974 include area in undedicated streets and highways but exclude area in public rights of way.

7. In 1969 and 1974 (but not 1964), large parcels containing both residential and vacant areas were divided and reported separately.

TABLE 12.3 (cont.)

Source: Territorial Planning Board, Supplement to the First Progress Report. Existing Urban Resources and Facilities of the Territory of Hawaii (1939), p. 344; Honolulu City Planning Commission, Land Use and Zoning, City of Honolulu, 1953 (undated), p. 14; Honolulu Planning Department, General Plan for Urban and Urbanizing Areas (1960), p. 21; State of Hawaii and City and County of Honolulu, Oahu Transportation Study, 1967, vol. I, Economic, Population, and Land Use (undated), p. IV-A-1; Hawaii State Department of Transportation, Advance Transportation Planning Office, records; Honolulu Department of General Planning, Oahu land use inventory, 1974, special tabulation.

TABLE 12.4 APPROXIMATE DIVISION OF LANDS, 1848 TO 1855
(Acres)

Category	Acres
Total area of kingdom ¹	4,010,000
Crown lands (as of 1893) ¹	915,000
Government lands (as of 1848)	1,495,000
Land sales (or grants) to June 8, 1893	667,317.4
Held by government as of 1893	828,000
Chiefs' lands ¹	1,571,341.6
Bishop Estate (as of 1893)	420,000
Other chiefs' lands, surveyed before 1855	133,012.6
Other chiefs' lands, not surveyed before 1855	1,018,329
Kuleanas ²	28,658.5

1. Variant estimates appear in Report of the Governor ... 1901, p. 7: total area, 4,126,000 acres; crown lands, 984,000 acres; chiefs' lands, 1,619,000 acres.

2. Land Commission awards to the common people, including a few lots awarded to foreigners (mostly in Honolulu). These were generally either house lots or small pieces of cultivated land. The number of Land Commission awards was 11,309, including 177 to chiefs or konohikis; for the remaining 11,132 kuleanas, the average award was 2.57 acres.

Source: 53d Congress, 2d Session, House of Representatives, Ex. Doc. No. 47, President's Message Relating to the Hawaiian Islands. December 18, 1893 (Government Printing Office, 1893), pp. 639-641.

TABLE 12.5 LAND OWNERSHIP, PUBLIC AND PRIVATE, 1938 TO 1968
(Acres)

Year	Total Area	Federal Government ¹	State Government ²	Major Private Owners ³	Other Owners ⁴
1938	4,118,400	199,709	1,588,430	2,330,261	
1942	4,118,423	214,933	1,505,526	2,397,964	
1948	4,118,827	226,743	1,529,476	2,362,608	
1956	4,117,227	317,012	1,426,493	1,906,236	467,486
1964 ⁵	4,105,600	401,482	1,590,532	1,923,183	224,193
1968	4,128,263	355,769	1,584,715	1,917,560	270,219

1. Includes fee simple and ceded land.

2. "Public lands" for 1938. Data for all years include state land managed by the county governments and various state agencies, and Hawaiian Homes Commission lands.

3. Total for 1956 refers to land owned by private owners with 5,000 acres or more in fee simple; data for 1964 and 1968 refer to land owned by private owners with 1,000 acres or more in fee simple.

4. Land owned by private owners with less than 5,000 acres (in 1956) or 1,000 acres (in 1964 and 1968) in fee simple. Also includes county land acquired by purchase or gift in the name of the counties.

5. Land claimed by both federal and state governments is included in both categories; data thus fail to add to the indicated total.

Source: Territorial Planning Board, First Progress Report. An Historic Inventory of the Physical, Social and Economic and Industrial Resources of the Territory of Hawaii, 2d ed. (August 1939), p. 49; Report of the Commissioner of Public Lands for 1942 (p. 11) and 1948 (pp. 4-10); Economic Planning and Coordination Authority, Major Landholdings in Hawaii, EPCA Staff Report No. 14 (1957), p. 6; Robert H. Horwitz and Judith B. Finn, Public Land Policy in Hawaii: Major Landowners, University of Hawaii, Legislative Reference Bureau, Report No. 3, 1967, p. 99; Hawaii State Department of Land and Natural Resources, Report to the Governor, 1971-1972, p. 50; Hawaii State Department of Planning and Economic Development, Land Use and Ownership Trends in Hawaii (Statistical Report 98, December 28, 1973), p. 25.

TABLE 12.6 GOVERNMENT LAND, 1890 TO 1975
(Acres)

Year	Owned by the U.S. Govt.	Controlled by the U.S. Armed Forces			Owned by the State ¹
		Total Controlled	Owned	Public Land ²		Other^{3}
1890, Mar. 31	...	...	...	...	861,800
1898, Aug. 12	...	...	...	...	1,772,640
1900 ⁴	16,500	...	16,500	...	1,744,713
1920 ⁵	141,600	...	22,200	...	1,613,710
1938	199,709	...	37,054	...	1,588,430
1940	...	35,750	...	...	1,590,367
1942, June 30	214,933	...	49,621	...	1,501,599
1944 ⁶	429,076	...	55,559	...	...
1944 ⁷	...	648,666	60,000	588,666	...
1948, June 30	226,743	...	31,254	29,391	1,525,393
1959	...	249,695	85,323	164,372	...
1960, June 30	234,074	252,647	34,968	166,880	50,799
1961, June 30	265,707	252,726	34,922	173,920	43,884
1962, June 30	233,035	252,367	33,901	174,556	43,910
1963, June 30	233,170	252,093	33,902	173,788	44,403
1964, June 30	255,056	250,935	33,014	177,375	40,546
1966, June 30 ⁸	397,929	250,343	175,829	--	74,514
1968, June 30	397,279	251,971	175,241	--	76,730
1970, June 30	396,901	226,539	175,225	--	51,314
1972, June 30	396,494	222,900	174,931	--	47,969
1973, June 30	417,015	...	...	...	...
1974, June 30	417,824	...	...	...	...
1975, June 30	405,530	...	...	...	...

1. "Government lands" in 1890 and 1898, "public lands" for 1900-1938, territorial or state lands thereafter. Excludes crown lands (971,643 acres in 1894) in 1890 and 1898. Excludes county lands in 1942 (3,927 acres), 1948 (4,082 acres), and thereafter.

2. Ceded lands held under executive orders of president or governor.

3. Utilized under lease, license, easement, or permit.

4. Territorial lands based on 1899 data.

5. Territorial lands as of December 31.

6. From congressional report published September 14, 1944.

7. From Department of Defense report published in January 1960.

8. "Some lands previously recorded as public land within the United States were reclassified [in 1966] in connection with certain statehood agreements pertaining to the State of Hawaii."

Source: Biennial Report of the Minister of the Interior ... 1890, p. 230; Hawaiian Almanac and Annual for 1895 (p. 41) and 1900 (p. 47); Report of the Governor ... 1900, p. 24; Report of the Commissioner of Public Lands for 1920 (Part II, p. 130), 1938 (p. 4), 1940 (p. 4), 1942 (pp. 4-11), and 1948 (pp. 4-10); Territorial Planning Board, First Progress Report. An Historic Inventory of the Physical, Social and Economic and Industrial Resources of the Territory of Hawaii, 2d ed., August 1939, pp. 49-50; U.S. Department of Defense, Report on Study of Military Real Property, State of Hawaii (January 1960), pp. 4-5 and exhibit III; 78th Congress, 2d session, House of Representatives, Report

TABLE 12.6 (cont.)

No. 1884, Study of the Problems in Connection with Public Lands of the United States ... (September 14, 1944), pp. 4-9; Committee on Government Operations, U.S. House of Representatives, Federal Real and Personal Property Inventory Report (annual, 1955-1964; biennial, 1966-1972); Hawaii State Department of Land and Natural Resources, Annual Report for 1962 (p. 13) and 1971-1972 (p. 50); Legislative Reference Bureau, University of Hawaii, Public Land Policy in Hawaii: Major Landowners, Report No. 3, 1967, p. 99, errata sheet; Hawaii State Department of Planning and Economic Development, Land Use and Ownership Trends in Hawaii (Statistical Report 98, December 28, 1973), pp. 8-11 and 25-27; General Services Administration, Inventory Report on Real Property Owned by the United States Throughout the World for 1973, 1974, and 1975.

TABLE 12.7 ASSESSED VALUATION OF REAL PROPERTY, 1860 TO 1976
(In thousands of dollars. Real property was legally assessed at 60 percent of fair market value in 1976. The assessment ratio was 70 percent from 1957 to 1975, 60 percent from 1952 to 1956, 30 percent from 1943 to 1951, and unspecified before 1943.)

Year ¹	Assessor's Gross Valuation	Year ¹	Assessor's Gross Valuation	Valuation for Tax Rate Purposes
1860 ²	3,417	1897	25,773	...
1861	3,398	1898	27,874	...
1862	3,465	1899	39,479	...
1863	3,708	1900	46,608	...
1864	3,804	1901	58,548	...
1865	4,334	1902	60,592	...
1866	4,467	1903	66,137	...
1867	4,648	1904	63,517	...
1868	4,819	1905	67,509	...
1869	4,809	1906	66,908	...
1870	5,396	1907	64,002	...
1871	5,403	1908	66,936	...
1872	NA	1909	68,441	...
1873	NA	1910	75,793	...
1874	NA	1911	77,888	...
1875	NA	1912	90,889	...
1876	7,624	1913	93,854	...
1877	8,173	1914	91,051	...
1878	8,879	1915	99,186	...
1879	10,700	1916	113,922	...
1880	12,194	1917	129,340	...
1881	14,049	1918	134,543	...
1882	14,981	1919	139,893	...
1883	16,330	1920	155,238	144,734
1884	15,735	1921	160,460	167,605
1885	15,413	1922	158,696	162,069
1886	15,196	1923	172,965	152,328
1887	13,838	1924	212,871	198,524
1888	15,536	1925	229,715	194,804
1889	17,704	1926	254,789	199,109
1890	18,483	1927	272,091	207,613
1891	17,273	1928	258,924	202,607
1892	18,374	1929	279,669	202,272
1893	19,439	1930	283,857	202,102
1894	19,483	1931	259,907	199,319
1895	20,747	1932	215,309	166,871
1896	23,072	1933	265,456	163,558

TABLE 12.7 (cont.)

Year ¹	Assessor's Gross Valuation			Valuation for Tax Rate Purposes
	Total	Land	Improvements	
1934	295,571	...	...	160,967
1935	298,762	...	...	158,923
1936	300,041	...	...	159,472
1937	313,919	...	...	165,358
1938	308,324	...	...	175,017
1939	337,292	...	...	179,073
1940	350,734	...	...	183,048
1941	402,963	...	...	188,056
1942	490,800	...	...	204,252
1943	491,056	...	...	203,331
1944	502,413	221,248	281,164	214,156
1945	500,494	220,562	279,932	210,909
1946	551,285	267,401	283,884	230,285
1947	568,710	273,771	294,939	244,159
1948	589,815	278,807	311,008	257,440
1949	716,591	350,061	366,530	299,188
1950	772,784	352,573	420,211	333,644
1951	810,325	356,480	453,845	340,355
1952	1,293,436	710,282	583,154	630,492
1953	1,293,850	698,148	595,702	640,384
1954	1,323,394	696,666	626,729	658,057
1955	1,366,085	713,593	652,492	674,471
1956	1,905,800	967,136	938,664	978,311
1957	1,933,325	966,657	966,668	1,029,359
1958	2,053,410	1,021,591	1,031,819	1,081,265
1959	2,211,810	1,117,991	1,093,819	1,152,398
1960	3,174,073	1,829,141	1,344,932	1,820,104
1961	3,327,737	1,913,803	1,413,934	1,958,352
1962	3,630,203	2,140,780	1,489,423	2,146,472
1963	3,810,422	2,251,971	1,558,451	2,270,903
1964 ³	2,988,028	1,768,871	1,219,157	2,544,552
1965	4,574,005	2,752,196	1,821,809	2,749,162
1966	5,036,156	2,951,437	2,084,719	3,069,066
1967	NA	NA	NA	3,416,194
1968	6,044,461	3,513,586	2,530,875	3,639,215
1969	6,555,382	3,816,477	2,738,905	4,062,060
1970	7,663,518	4,335,564	3,327,953	4,627,047
1971	8,564,188	4,669,721	3,894,467	5,278,571
1972	9,744,772	5,312,116	4,432,657	6,068,713
1973	10,762,052	5,884,121	4,877,931	6,807,565
1974	12,642,408	6,677,996	5,964,412	8,316,444
1975	15,254,436	8,025,847	7,228,589	10,236,457
1976	15,519,576	8,826,837	6,692,739	9,806,352

TABLE 12.7 (cont.)

1. As of July 1, 1860 to 1896, January 1, 1897 to 1968, and July 1, 1969 and thereafter.

2. Earliest year available. The first Hawaii real property tax law was enacted in 1859.

3. Tax exempt property assessed at \$1 per parcel rather than at 70 percent of market value.

Source: Biennial Report of the Minister of Finance for 1870 and 1872; Report of the Auditor General for 1886, 1888, 1890, and 1892; Report of the Governor ... 1901; Report of the Treasurer ... 1935; Report of the Tax Commissioner for 1940, 1941-1947, and 1954; Department of the Tax Commissioner, "Real Property Tax Valuations, County Requirements and Tax Rates" (annual release) for 1955-1959; Hawaii State Department of Taxation, "Real Property Tax Valuations and Tax Rates" (annual release) for 1960 and later years.

TABLE 12.8 NUMBER OF DEEDS FILED AND RECORDED AND APPROXIMATE VALUE OF LAND CONVEYED, 1860 TO 1976

Year ¹	Number of Deeds Filed and Recorded	Year ¹	Number of Deeds Filed and Recorded	Approx. Value of Land Conveyed ² (dollars)
1858-60 ³	258	1935	3,194	6,217,540
1860-62 ³	151	1936	4,328	10,916,055
1886-88	1,789	1937	5,358	12,125,405
1888-90	1,958	1938	5,169	11,000,270
1890-92	2,216	1939	5,310	11,864,700
1892-94	1,903	1940	5,753	14,017,700
		1941	6,603	17,256,500
1903	1,810	1942	4,156	14,885,500
1904	1,374	1943	5,542	26,763,200
1905	1,396	1944	6,103	35,141,000
1906	1,558	1945	6,392	40,729,000
1907	1,429	1946	7,832	59,201,800
1908	1,706	1947	7,648	50,751,000
1909	1,733	1948	8,212	52,577,500
1910	2,150	1949	7,120	34,091,000
1911	2,214	1950	8,215	45,125,000
1912	2,505	1951	9,032	44,706,500
1913	2,749	1952	7,709	44,732,000
1914	2,200	1953	7,942	45,970,500
1915	2,310	1954	7,770	47,737,000
1916	2,374	1955	9,127	61,802,000
1917	2,609	1956	8,652	59,058,000
1918	2,403	1957	8,686	62,046,500
1919	2,551	1958	8,502	76,868,000
1920	3,397	1959	10,212	131,927,500
1921	3,644	1960	9,810	107,826,500
1922	3,607	1961	8,845	131,952,500
1923	3,698	1962	9,045	109,942,500
1924	3,823	1963	11,061	101,987,000
1925	3,614	1964	11,680	102,232,000
1926	3,960	1965	12,175	101,482,100
1927	4,522	1966	12,799	133,301,000
1928	3,950	1967	11,643	218,966,000
1929	4,024	1968	13,615	528,972,370
1930	3,664	1969	14,683	809,639,656
1931	2,931	1970	14,876	822,665,446
1932	2,985	1971	16,036	969,486,762
1933	2,547	1972	20,354	1,211,269,225
1934	2,514	1973	21,874	1,736,756,401
		1974	21,435	2,076,149,450
		1975	17,892	1,308,805,819
		1976	20,072	915,195,342

TABLE 12.8 (cont.)

1. Twenty-four month periods ended March 31, 1860-1894; calendar years 1903 and 1904; fiscal years ended June 30, 1905-1934; calendar years 1935-1961; and fiscal years ended June 30, 1962 and thereafter.

2. Not available before 1935. Limited to deeds, 1935 through 1966; beginning in January 1967, includes leases, agreement of sale assignments, sub-leases, etc., as well as deeds.

3. Patents on sales of real estate and patents for commuted freehold awards.

Source: Biennial Report of the Minister of the Interior for 1860, 1862, 1888, 1892, and 1894; Report of the Treasurer for 1907-1935; Report of the Commissioner of Public Lands for 1952-1956; Department of Land and Natural Resources, Annual Report for 1962 and later years; Bureau of Conveyances, records.

TABLE 12.9 VOLCANIC ERUPTIONS, 1750 TO 1977

Volcano and Date of Outbreak	Repose Period Since Previous Eruption (months)	Duration (days)	Location	Altitude ¹ (feet)	Area ² (square miles)	Volume ³ (1,000 cubic yards)
Haleakala 1790(?)	(?)	(?)	SW rift	1,200	2.2	35,000
Hualalai 1800-1801	(?)	(?)	NW rift	5,500-6,000	17.7	410,000
Kilauea ⁴						
1750(?)	(?)	(?)	E rift	1,700	1.57	19,500
1790(?)	(?)	(?)	E rift	1,100	3.04	37,670
1790, Nov. (?) ⁵	(?)	(?)	Caldera	...	--	--
1823, Feb.-July	(?)	Short	SW rift	1,700	3.86	15,000
1832, Jan. 14	(?)	Short	Caldera	3,650	(?)	(?)
1840, May 30	(?)	26	E rift	3,100	6.60	281,000
1868, April 2	(?)	Short	Kilauea Iki	3,350	0.07	(?)
April 2(?)	(?)	Short	SW rift	2,550	0.04	250
1877, May 4	(?)	1(?)	Caldera	3,500(?)	(?)	(?)
May 21(?)	(?)	--	Keanakakoi	3,450(?)	0.04	(?)
1884, Jan. 22	(?)	1	E rift	-60(?)	(?)	(?)
1885, March 14	(?)	80(?)	Caldera	3,640(?)	(?)	(?)
1894, March 21	108	6+	Caldera	3,690	(?)	(?)
July 7	3.5	4(?)	Caldera	3,690	(?)	(?)
1918, Feb. 23	283	14	Caldera	3,700	0.04	250
1919, Feb. 7	11	294	Caldera	3,700	1.60	34,500(?)
Dec. 21	1	221	SW rift	3,000	5.00	62,000
1921, March 18	7.5	7	Caldera	3,700	0.77	8,800
1922, May 28	14	2	Makaopuhi	2,650	0.04	(?)
1923, Aug. 25(?)	15	1	E rift	3,000	0.20	100
1924, May 10 ⁵	8	17	Caldera	...	--	--
July 19	2.5	11	Halemaumau	2,365	0.02	320
1927, July 7	35	13	Halemaumau	2,400	0.04	3,160
1929, Feb. 20	19	2	Halemaumau	2,500	0.06	1,920
July 25	5	4	Halemaumau	2,560	0.08	3,600
1930, Nov. 19	15.5	19	Halemaumau	2,600	0.09	8,480
1931, Dec. 23	12.5	14	Halemaumau	2,700	0.12	9,640
1934, Sept. 6	44	33	Halemaumau	2,800	0.16	9,500
1952, June 27	212.5	136	Halemaumau	2,870	0.23	64,000
1954, May 31	18.5	3	Halemaumau	3,180	0.44	8,500
1955, Feb. 28	8.9	88	E rift	1,310	6.10	120,000
1959, Nov. 14	53.5	36	Kilauea Iki	3,500	0.24	51,000
1960, Jan. 13	0.8	36	E rift	100	4.1	155,000
1961, Feb. 24	12.2	1	Halemaumau	3,150	0.02	30
March 3	0.2	22	Halemaumau	3,150	0.1	350
July 10	3.5	7	Halemaumau	3,150	0.4	17,300
Sept. 22	2.2	3	E rift	2,600	0.3	3,000

TABLE 12.9 (cont.)

Volcano and Date of Outbreak	Repose Period Since Previous eruption (months)	Duration (days)	Location	Altitude ¹ (feet)	Area ² (square miles)	Volume ³ (1,000 cubic yards)
Kilauea (cont.)						
1962, Dec. 7	14.4	2	E rift	3,250	0.02	430
1963, Aug. 21	8.4	2	E rift	3,150	0.06	1,100
Oct. 5	1.4	1	E rift	2,750	1.3	9,000
1965, March 5	17.0	10	E rift	3,000	3.0	23,000
Dec. 24	9.5	< 1	E rift	3,150	0.23	1,160
1967, Nov. 5	23.3	251	Halemaumau	3,150	0.25	110,000
1968, Aug. 22	1.3	5	E rift	2,900	0.01	176
Oct. 7	1.3	15	E rift	3,000	0.8	9,000
1969, Feb. 22	4.0	6	E rift	3,100	2.3	22,000
May 24	2.0	867	E rift	3,150	19.3	242,000
1971, Aug. 14	--	< 1	Caldera	3,660	0.8	12,400
Sept. 24	--	5	Caldera, SW rift	3,740	1.5	10,500
1972, Feb. 4	4	455	E rift	3,150	13.5	163,800
1973, May 5	--	< 1	E rift	3,340	0.1	1,600
Nov. 10	--	30	E rift	3,250	0.4	3,700
Dec. 12	1	203	E rift	3,150	3.1	39,300
1974, July 19	--	3	Caldera, E rift	3,600	1.2	9,000
Sept. 19	2	< 1	Caldera	3,680	0.4	14,000
Dec. 31	3	< 1	Caldera	3,600	2.9	19,600
1975, Nov. 29	11	< 1	Caldera	3,600	0.05	330
Mauna Loa ⁶						
1832, June 20	(?)	21	Summit	13,000 (?)	(?)	(?)
1843, Jan. 9	126	90	N. flank	9,800	20.2	250,000
1849, May	73	15	Summit	13,000	(?)	(?)
1851, Aug. 8	26	21	Summit	13,300	6.9	90,000
1852, Feb. 17	6	20	NE rift	8,400	11.0	140,000
1855, Aug. 11	41	450	NE rift	10,500(?)	12.2	150,000
1859, Jan. 23	26	300	N flank	9,200	32.7	600,000
1865, Dec. 30	73	120	Summit	13,000	(?)	(?)
1868, Mar. 27	23	15	S rift	3,300	9.1	190,000
1870, Jan. 1(?)	21	14	Summit	13,000	(?)	(?)
1871, Aug. 1(?)	18	30	Summit	13,000	(?)	(?)
1872, Aug. 10	11	60	Summit	13,300	(?)	(?)
1873, Jan. 6	3	2(?)	Summit	13,000	(?)	(?)
April 20	3	547	Summit	13,000	(?)	(?)
1875, Jan. 10	2	30	Summit	13,000	(?)	(?)
Aug. 11	6	7	Summit	13,000	(?)	(?)
1876, Feb. 13	6	Short	Summit	13,000	(?)	(?)
1877, Feb. 14	12	10	W flank	- 180	(?)	(?)

TABLE 12.9 (cont.)

Volcano and Date of Outbreak	Repose Period Since Previous Eruption (months)	Dura- tion (days)	Location	Altitude ¹ (feet)	Area ² (square miles)	Volume ³ (1,000 cubic yards)
Mauna Loa ⁶ (cont.)						
1880, May 1	38	6	Summit	13,000	(?)	(?)
Nov. 1	6	280	NE rift	10,400	24.0	300,000
1887, Jan. 16	65	10	SW rift	5,700	11.3	300,000
1892, Nov. 30	68	3	Summit	13,000	(?)	(?)
1896, Apr. 21	41	16	Summit	13,000	(?)	(?)
1899, July 4	38	19	NE rift	10,700	16.2	200,000
1903, Oct. 6	50	60	Summit	13,000	(?)	(?)
1907, Jan. 9	37	15	SW rift	6,200	8.1	100,000
1914, Nov. 25	94	48	Summit	13,000	(?)	(?)
1916, May 19	16	14	SW rift	7,400	6.6	80,000
1919, Sept. 29	40	42	SW rift	7,700	9.2	350,000
1926, April 10	77	14	SW rift	7,600	13.4	150,000
1933, Dec. 2	91	17	Summit	13,000	2.0	100,000
1935, Nov. 21	23	42	NE rift	12,100	13.8	160,000
1940, April 7	51	133	Summit	13,000	3.9	100,000
1942, April 26	20	13	NE rift	9,200	10.6	100,000
1943, Nov. 21	18	3	Summit	13,000	(?)	(?)
1949, Jan. 6	61	145	Summit	13,000	5.6	77,000
1950, June 1	12	23	SW rift	8,000	35.0	600,000
1975, July 5	300	< 1	Summit	13,000	5.2	39,200

1. Where outbreak occurred at different elevations for Kilauea, only the highest is shown. Data for other volcanoes refer to main vent of each eruption.

2. Excludes area below sea level.

3. Includes volume below sea level.

4. Incomplete for earlier years. Many eruptions have occurred on the floor of the caldera, but only a few of the later ones are listed here.

5. Violently explosive.

6. Incomplete for earlier years.

Source: Gordon A. Macdonald and Agatin T. Abbott, Volcanoes in the Sea (University of Hawaii Press, 1970), pp. 50, 51, 53, 56, 57, 74, and 75, as corrected; Gordon A. Macdonald and Douglass H. Hubbard, Volcanoes of the National Parks in Hawaii, 7th ed. (Hawaii Natural History Association, 1974), pp. 29 and 55-56, as corrected; U.S. Geological Survey, Hawaiian Volcano Observatory, records. Data correct to March 25, 1977.

TABLE 12.10 EARTHQUAKES OF MAGNITUDE 6 OR GREATER, 1838 TO 1976
 (Except for the earthquake of April 2, 1868, magnitudes of earthquakes prior to 1929 are conjectural.)

Date	Location	Estimated Richter Magnitude
1838, December 12	Hawaii	6
1841, April 7	Hawaii	6
1852, March 31	Hawaii	6
1868, March 28	Hawaii	6.5
April 2	Hawaii	7.5
1871, February 19	Molokai or Maui	6.5
1875, November 23	Hawaii	6
1887, January 24	Hawaii	6
1913, October 25	Hawaii	6.5
1918, November 1	Hawaii	6.5
1919, September 14	Hawaii	6.5
1929, October 5	Hawaii	6.5
1938, January 23	N. of Pauwela Pt., Maui	6.75
1940, June 17	Hawaii	6
1941, September 25	Hawaii	6
1948, June 28	Oahu	Unknown
1950, May 30	Hawaii	6.25
1951, April 23	Hawaii	6.5
August 21	Hawaii	6.9
1952, May 23	Hawaii	6
1954, March 30	Hawaii	6
March 30	Hawaii	6.5
1961, September 25	Hawaii	5.75-6
1962, June 28	Hawaii	6.1
1973, April 26	Honolulu, Hawaii	6.2
1975, November 29	Puna, Hawaii	7.2

Source: Augustine S. Furumoto, N. Norby Nielsen, and William R. Phillips, A Study of Past Earthquakes, Isoseismic Zones of Intensity and Recommended Zones for Structural Design for Hawaii (University of Hawaii, Center for Engineering Research, Engineering Bulletin, June 15, 1972); information supplied by Wm. Mansfield Adams and Augustine S. Furumoto, Institute of Geophysics, University of Hawaii. Correct to August 31, 1976.

TABLE 12.11 TSUNAMIS WITH RUNUP OF 2 METERS OR MORE, 1819 TO 1976

Date	Place of Observation	Maximum Runup Height ¹		Deaths in Hawaii	Damage in Hawaii
		Meters	Feet		
1819, Apr. 12 ²	W. Hawaii	2.0	7	--	Unknown
1837, Nov. 7	Hilo	6.0	20	16	200 houses
1841, May 17	Hilo	4.6	15	--	Unknown
1868, Apr. 2	Ka'u	12.2	40	46	Great locally
	Aug. 14	Hilo	4.6	15	Severe
1869, Aug. 24	S.E. Puna	9.1	30	--	Some
1877, May 10	Hilo	4.9	16	5	Severe; \$14,000
1878, Jan. 20	N. Oahu	3.0	10	--	Some houses
1896, June 15	Kona	9.1	30	--	Unknown
1906, Jan. 31	Hilo	3.6	12	--	None
	Aug. 16	Maalaea	3.6	12	Some
1919, Apr. 9	S. Kona	4.3	14	--	None
	Apr. 30	Ka'u	4.2	14	None
1922, Nov. 11	Hilo	2.1	7	--	Minor
1923, Feb. 3	Hilo	6.1	20	1	Severe; \$1,500,000
1924, May 30	Lanai	5 ?	16?	--	Great locally
1933, Mar. 2	Kona	2.9	10	--	Some
1946, Apr. 1	N.E. Hawaii	17.0	56	159	\$26,000,000
1952, Nov. 4	Hawaii	6.1	20	--	\$800,000-\$1,000,000
1957, Mar. 9	Haena	16.0	52	1	\$5,000,000
1960, May 22	Hilo	10.5	34	61	\$23,000,000
1964, Mar. 27	N. Oahu	4.8	16	--	\$67,590
1975, Nov. 29	Ka'u	7.9	26	2	\$1,500,000

1. Data before 1946 are approximate and probably low in many cases.

2. Earliest tsunami for which definite information exists. A tsunami observed at Hookena in 1813 or 1814 may have exceeded 2 meters.

Source: George Pararas-Carayannis, Catalog of Tsunamis in the Hawaiian Islands (U.S. Department of Commerce, Coast and Geodetic Survey, May 1969); Harold G. Loomis, The Tsunami of November 29, 1975 In Hawaii (Hawaii Institute of Geophysics, December 1975), pp. 1 and 10; Robert C. Schmitt, "Catastrophic Mortality in Hawaii," The Hawaiian Journal of History, vol. 3 (1969), pp. 66-86, espec. pp. 67-68; Doak C. Cox and Harold G. Loomis, personal communications. Data complete to February 3, 1977.

TABLE 12.12 WATER PRODUCTION, 1920 TO 1972
(Billions of gallons)

Year and Nature of Occurrence or Distributor	State Total	Kauai	Oahu	Molokai	Maui	Lanai	Hawaii
1920, total	NA	NA	NA	NA	NA	NA	NA
Wells	130.0	8.0	87.7	--	33.6	--	0.5
Other sources	NA	NA	NA	NA	NA	NA	NA
1937, total	NA	NA	NA	NA	NA	NA	NA
Wells	152.0	5.1	101.0	--	43.7	--	1.9
Ground water from tunnels	28.0	0.3	14.3	--	7.5	0.1	5.8
Other sources	NA	NA	NA	NA	NA	NA	NA
1953, total ¹	654.4	170.0	200.0	1.0	191.1	0.5	91.8
Surface	348.9	152.2	26.2	0.4	86.4	--	83.7
Ground, basal	287.1	17.0	158.2	0.6	103.5	--	7.8
Ground, all others	18.3	0.7	15.6	--	1.1	0.5	0.3
Unidentified	0.2	0.2	--	--	--	--	--
1957, total ¹	701.1	183.9	195.8	1.1	225.9	0.7	93.9
Surface	410.6	168.5	28.6	0.4	129.3	--	83.7
Ground, basal	268.9	14.5	149.1	0.6	96.1	--	8.5
Ground, all others	21.5	0.7	18.1	--	0.5	0.7	1.6
Unidentified	0.1	0.1	--	--	--	--	--
City and County	22.9	1.0	19.0	0.1	1.6	--	1.2
Federal	9.1	--	9.0	--	--	--	--
Territory of Hawaii	1.3	--	1.1	0.2	--	--	--
Private	667.9	182.9	166.6	0.7	224.3	0.7	92.7
1972, total ²	NA	2.3	170.0	NA	NA	NA	NA
City and County	52.6	1.6	44.1		3.6	--	3.3
Military systems	NA	0.1	12.3	NA	NA	NA	NA
Plantations	NA	0.5	100.4	NA	NA	NA	NA
Industrial	NA	--	7.1	NA	NA	NA	NA
All others	NA	0.1	6.1	NA	NA	NA	NA

1. Water consumption.

2. Water production for Oahu and water consumption for other islands. The Oahu total includes 148.0 billion gallons of ground water, 12.2 billion in surface water, and 9.8 billion from shallow wells.

Source: Territorial Planning Board, First Progress Report. An Historic Inventory of the Physical, Social and Economic and Industrial Resources of the Territory of Hawaii (2d ed., 1939), pp. 145 and 147; Hawaii Water Authority, Water Resources in Hawaii (1959), pp. 132-134; Honolulu Board of Water Supply, estimates supplied December 26, 1973; Hawaii County Department of Water Supply, records; Maui County Department of Water Supply, records; Kauai County Department of Water, estimates supplied December 14, 1973.

TABLE 12.13 WATER USE, 1950 TO 1975
(Millions of gallons per day, unless otherwise specified)

Subject	1950	1960	1965	1970	1975
Water withdrawn ¹	1,270	1,500	2,000	2,700	2,540
Ground water	610	600	820	920	890
Fresh	NA	580	780	910	890
Saline	NA	21	37	13	2
Surface water	660	860	1,200	1,700	1,650
Fresh	NA	600	670	850	670
Saline	NA	260	500	860	980
Reclaimed sewage	NA	--	--	66	--
Withdrawn for irrigation	1,120	920	1,160	1,280	950
Conveyance losses	NA	100	200	220	450
Used for hydroelectric power	580	NA	360	330	260
Fresh water consumed	NA	410	580	810	600
Per capita use (gallons per day)	2,500	2,500	2,800	3,500	3,140

1. Excludes water used for hydroelectric power. Irrigation conveyance losses included in 1965, 1970, and 1975, excluded in 1960, and not specified in 1950.

Source: U.S. Geological Survey, Estimated Use of Water in the United States for 1950 (Circular 115, May 1951), 1960 (Circular 456, 1961), 1965 (Circular 556, 1968), and 1970 (Circular 676, 1972), and unpublished 1975 data (1976).

TABLE 12.14 AVERAGE DAILY WATER CONSUMPTION FROM COUNTY WATERWORKS, 1895 TO 1976
(Millions of gallons)

Year	City of Honolulu ¹	City of Honolulu ¹	Rest ² of Oahu	Year	City of Honolulu ¹	Rest ² of Oahu	Year	City of Honolulu ¹	Rest ² of Oahu	Hawaii ³ County	Kauai ⁴ County	Mau ⁵ County
1895	0.92	24.7	...	1924	24.7	...	1951	35.1	5.05	3.57	...	5.07
1896-97	1.55	25.2	...	1925	25.2	...	1952	36.2	6.03	5.87	...	4.60
1898-99	3.84	26.0	...	1926	26.0	...	1953	37.8	7.96	5.56	...	5.17
1900	3.14	26.1	...	1927	26.1	...	1954	36.0	7.69	5.19	...	4.58
1901	...	24.2	0.47	1928	24.2	0.47	1955	37.0	8.52	3.41	...	4.65
1902	4.56	23.3	0.68	1929	23.3	0.68	1956	38.8	9.47	3.23	...	4.39
1903	11.00	22.1	0.62	1930	22.1	0.62	1957	41.2	11.06	3.19	...	4.73
1904	12.84	21.6	0.81	1931	21.6	0.81	1958	41.9	11.33	3.17	...	4.63
1905	10.25	19.9	0.89	1932	19.9	0.89	1959	39.8	12.98	3.19	2.62	5.11
1906	11.05	18.6	0.98	1933	18.6	0.98	1960	41.9	15.97	3.40	2.78	5.49
1907	6.82	18.6	0.94	1934	18.6	0.94	1961	41.4	17.4	3.51	2.60	5.61
1908	16.55	19.0	0.99	1935	19.0	0.99	1962	41.7	19.4	3.77	2.49	5.45
1909	12.59	19.4	1.04	1936	19.4	1.04	1963	43.0	21.4	3.79	2.51	4.90
1910	11.82	19.8	1.13	1937	19.8	1.13	1964	44.3	24.0	4.15	2.72	6.15
1911	14.89	21.1	1.27	1938	21.1	1.27	1965	45.5	24.0	4.59	2.97	5.57
1912	14.12	21.0	1.50	1939	21.0	1.50	1966	48.4	26.1	5.03	3.15	5.42
1913	12.97	23.4	1.53	1940	23.4	1.53	1967	51.0	28.0	...	3.05	6.22
1914	14.30	26.4	2.25	1941	26.4	2.25	1968	51.5	29.1	5.38	3.28	6.06
1915	16.25	26.8	2.84	1942	26.8	2.84	1969	56.3	33.5	5.94	3.44	7.06
1916	15.98	31.9	4.57	1943	31.9	4.57	1970	59.8	37.0	6.67	4.11	7.94
1917	18.66	37.1	6.06	1944	37.1	6.06	1971	60.4	37.7	7.16	4.06	8.55
1918	18.73	39.4	6.14	1945	39.4	6.14	1972	62.4	40.7	8.02	4.34	9.63
1919	21.35	37.3	4.46	1946	37.3	4.46	1973	67.2	44.4	8.99	4.66	10.45
1920	22.10	36.8	4.08	1947	36.8	4.08	1974	65.6	43.0	9.32	5.04	10.69
1921	23.84	35.1	4.45	1948	35.1	4.45	1975	65.3	45.9	9.63	5.20	12.29
1922	23.21	35.9	4.71	1949	35.9	4.71	1976	68.9	50.9	10.20	5.93	13.56
1923	25.96	34.8	4.40	1950	34.8	4.40						

TABLE 12.14 (cont.)

1. Amount pumped, 1895-1900; average daily delivery, 1902-1923; amount supplied, 1924-1958; consumption, 1959 and later years. Data refer to calendar year 1895, 24-month periods ended December 31, 1897 and 1899, calendar year 1900, years ended June 30, 1902-1905, calendar year 1906, years ended June 30, 1907-1913, calendar years 1914-1960, the six-month period ended June 30, 1961, and years ended June 30, 1962 and thereafter. The Honolulu public water supply system was established in 1848, but no statistics on water consumption were published before 1895.

2. Water consumption, 1928-1945; water sales, 1940-1958; consumption, 1959 and later years. Data refer to calendar years 1928-1960, the six-month period ended June 30, 1961, and years ended June 30, 1962 and thereafter. The first county-operated water supply system serving rural Oahu began operation in 1925, but many parts of the island relied on private systems until the 1940s or later.

3. Total water consumption for all years. Data refer to calendar years through 1966 and years ended June 30 thereafter.

4. Water sales for all years. Data refer to years ended June 30.

5. Total consumption for all years. Data refer to the six-month period ended Dec. 31 1951, calendar years 1952-1965, the six-month period ended June 30, 1966, and years ended June 30, 1967 and thereafter.

Source: Report of the Minister of the Interior for 1895-1899; First Annual Report of the Superintendent of Public Works, T. H. ... 1901; Honolulu Department of Public Works, Annual Report for 1927 and 1941-1954 and Second Special Report on the Growth of SWS (1957); Honolulu Board of Water Supply, Report on the Rural Water Works (1937 and 1939), Biennial Report for 1945-1946 and 1955-1956, Supplement to the Biennial Report, 1957-1958, Supplement to the Annual Report for 1963 and later years, and records; Hawaii County Department of Water Supply, 1975-1976 Annual Report and records; Kauai County Department of Water, records; Maui County Department of Water Supply, Annual Report ... 1976 and records.

TABLE 12.15 WATER SERVICES FOR COUNTY WATER SUPPLY SYSTEMS, 1939 TO 1976

Year (Dec. 31)	All County Systems	City & Co. of Honolulu	County of Hawaii	County of Kauai	County of Maui ¹		
					Total	Maui	Molokai
1939	...	25,209	...	...	...	...	...
1940	...	26,837	...	...	...	...	...
1941	...	28,605	...	...	...	...	...
1942	...	28,968	...	...	...	...	...
1943	...	29,308	...	...	...	...	...
1944	...	30,203	...	...	...	...	...
1945	...	31,170	...	...	...	...	...
1946	...	32,447	...	...	...	...	...
1947	...	34,417	...	...	...	...	...
1948	...	36,647	...	3,713	4,246	...	...
1949	52,660	38,401	5,057	4,049	5,153	...	...
1950	55,760	40,829	5,294	4,199	5,438	...	...
1951	60,696	44,134	6,100	4,396	6,066	...	...
1952	63,559	46,226	6,603	4,220	6,510	6,053	457
1953	68,274	50,666	6,829	4,077	6,702	6,231	471
1954	71,807	53,216	7,132	4,185	7,274	6,742	532
1955	74,952	56,272	7,346	4,321	7,013	6,525	488
1956	78,452	59,515	7,533	4,330	7,074	6,593	481
1957	81,588	62,240	7,801	4,421	7,126	6,639	487
1958	86,640	64,855	7,912	4,729	7,144	6,654	490
1959	88,096	68,059	8,003	4,785	7,249	6,740	509
1960	92,950	72,136	8,169	4,894	7,751	7,240	511
1961	96,314	74,693	8,614	5,029	7,978	7,456	522
1962	100,310	77,744	9,271	5,099	8,196	7,666	530
1963	104,043	80,512	9,773	5,233	8,525	7,978	547
1964	108,119	83,369	10,410	5,434	8,906	8,350	556
1965	113,115	87,319	10,990	5,624	9,182	8,620	562
1966	117,561	90,283	11,850	5,814	9,614	9,041	573
1967	121,229	93,096	12,273	5,987	9,873	9,285	588
1968	126,941	96,243	13,045	6,172	11,481	10,827	654
1969	131,612	99,951	13,708	6,378	11,575	10,826	749
1970	136,827	103,694	14,469	6,672	11,992	11,223	769
1971	141,841	107,056	15,329	6,905	12,551	11,752	799
1972	146,503	109,870	16,220	7,172	13,241	12,419	822
1973	151,419	113,027	17,159	7,468	13,765	12,919	846
1974	155,129	115,415	17,772	7,765	14,177	13,304	873
1975	158,158	116,697	18,402	8,199	14,860	13,965	895
1976	161,006	117,579	19,132	8,675	15,620	14,693	927

1. Data for 1948-1950 refer to June 30.

Source: Board of Water Supply, City and County of Honolulu; Department of Water Supply, County of Hawaii; Department of Water, County of Kauai; Department of Water Supply, County of Maui.

TABLE 12.16 COLIFORM ORGANISMS PER 100 MILLILITERS (LOGARITHMIC AVERAGES), FOR OAHU BEACHES, 1949 TO 1976

Year	Ala Moana Park	Fort DeRussy	Kuhio Beach	Hanauma Bay	Kailua Beach	Punaluu Park	Haleiwa Park	Waianae Park	Ewa Beach
1949	166	9.5	5.5	2.4	7.4	14.9	6.8	2.5	7.0
1950	177.0	19.2	4.0	3.9	6.4	6.3	12.6	1.7	2.4
1951	949	37.9	31.7	3.4	5.3	40.7	26.2	4.7	16.5
1952	251.3	2.6	6.8	3.2	7.0	238.2	14.9	2.3	1.9
1953	32.9	1.8	2.2	2.0	1.2	31.9	61.3	2.3	4.9
1954	155.0	2.6	12.5	2.3	5.6	42.2	15.5	3.5	4.2
1955	3.8	2.0	4.8	2.6	4.1	260.9	23.9	7.0	2.6
1956	3	6	5	3	11	241	45	12	11
1957	3.7	4.5	5.0	3.9	5.8	171.9	28.0	3.7	5.5
1958	6	8	3	2	5	42	10	3	2
1959	8	4	38	3	6	128	159	4	2
1960	11	7	6	2	6	157	81	3	9
1961	6	6	9	3	14	135	37	3	6
1962	5.1	4.7	2.1	2.2	3.3	249.2	44.6	6.2	2.6
1963	12.5	12.1	12.6	3.9	5.5	277.0	19.9	2.0	3.6
1964	4.2	5.2	3.6	3.6	12.2	66.7	12.8	4.6	1.5
1965	12	16	12	3	21	544	45	25	14
1966	7	15	8	45	8	311	29	10	22
1967	1.6	18.7	12.7	6.3	37.3	49.5	11.0	10.4	5.9
1968	14	25	12	6	12	20	21	52	6
1969	5	13	15	13	13	7	7	9	6
1970	3	11	25	16	15	8	7	13	4
1971	8	15	43	7	14	74	11	32	6
1972	12	17	14	3	6	19	12	9	13
1973	6	13	20	9	7	33	7	5	16
1974	8	23	45	6	12.7	36	10	7	15
1975	11.1	36.8	41.7	4.8	26.3	85.3	12.1	5.1	6.9
1976	12.4	83	45.5	4.7	20.8	82.6	25	12.4	14.8

1. Diamond Head side before 1962, and 1971 forward.
 Source: Annual Report, Department of Health, State of Hawaii, Statistical Supplement for 1949-1973, and records.

TABLE 12.17 SUSPENDED PARTICULATE MATTER, FOR HONOLULU, 1957 TO 1976
 (Sampling conducted from roof of Health Department Building. Annual mean levels over 80 $\mu\text{g}/\text{m}^3$ may affect human health.)

Year	Mean Micrograms per Cubic Meter
1957	47
1958	59
1959	63
1960	47
1961	43
1962	41
1963	42
1964	44
1965	41
1966	35
1967	38
1968	45
1969	43
1970	37
1971	45
1972	41
1973	34
1974	35
1975	40
1976	34

Source: Hawaii State Department of Health, Statistical Report (annual) and records.

TABLE 12.18 TEMPERATURE AND RAINFALL, FOR SPECIFIED LOCATIONS, 1873 TO 1976

Year	Average Temperature (°F.), Honolulu ¹			Extreme Temper- atures (°F.) for Year, Honolulu ¹		Annual Rainfall (inches)					
	Annual	February	August	Lowest	Highest	Honolulu ²	Hilo ³	Holua]oa Beach ⁴	Lahaina ⁵	Koloa ⁶	
1873	...	...	...	...	...	37.85	...	...	...	...
1874	74.6	73.0	80.5	...	...	46.42	...	...	...	...
1875	76.7	73.0	81.0	...	...	37.06	...	...	...	...
1876	76.8	76.0	76.5	...	...	36.56	...	...	...	...
1877	74.7	72.2	76.2	...	...	24.91*	...	...	...	...
1878	...	...	...	...	...	11.46	...	...	...	...
1879	...	...	...	...	...	35.26	...	...	...	...
1880	...	...	...	...	...	32.87	152.14	...	...	...
1881	...	...	...	...	...	37.57	144.14	...	...	...
1882	...	...	...	...	...	28.99	155.69	...	...	...
1883	75.0*	71.2*	79.1*	...	...	25.67	136.03	...	...	...
1884	74.3	70.5	78.7	...	...	22.22	148.85	...	...	...
1885	74.3	71.5	78.3	...	...	39.55	...	...	...	...
1886	74.9	71.9	77.9	...	...	27.63	...	...	...	...
1887	74.3	70.8	77.6	...	...	51.62	...	...	...	...
1888	74.9	68.7	78.2	...	...	36.77	...	...	...	...
1889	74.8	70.2	78.9	...	...	18.79	...	...	...	78.45
1890	74.8	72.2	77.6	58	88	45.12	...	...	...	56.00
1891	75.0	69.0	79.6	53	90	18.70	...	...	...	52.05
1892	75.1	73.0	78.8	56	88	30.78	...	...	22.71	88.40
1893	74.6	71.6	77.7	56	86	37.23	118.78	...	24.85	48.25	
1894	73.9	70.3	76.8	56	86	36.49	142.93	...	26.46	63.40	
1895	74.5	70.6	78.6	54	87	27.97*	107.59	...	28.54	63.15	
1896	75.0	71.6	79.0	57	88	23.85	119.78	...	24.59	51.90	
1897	75.2	73.5	79.0	57	88	13.94	93.79	...	17.46	68.35	
1898	74.0	69.6	77.5	54	86	32.88	153.06	...	...	52.50
1899	74.8	72.4	78.6	56	87	18.42	129.02	...	...	69.35
1900	75.3	70.6	79.8	55	88	33.21	107.43	...	...	47.60
										38.76	

TABLE 12.18 (cont.)

Year	Average Temperature (°F.), Honolulu ¹			Extreme Temper- atures (°F) for Year, Honolulu ¹		Annual Rainfall (inches)				
	Annual	February	August	Lowest	Highest	Honolulu ²	Hilo ³	Holua ⁴ Beach	Lahaina ⁵	Koloa ⁶
1901	74.8	68.8	79.3	54	88	36.70	138.59	...	...	81.24
1902	74.1	69.8	79.0	52	86	38.71	167.38	...	...	68.69
1903	73.6	67.2	78.1	53	87	22.00	132.01	...	...	39.22
1904	74.6	70.4	78.0	55*	87*	51.34	128.08	...	...	66.92
1905	73.3*	69.4*	77.4*	57*	84*	16.99*	122.44	...	8.45	51.85
1906	74.7	71.0	78.7	57	85	25.77	107.86	...	...	47.43
1907	75.0	72.6	78.0	62	86	30.13	159.64	...	33.54	92.42
1908	74.3	71.9	77.2	61	85	19.17	133.35	...	5.51	55.25
1909	73.6	69.5	76.6	56	84	20.81	129.01	...	17.65	74.43
1910	73.6	70.0	76.8	58	85	26.34	132.64	...	16.95	67.52
1911	74.0	69.8	78.1	58	85	26.71	168.39	...	18.11	75.29
1912	74.6	70.8	78.2	60	87	14.71	129.32	...	8.07	46.53
1913	75.0	70.4	79.2	58	87	18.53	144.31	...	12.76	60.66
1914	74.5	71.4	79.2	57	87	23.07	194.23	...	15.28*	72.91
1915	75.0	69.4	79.6	58	87	29.64	129.99	...	7.83	75.52
1916	74.7	72.6	76.6	60	84	44.96	157.88	...	27.92	82.60
1917	74.8	70.2	78.7	59	86	41.64	91.18	...	14.59	63.22
1918	75.0	71.2	78.6	57	86	37.46	191.71	...	18.84	82.36
1919	75.3	72.4	79.1	60	88	14.59	98.20*	15.20	5.14	50.52
1920	75.6	73.0	79.4	60	87	25.49	118.02	38.43	10.29	81.30
1921	75.2	73.2	78.4	62	88	26.58	158.49	22.26	8.48	84.45
1922	74.8	71.1	77.9	62	85	20.11	189.39	...	3.54	54.09
1923	74.9*	70.0*	78.2*	58*	87*	37.34*	207.40	33.63	19.24	77.37
1924	74.6	72.0	77.6	60	85	26.31	130.79	20.57	15.35	48.94
1925	75.0	72.8	78.6	62	86	16.82	125.80	15.00	8.87	52.88
1926	75.6	72.4	79.0	60	86	11.27	81.68	17.25	4.88	35.10
1927	75.4	72.6	78.2	60	86	43.52	176.34	33.49	20.32	91.85
1928	75.0	70.8	78.2	60	85	15.34	123.51	15.29	3.65	66.27

TABLE 12.18 (cont.)

Year	Average Temperature (°F.), Honolulu		Extreme Temper- atures (°F.) for Year, Honolulu		Annual Rainfall (inches)					
	Annual	February	August	Lowest	Highest	Honolulu ²	Hilo ³	Holuaioa Beach ⁴	Lahaina ⁵	Koloa ⁶
1929	75.4	71.6	79.0	59	88	26.97	121.97	50.53	20.74	50.13
1930	75.2	72.6	79.1	57	86	31.04	153.26	21.36	17.54	59.43
1931	75.0	72.2	78.6	60	85	16.35	113.10	18.77	4.16	52.60
1932	74.7	70.2	77.3	58	85	24.77	142.11	25.44	9.57	68.57
1933	73.8	71.4	75.9	59	85	19.97	96.02	21.81	10.77	59.52
1934	75.6	72.0	79.6	61	87	18.37	136.74	30.27	6.79	58.36
1935	75.2	71.6	78.4	60	87	24.55	126.79	22.92	8.76	66.28
1936	75.0	71.8	78.4	60	85	28.03	180.89	26.60	16.25	75.31
1937	74.7	70.4	77.6	58	85	30.90	186.28	27.38	21.76	67.67
1938	75.5	73.4	78.4	63	86	25.55	188.52	31.53	16.92	69.80
1939	74.6	73.1	77.7	64	85	38.23	168.11	28.63	17.49	74.60
1940	76.2	72.6	79.8	60	87	18.65	101.71	25.52	19.65	58.09
1941	75.6	71.1	79.6	60	88	10.30	143.86	22.09	5.15	46.80
1942	75.5	72.0	79.2	59	86	27.41	143.42	33.13	11.66	74.84
1943	75.8	72.2	78.7	60	85	26.86	102.55	27.58	16.58	60.69
1944	75.2	71.5	77.8	62	85	16.69	131.05	29.19	13.01	60.92
1945	76.0	73.4	78.9	63	85	15.69	118.79	37.72	8.13	53.88
1946	75.4	73.2	79.0	62	87	22.40	134.94	29.03	14.52	77.52
1947	75.0	71.6	78.8	59	85	14.57	139.35	25.92	3.37	51.91
1948	75.0	70.7	79.2	60	86	26.76	164.95	43.34	15.47	75.71
1949	74.2	71.6	77.1	61	84	23.96	132.14	22.83	9.61	75.33
1950	74.9	73.6	78.0	63	85	32.28	139.15*	33.76	34.78	59.41
1951	75.4	71.5	78.5	61	87	37.60	150.01	47.03	29.88	92.48
1952	74.7	72.6	78.2	62	85	14.36	120.65	22.99	9.98	69.10
1953	75.2	72.9	78.4	59	85	11.70	89.68	25.49	3.20	52.27
1954	75.2	72.8	78.6	61	85	30.65	162.33	35.63	16.27	97.92
1955	74.0	70.4	76.1	59	83	39.30	123.45	24.12	23.38	77.83
1956	75.3	71.6	78.4	62	86	24.95	168.36	39.58	15.51	68.06
1957	75.1	70.5	78.1	61	87	28.71	139.34	21.11	11.77	86.33

TABLE 12.18 (cont.)

Year	Average Temperature (°F.), Honolulu		Extreme Temperature (°F.) for Year, Honolulu		Annual Rainfall (inches)					
	Annual	February	August	Lowest	Highest	Honolulu ²	Hilo ³	Holualoa Beach ⁴	Lahaina ⁵	Ko'loa ⁶
1958	74.4	71.6	78.1	59	86	34.82	105.95	30.25	13.65	61.03
1959	76.1	71.6	79.0	61	87	17.78	117.82	35.89	13.00	60.52
1960	75.6	71.9	79.2	60	86	16.23	146.80	18.08	6.62	72.05
1961	76.1	73.7	79.3	61	87	18.40	119.70	31.05	24.00	67.49
1962	75.6	71.7	78.2	58	85	15.47	71.45	20.60	14.90	70.99
1963	75.5	72.6	78.9	61	86	45.51	124.75	35.42	22.56	70.95
1964	75.8	73.5	78.3	62	85	19.96	166.44	28.42	14.57	94.83
1965	75.2	69.3	78.6	60	87	43.85	127.29	39.79	23.85	89.31
1966	75.7	70.9	78.8	58	86	25.54	124.01	23.14	13.01	58.67
1967	76.0	73.5	79.6	60	87	37.63	154.00	31.10	28.48	86.23
1968	77.0	73.0	80.9	63	88	36.24	134.14	48.86	25.87	84.00
1969	74.8	71.9	78.7	59	86	26.71	173.23	32.89	10.09	72.42
1970	75.5	71.7	78.9	59	85	18.35	153.98	20.78	11.95	64.45
1971	75.4	73.5	78.5	59	85	28.61	140.69	37.61	15.93	75.33
1972	75.0	71.2	78.8	61	88	26.72	98.85	33.22	20.21	66.72
1973	74.8	70.8	78.1	62	85	18.66	107.97	14.85	10.13	66.78
1974	75.9	73.8	79.0	63	86	28.24	117.34	40.49	13.01	86.35
1975	74.6	72.1	77.5	61	85	24.63	99.43	25.97	12.19	49.91
1976	...	71.6	80.6	60	88	...	114.67	25.51	8.86	62.60

* Location somewhat different from that in previously reported year (see footnotes).

1. Data for 1874-1877 were collected at Kalakaua Avenue near King Street, 10 feet above sea level; 1883-1904, at Punahou School, Dole and Alexander Streets, 3 feet above the ground and 45 feet above sea level; 1905-1922, in the Alexander Young Building, 99 feet above the ground and 9 feet above sea level; 1923 to the present, in the Federal Building, 67 feet above the ground and 12 feet above sea level.
2. Data for 1873-1877 were collected at Kalakaua Avenue near King Street, 10 feet above sea level; 1878-1894, at Miller and Beretania Streets, 3 feet above the ground and 50 feet above sea level; 1895-1904, at Kinau and Victoria Streets, 3 feet above the ground and 30 feet above sea level; 1905-1922, at the Alexander Young Building; and 1923-present, at the Federal Building.

TABLE 12.18 (cont.)

3. Data for 1880-1918 were collected at the Hilo Boarding School, 1/2 mile west of Hilo Bay, 3 feet above the ground and 100 feet above sea level; 1919-1949, at the Hilo Federal Building, 1/4 mile west of Hilo Bay, 3 feet above the ground and 40 feet above sea level; 1950-present, at Hilo Airport, 17 feet above the ground and 27 feet above sea level. The Hilo Federal Building series is available through 1965.
4. The gage is located in a dense wooded area, with the ocean to the west and east, 3 miles southeast of Kailua, North Kona; it is about 8 feet above the ground and 14 feet above sea level.
5. Data for 1892-1913 were collected at Kaanapali, 3 1/2 miles NNW of Lahaina, 3 feet above the ground and 10 feet above sea level; 1914-present, 2,000 feet east of the Lahaina Post Office, 3 feet above the ground and 45 feet above sea level. The Kaanapali series is available through 1963.
6. Data collected 3/8 mile northeast of the Koloa Post Office, 3 feet above the ground and 240 feet above sea level.

Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Pacific Region, records.

TABLE 12.19 CLIMATIC DATA FOR THE PERIOD OF RECORD

Subject	Date	Place	Magnitude
Long-term averages			
Lowest monthly average minimum temp. (°F.)	February	Mauna Kea summit	23.3
Lowest monthly average daily temp. (°F.)	February	Mauna Kea summit	31.1
Highest monthly average maximum temp. (°F.)	August	Waiawa, Kauai	89.7
Highest monthly average daily temp. (°F.)	August	Puako, Hawaii	80.7
Lowest average annual rainfall (inches)	...	N. of Kawaihae	5.7
Highest average annual rainfall (inches)	...	Waialeale	486.
Single events			
Lowest temperature of record (°F.)	Feb. 11, 1973	Mauna Kea summit	11.
Highest temperature of record (°F.)	April 27, 1931	Pahala, Hawaii	100.
Lowest annual rainfall of record (inches)	1953	Kawaihae, Hawaii	0.2
Highest annual rainfall of record (inches)	1947-1948	Waialeale	624.
Highest wind speed of record (m.p.h.)	Jan. 17-18, 1959	Mauna Loa Obser.	105+

Source: U.S. Department of Commerce, National Weather Service, Pacific Region, data supplied March 14, 1973.

TABLE 12.20 HAWAII AUDUBON SOCIETY BIRD COUNTS OF THE HONOLULU AREA, 1945 TO 1976
(Counts are made in late December in a circle 15 miles in diameter centered near Nuuanu Pali.)

Species ¹	Annual Averages						
	1945- 1949	1950- 1954	1955- 1959	1960- 1964	1965- 1969	1970- 1974	1975- 1976
Total individuals	3,190	3,561	5,383	5,936	14,256	11,614	14,200
Total species	30	26	35	36	50	49	54
Endemic							
'Amakihi	28	5	69	35	40	42	137
'Apapane	27	7	199	43	27	35	88
Hawaiian Coot	629	260	988	233	56	69	42
Hawaiian Stilt	127	41	101	158	104	112	127
Indigenous							
Great Frigatebird	24	14	242	431	376	614	484
Red-footed Booby	371	597	1,191	747	1,300	1,463	1,244
Sooty Tern	39	--	--	1,320	2,100+	40	--
Introduced							
Barred Dove	180	354	298	426	1,583	1,468	1,824
Cattle Egret	--	--	--	--	57	759	814
Common Mynah	152	522	384	817	4,651	2,567	2,070
House Sparrow ²	127	239	193	303	959	1,373	954
Japanese White-eye	93	60	189	166	249	450	1,530
Red-crested Cardinal ³	9	22	32	36	202	214	200
Spotted Dove ⁴	70	155	116	111	508	586	1,108
Spotted Munia ⁵	112	234	252	162	393	419	351
Migratory							
Pacific Golden Plover	169	178	230	271	697	564	856
Pintail	664	353	250	24	40	41	24
Ruddy Turnstone	149	92	104	95	208	97	116

1. Endemic birds are those peculiar to a particular region, in this case the Hawaiian Islands, and therefore are found nowhere else in the world. Indigenous birds are those native to a given region (here, Hawaii) but whose total range of distribution includes a much wider geographical area. The classification is that reported in Andrew J. Berger, *Hawaiian Birdlife* (1972). Species shown separately in this table are those averaging more than 60 sightings (for endemic birds) or 200 (for other types) for any of the five-year periods covered.

2. Also known as the English Sparrow.

3. Also known as the Brazilian Cardinal.

4. Also known as the Lace-necked Dove or Chinese Dove.

5. Also known as the Ricebird.

Source: Hawaii Audubon Society, *The Elepaio* for February 1949-1977.

TABLES IN SECTION 13

- 13.1 Farm characteristics, 1900 to 1974
- 13.2 Crops, 1900 to 1974
- 13.3 Livestock and poultry, 1852 to 1974
- 13.4 Number of farms, 1946 to 1975
- 13.5 Farm acreage, 1946 to 1975
- 13.6 Volume of crop marketings, 1946 to 1975
- 13.7 Volume of livestock marketings, 1946 to 1975
- 13.8 Value of crop sales, 1946 to 1975
- 13.9 Value of livestock sales, 1946 to 1975
- 13.10 Per capita food supply, 1903 to 1940
- 13.11 Percent of food supply from Hawaii, 1903 to 1940
- 13.12 Per capita food supply, in pounds and calories, specified periods, 1904 to 1960
- 13.13 Market supply of selected foods, 1946 to 1975
- 13.14 Inshipments of selected foods, 1946 to 1975
- 13.15 Percent of market supply produced in Hawaii, 1946 to 1975
- 13.16 Apparent per capita consumption of selected foods, 1946 to 1975
- 13.17 Physical capital and output of sugar plantations, 1870 to 1957
- 13.18 Acreage, employment, wages, population, and housing on sugar plantations, 1826 to 1975

SECTION 13

Agriculture

This section presents statistics on farms, farmers, crops, livestock, and poultry; the market supply of selected foods from local and out-of-state sources; per capita food consumption; and the characteristics of sugar plantations. Related data appear in section 4 (on agricultural employment, hours, and earnings), section 5 (retail prices of food), section 7 (family expenditures for food), section 12 (land use and climate), section 16 (food processing, especially sugar and pineapple), and section 21 (exports of agricultural products).

The principal agricultural activity of the ancient Hawaiians was the raising of taro. Besides taro and the poi made from it, their diet included breadfruit, sweet potatoes, yams, bananas, coconuts, pigs, dogs, chickens, and seafoods. After 1778, white visitors and settlers introduced a wide variety of plants and animals from other parts of the world.

Plantation agriculture in Hawaii had its origins in the second quarter of the nineteenth century. A sugar plantation was started in Manoa Valley, Oahu, in 1825, but was abandoned after a few years. A second sugar plantation, established by Ladd & Company at Koloa, Kauai, in 1835, proved more successful. Production increased throughout much of the following century, especially after negotiation of a reciprocal trade treaty with the United States in 1876 opened a much wider market to island sugar. At the same time, the importation of labor from China and other countries (first undertaken in 1852) was accelerated to meet the burgeoning need for plantation workers.

Other plantation crops included coffee and pineapple. Coffee trees were planted in Manoa in 1825, Kona in 1828 or 1829, and, on a much larger scale, in Hanalei beginning in 1842. Pineapple was grown in small quantities during the first half of the nineteenth century, but it was not until 1900, when large-scale cultivation was undertaken around Wahiawa that the modern industry had its true beginning.

The earliest agricultural statistics for Hawaii were estimates on acreage planted in cane, plantation employment, and sugar worker wage rates, reported in scattered historical references.

The first Hawaiian agricultural data compiled on a regular, systematic basis were the export totals reported by the collector general of customs beginning in 1843. These annual figures included data on both the volume and

value of a wide range of crop and livestock products. Inasmuch as these statistics referred only to exports, they excluded production for local consumption and the not inconsiderable share devoted to the provisioning of whalers and other ships calling at island ports.

Official census statistics on agricultural workers were compiled as early as 1866, but their coverage and comparability remained questionable until the end of the century. The 1872 census, for example, included categories for "agriculturalists" and "plantation laborers," while the classification system used in 1890 referred to "farmers," "planters and ranchers," and "laborers." No distinction was made, apparently, between field labor and workers employed in the sugar mills. The decennial U.S. census, first conducted in Hawaii in 1900, introduced a considerably higher degree of consistency into its industrial classifications, including a more scrupulous differentiation of agricultural workers and those engaged in milling, canning, and other forms of food processing. The decennial counts through 1930 referred to "gainfully occupied" persons, while those from 1940 forward presented data on the "civilian labor force."

More frequent data on employment on the sugar plantations began to appear in 1882 in the form of tabulations by the Bureau of Immigration.

A major impetus to the development of statistics on the sugar industry came with the establishment of the Hawaiian Sugar Planters' Association (HSPA) in 1895. This organization and its research arm, the HSPA Experiment Station, quickly moved to introduce regular reporting on production, by islands and plantations. Beginning with the 1908-1909 crop year, the association also compiled annual territorywide data on acres planted in cane, acreage harvested, tons of cane harvested, average yield per acre, and other ratios. At a still later time, series were added on plantation employment, man-days worked, and average earnings. These statistics appeared in a variety of HSPA publications, most recently the HSPA Sugar Manual (issued annually), and also in the annual report of the governor to the secretary of the interior. From the late 1920s to 1957, the association conducted an annual population and housing census (most sugar workers and their families occupied plantation housing), published as HSPA Census of Hawaiian Sugar Plantations.

No such concerted statistical collaboration was undertaken in the pineapple and coffee industries, although annual totals on the number of cases of pineapple packed (a manufacturing rather than agricultural statistic) were assembled from the very beginning. A useful compilation of statistics,

gleaned for the most part from other sources, appears in Pineapple Fact Book/Hawaii, issued from time to time by the Pineapple Growers Association of Hawaii.

The only agricultural censuses conducted prior to annexation were brief inquiries on the ownership of livestock, included in the 1866 and 1896 population censuses. The 1866 enumeration reported the numbers of cattle, sheep, and goats by island. Thirty years later, the Hawaiian census contained a table showing the number of livestock (in nine categories) by nationality of their owners. The earliest statistics on livestock appear to be Charles R. Bishop's estimates of cattle, horses, and sheep, in The Transactions of the Royal Hawaiian Agricultural Society for June 1852.

After annexation, Hawaii was routinely included in most (but not all) of the agricultural censuses made by the U.S. Bureau of the Census. Those taken in 1900, 1910, 1920, 1930, 1940, and 1950 were conducted in conjunction with the decennial population censuses for those years. Later agricultural censuses, made more or less independently, were taken in the closing months of 1959, 1964, 1969, and 1974. These censuses obtained data on the number and acreage of farms; farm tenure; acres in cropland, woodland, and pasture; irrigated acreage; the value of land and buildings; the number and characteristics of farm workers; and, for a wide variety of crops, the acreage harvested, amount harvested, and sales. For livestock and poultry, data were tabulated on the number of animals present, the number sold, and the value of sales.

The definition of "farm" used by the U.S. Census of Agriculture has varied considerably over the years. In 1910, for example, a farm was defined, for census purposes, as "all the land which is directly farmed by one person managing and conducting agricultural operations, either by his own labor alone or with the assistance of members of his own household or hired employees." Farms containing less than three acres were to be included only if they produced at least \$250 worth of farm products during the year. This limit was dropped to \$100 for the 1920 and 1930 censuses, then raised to \$150 in 1940 and 1950. The 1959, 1964, and 1969 censuses included farms under ten acres only if their agricultural sales amounted to \$250 or more, and farms over ten acres only if the total was at least \$50. These frequent shifts in definition significantly affected the comparability of data on the number of farms, but had minimal influence on total farm acreage, production, or income. In 1969, for example, only 70 of the 3,896 farms in Hawaii reported acreage in excess of 2,000 acres, yet these 70 farms (almost all of which were large

sugar or pineapple plantations) accounted for 84.7 percent of the harvested cropland.

Beginning in the early 1940s, census statistics on Hawaiian agriculture were supplemented by annual estimates prepared by the Agricultural Extension Service (AES) of the University of Hawaii. Until 1952 these estimates were largely limited to "diversified" (nonplantation) agriculture and livestock production. The AES reports included data on number of farms, acreage in crop or harvested, and the volume and value of sales for a wide range of crops. These data appeared in annual "circulars," usually titled Statistics of Diversified Agriculture in Hawaii. With expanded coverage, this title was changed for the 1953 edition to Statistics of Hawaiian Agriculture, a title it still bears. Responsibility for this annual series was shifted late in 1955 to the Hawaii Cooperative Crop and Livestock Reporting Service, which, with the 1961 report, was identified as the Hawaii Crop and Livestock Reporting Service and in 1977 was renamed the Hawaii Agricultural Reporting Service. Reports by this organization are issued jointly by the U.S. and the State Departments of Agriculture. In addition to the comprehensive annual summary, the reporting service prepares numerous shorter statistical bulletins on various agricultural topics.

Crop and livestock data have appeared as well in other sources. The U.S. Bureau of Labor Statistics reports on labor conditions in Hawaii, issued (under various titles) for 1901, 1902, 1905, 1910, 1915, 1929-1930, 1939, 1947, and 1955, contain considerable information on agriculture. Major secondary sources include Thrum's Hawaiian Almanac and Annual, issued annually from 1875 to 1940 and less frequently since that time, and, for the territorial period, Report of the Governor of Hawaii to the Secretary of the Interior. The University of Hawaii Agricultural Extension Service report on Hawaiian Coffee (1951) presents considerable tabular detail, some of it going back to 1845. A monograph by J. A. Mollett, Capital in Hawaiian Sugar (1961), contains a wealth of historical data on the physical capital and output of island sugar plantations from 1870 to 1957. The University of Hawaii Economic Research Center, in a 1965 publication, has reprinted and updated M. K. Bennett's prewar study of "Trends in Hawaii's Food Consumption, 1904-1939."

Agricultural statistics for the country as a whole are reported in Historical Statistics of the United States, Colonial Times to 1970, chapter K, and Statistical Abstract of the United States.

TABLE 13.1 FARM CHARACTERISTICS, 1900 TO 1974

Census ¹	Number of Farms by Size						Number of Farms by Tenure of Operator ²	
	All Farms	Under 3 Acres	3 to 9 Acres	10 to 49 Acres	50 to 259 Acres	260 Acres or More	Full Owners	Part Owners
1900	2,273	492	717	656	230	178	684	139
1910	4,320		3,787			533	834	129
1920	5,284	808	1,926	1,959	374	217	1,291	128
1930	5,955	1,187	2,220	2,051	322	175	1,078	359
1940	4,995	1,029	1,841	1,691	263	171	956	389
1950	5,750	1,494	2,064	1,669	339	184	1,638	697
1959	6,242	1,510	2,059	1,988	432	253	2,398	1,315
1964	4,864	1,008	1,595	1,594	416	251	1,759	985
1969	3,896		2,024	1,281	389	202	1,733	678
1974	3,298		1,853	929		516	1,624	512

Census ¹	Number of Farms, by Tenure of Operator ² (cont.)		Farm Acreage, by County (1,000)					
	Managers	Tenants	Total (1,000)	Per Farm	Hawaii	Honolulu	Kauai	Maui
1900	128	1,322	2,610	1,148	1,747	123	296	443
1910	249	3,108	2,591	600	1,496	257	309	529
1920	126	3,739	2,702	511	1,600	264	248	590
1930	203	4,315	2,815	473	1,824	217	260	514
1940	123	3,527	2,486	498	1,519	189	255	523
1950	109	3,306	2,432	423	1,452	173	284	523
1959	114	2,415	2,461	394	1,447	167	283	565
1964	122	1,998	2,354	484	1,378	153	284	531
1969	...	1,485	2,058	528	1,203	147	273	435
1974	...	1,162	2,118	642	1,315	136	269	398

TABLE 13.1 (cont.)

Census ¹	Farm Acreage, by Tenure of Operator ²					Cropland (1,000 acres)		Harvested	Used Only for Pasture and Grazing	Woodland, Including Woodland Pasture (1,000 acres)
	Full Owners	Part Owners	Managers	Tenants	Total	Total	Woodland, Including Woodland Pasture (1,000 acres)			
1900	246	177	2,148	39	...	...	...	...	...	...
1910	...	...	...	...	...	...	...	...	...	596
1920	...	...	...	...	...	...	...	...	...	600
1930	61	679	1,464	611	...	...	...	...	...	748
1940	42	448	1,882	113	413	185	70	581	703	...
1950	85	408	1,897	42	465	159	154	703	410	...
1959	81	750	1,590	40	500	176	167	410	217	...
1964	46	234	2,012	62	371	167	52	217	167	...
1969	182	1,502	...	374	380	179	36	167	201	...
1974	...	...	...	...	350	151	38	...	...	...

Census ¹	Value of Land and Buildings			Value of Agricultural Products Sold			Farm Workers		
	Irrigated Land	Total (million dollars)	Per Farm (\$1,000)	Per Acre (dollars)	Total (million dollars)	Per Farm \$1,000)	Family Workers ³	Hired Workers ⁴	Total
1900	...	60	26.4	23	22	9.7	...	56,056	...
1910	...	83	19.2	32	...	...	...	...	...
1920	...	129	24.4	48	...	...	...	...	...
1930	...	112	18.8	40	...	...	...	...	...
1940	133	113	22.6	45	53	11.6	7,331	50,120	...
1950	117	195	34.0	80	165	28.6	8,306	22,477	...
1959	141	...	...	...	152	24.4	9,463	16,433	...
1964	144	482	98.9	205	188	38.5	8,129	12,527	...
1969	146	611	156.8	297	286	73.3	...	13,200	...
1974	141	1,058	320.9	500	609	184.6	...	...	...

TABLE 13.1 (cont.)

1. Censuses conducted June 1, 1900, April 15, 1910, January 1, 1920, April 1, 1930 to 1950, Nov.-Dec. 1959 and 1964, and December 1969.
2. In 1969 the term "manager" was dropped and farms formerly in this category were distributed among the other three types.
3. Includes farm operators.
4. Data for 1964 and later years limited to persons employed 150 days or longer (21,597 in 1950 and 14,403 in 1959). Data for 1969 further limited to farms with sales of \$2,500 and over (14,180 workers in 1959 and 12,375 in 1964).

Note: Source follows table 13.3.

TABLE 13.2 CROPS, 1900 TO 1974

Census ¹	Pineapples				Rice			
	Value of Crops Sold (\$1,000)	Nursery, Greenhouse, Forest Products	Farms Reporting	Acres in Crop	Acres Harvested	Tons Harvested (1,000)	Sales ³ (\$1,000)	Farms Reporting
1900	21,292	125	...	79	...	8	9	504
1910	28,536	...	319	...	...	8	331	503
1920	44,900	...	280	...	...	150	3,545	546
1930	...	...	653	...	...	355	...	227
1940	46,361	245	233	48,598	...	614	...	49
1950	143,240	1,334	55	51,018	37,567	655	38,775	45
1959	120,227	2,060	116	63,134	44,352	1,010	38,373	15
1964 ¹⁰	151,920	2,681	80	51,514	38,415	924	34,640	...
1969 ¹⁰	236,255	4,946	41	63,514	42,843	946	...	...
1974 ¹⁰	535,656	...	19	...	29,530	693	...	...

Census ¹	Sugar cane				Rice (cont.)			
	Acres Harvested	Hundred-weight Harvested	Sales ³ (\$1,000)	Farms Reporting	Acres in Crop	Acres Harvested	Tons Harvested (1,000)	Sales ³ (\$1,000)
1900	9,130	334,424	1,562	184	65,687	...	2,239	...
1910	9,425	418,279	1,068	1,028	186,230	...	4,240	26,306
1920	5,801	295,718	1,577	1,310	...	123,165	4,863	37,558
1930	2,045	75,821	...	1,543	...	146,063	7,471	...
1940	509	19,018	...	1,503	239,451	135,945	8,535	...
1950	170	6,585	101	899	210,047	108,298	7,889	97,614
1959	75	2,874	42	774	220,048	110,224	9,391	70,434
1964 ¹⁰	...	...	...	705	233,387	110,803	10,741	103,110
1969 ¹⁰	...	...	...	528	239,358	113,589	11,258	...
1974 ¹⁰	...	...	...	283	...	94,523	8,986	...

TABLE 13.2 (cont.)

Census ¹	Taro				Vegetables ²			
	Farms Reporting		Acres ⁴	Hundred-weight Harvested	Sales ³ (\$1,000)	Farms Reporting	Acres Harvested	Sales ³ (\$1,000)
	Dryland	Wetland						
1900	...	...	1,279	...	178	1,706	236
1910	...	...	...	...	...	1,913	322
1920	...	...	...	...	...	1,718	496
1930	286	...	772	239,022	...	2,256	492	
1940	92	229	622	115,800	...	3,139	599	
1950	87	238	591	104,897	1,222	4,981	2,675	
1959	128	171	460	96,808	923	3,795	3,194	
1964 ¹⁰	25	149	430	86,404	728	4,240	4,623	
1969 ¹⁰	11	59	302	46,875	574	3,507	7,972	
1974	...	...	...	...	575	2,625	...

Census ¹	Coffee				Papayas			
	Farms Reporting	Acres ⁵	Pounds (parchment) Harvested (1,000)	Sales ³ (\$1,000)	Farms Reporting	Acres ⁶	Pounds Harvested (1,000)	Sales ³ (\$1,000)
1900	580	6,451	2,297	246	...	...	...	...
1910	709	3,727	9,834	213	...	...	...	...
1920	755	5,687	19,884	741	...	...	...	...
1930	988	5,360	19,950	...	...	...	...	...
1940	722	4,136	8,547	...	...	...	...	...
1950	686	3,403	4,648	1,474	...	5,232	...	...
1959	1,357	7,757	10,005	1,787	907	3,809	228	...
1964 ¹⁰	895	4,711	9,679	2,787	1,092	12,006	821	...
1969 ¹⁰	246	1,364	2,737	2,855	1,372	21,924	1,162	...
1974	214	1,028	1,819	...	1,605	20,216	...	...

TABLE 13.2 (cont.)

Macadamia Nuts				
Census ¹	Farms Reporting	Acres ⁶	Pounds Harvested ⁷ (1,000)	Sales ³ (\$1,000)
1900	...	...	...	...
1910	...	...	...	...
1920	...	...	...	...
1930	67	...	5	...
1940	238	...	181	...
1950	407	1,161	704	111
1959	968	3,727	2,015	360
1964 ¹⁰	480	4,499	7,015	1,052
1969 ¹⁰	222	10,133	10,294	...
1974	217	9,386	17,087	...

1. For census dates, see table 13.1, footnote 1. Data for censuses of 1900-1950 refer to calendar years preceding census (1899, 1909, 1919, etc.); data for later censuses cover the census years (1959, 1964, etc.). Pineapple harvest data for 1959, however, refer to the crop year ended May 31, 1959.

2. Excludes Irish potatoes and sweet potatoes.

3. Value of crops harvested for 1900-1920 and 1964.

4. Combined totals for wetland and dryland cultivation. Area harvested, 1930 and later years. Coverage unspecified for 1900, but apparently refers to area under cultivation.

5. "Area in trees or vines of all ages" for 1969; coverage unspecified, 1930 to 1964; area harvested, 1910 and 1920; coverage for 1900 unspecified but apparently comparable to 1969 definition.

6. "Area in trees or vines of all ages" for 1969; coverage unspecified for earlier years.

7. Husked, unshelled.

8. Tons not available before 1920; number harvested was 116,560 in 1899 and 12,361,695 in 1909.

9. Pounds not available before 1930; harvest was 22,078 bags in 1909, 739,556 fruits in 1919, and

1,388,989 fruits in 1929.

10. Data for total crop sales and vegetables include all farms; other data limited to farms with sales of \$2,500 or more.

Note: Source follows table 13.3.

TABLE 13.3 LIVESTOCK AND POULTRY, 1852 TO 1974

Census	Cattle and Calves ²		Horses, Colts, and Ponies		Hogs and Pigs		Sheep and Lambs	
	On Farms	Not on Farms	On Farms	Not on Farms	On Farms	Not on Farms	On Farms	Not on Farms
1852	40,700	...	11,700	...	...	...	10,200	...
1866	59,913	...	27,612	...	...	...	100,625	...
1896	44,881	...	...	...	18,396	...	50,709	...
1900	102,908	...	12,982	...	8,057	...	102,098	...
1910	145,029	4,042	15,856	11,708	20,484	10,360	76,710	12
1920	137,091	4,967	15,947	8,360	24,248	14,692	43,494	548
1930	138,316	...	12,030	...	30,563	...	32,137	...
1940	139,078	...	10,044	...	31,684	...	26,207	...
1950	155,739	...	7,564	...	65,435	...	13,513	...
1959	205,135	...	6,697	...	78,479	...	12,066	...
1964	218,442	...	...	...	67,882	...	11,717	...
1969	232,663	...	4,098	...	52,335	...	D	...
1974	227,813	...	3,049	...	51,233	...	D	...

TABLE 13.3 (cont.)

Census ¹	Goats and Kids		Chickens 4 Months Old and Over on Farms ³ (1,000)		Beehives on Farms	Sales of Livestock, Poultry, Products (\$1,000)	Cattle and/or Calves Sold			
	On Farms	Not on Farms					Farms Reporting	Animals	Value (\$1,000)	
1852	...	...	...	...	...	...	...	...	...	...
1866	...	56,980	...	...	...	...	...	...	...	...
1896	...	7,824	...	...	...	...	...	...	...	...
1900	653	...	32	1,387	...	...	...	...	...	...
1910	4,451	659	64	12,621	...	...	...	...	...	634
1920	4,128	776	65	14,628	...	...	...	...	19,005	...
1930	452	...	271	12,496	...	...	...	...	...	...
1940	765	...	273	10,014	...	6,491	...	...	20,836	...
1950	379	...	472	8,290	...	21,315	634	...	28,102	5,064
1959	1,229	...	806	5,026	...	32,107	1,367	...	62,630	11,349
1964	...	...	1,045	...	...	35,558	1,088	...	62,765	10,319
1969 ⁷	81	...	1,072	2,486	...	49,364	729	...	93,632	...
1974	...	...	1,306	...	...	73,181	592	...	96,532	...

TABLE 13.3 (cont.)

Census ¹	Hogs and Pigs Sold Alive			Sheep and/or Lambs Shorn			Chickens Sold ⁴	
	Farms Reporting	Animals	Value (\$1,000)	Farms Reporting	Number Shorn ⁶	Pounds of Wool (1,000)	Value (\$1,000)	Farms Reporting
1900	...	...	...	19	93,719	424	54	...
1910	486	11,662	108	12	75,767	350	55	757
1920	...	...	...	7	46,383	261	109	477
1930	...	...	...	5	25,028	159	...	...
1940	719	42,904	...	5	20,307	130	...	662
1950	1,087	51,313	2,803	2	13,785	80	37	634
1959	1,027	78,330	3,780	9	11,550	66	38	367
1964	695	81,762	3,630	11	11,425	62	33	220
1969	338	71,766	...	...	...	...	...	...
1974	288	73,452	...	...	...	...	...	...

Census ¹	Chickens Sold ⁴ (cont.)			Chicken Eggs Sold ⁵			Whole Milk Sold		
	Chickens (1,000)	Value (\$1,000)	Farms Reporting	Farms Reporting	Dozens (1,000)	Value (dollars)	Farms Reporting	Pounds (1,000)	Value (\$1,000)
1900	...	...	...	...	...	...	...	726	25
1910	68	37	870	...	240	68	108	6,366	190
1920	15	27	578	...	91	67	150	10,032	449
1930	...	...	865	...	1,010	...	241	26,352	...
1940	167	...	...	...	...	...	115	38,201	1,915
1950	610	1,297	725	...	3,134	2,512	72	64,355	5,853
1959	1,321	1,653	366	...	9,039	5,514	80	107,461	9,672
1964	1,946	2,205	192	...	13,951	7,533	75	130,730	11,710
1969	1,963	...	...	...	...	...	...	...	...
1974	...	...	...	...	...	...	...	...	...

D Data withheld to avoid disclosure of information for individual farms.

1. Date unspecified for 1852; December 7, 1866; September 27, 1896; for later censuses, see table 13.1, footnote 1.
2. Total for 1852 includes 12,000 wild cattle. Total for 1896 includes 6,269 milch cows but excludes 3,247 working oxen. Data for 1910-1940 exclude carabaos (399 in 1910, 193 in 1920, 102 in 1930, and 52 in 1940).
3. Three months old and over for 1900, 1969, and 1974.
4. Data for 1910 refer to poultry of all kinds.
5. Data for 1910 and 1930 refer to eggs of all kinds.
6. "Fleeces" in 1900.
7. Data for goats and kids and beehives limited to farms with sales of \$2,500 and over.

Source: The Transactions of the Royal Hawaiian Agricultural Society ... June, 1852, vol. 1, No. 3, p. 91; Census of the Hawaiian Islands Taken December 7th, 1866; Report of the General Superintendent of the Census, 1896; Twelfth Census of the United States ... 1900, vol. V and VI, Agriculture; Thirteenth Census ... 1910, Abstract of the Census ... with Supplement for Hawaii; Fourteenth Census ... 1920, Agriculture, Hawaii; Fifteenth Census ... 1930, Outlying Territories and Possessions; Sixteenth Census ... 1940, Agriculture, Territories and Possessions; U.S. Census of Agriculture: 1950, vol. 1, part 34, chap. 4; U.S. Census of Agriculture: 1959, vol. 1, part 50; U.S. Census of Agriculture: 1964, vol. 1, part 50; U.S. Census of Agriculture: 1969, vol. 1, part 50; U.S. Census of Agriculture: 1974, Preliminary Report, Hawaii, AG74-P-15-000 through 009.

TABLE 13.4 NUMBER OF FARMS, 1946 TO 1975

Year	All Farms (nondupli- cated), Dec. 31	Crop Farms ¹					Macadamia Nuts
		Sugar	Pine- apples	Vegetables and Melons ²	Fruits (excluding pineapples) ²	Coffee	
1946	5,600	...	...	...	...	...	...
1947	5,700	...	...	...	1,612	700	48
1948	5,800	...	...	...	1,499	700	48
1949	5,900	...	...	...	1,445	700	65
1950	6,000	...	...	...	1,453	700	70
1951	6,100	...	...	...	1,446	700	93
1952	6,200	...	...	1,387	335	705	109
1953	6,300	...	...	1,301	408	706	110
1954	6,400	1,235	...	1,237	401	712	114
1955	6,500	1,282	...	1,262	657	906	131
1956	6,600	1,257	...	1,066	731	876	122
1957	6,700	1,198	124	826	744	994	161
1958	6,800	1,130	127	793	657	1,151	180
1959	6,800	1,060	161	780	643	1,160	185
1960	6,600	988	135	773	651	1,128	215
1961	6,200	959	129	762	692	1,028	216
1962	5,700	845	116	786	671	964	237
1963	5,200	823	83	748	636	894	240
1964	5,100	822	87	744	624	860	250
1965	5,000	818	79	728	640	850	250
1966	4,900	788	71	640	560	840	240
1967	4,800	785	63	630	532	830	240
1968	4,700	768	63	562	507	800	257
1969	4,600	753	59	501	444	770	262
1970	4,500	717	47	488	409	750	287
1971	4,400	612	36	419	419	750	295
1972	4,300	577	36	412	417	770	326
1973	4,300	538	33	420	510	770	345
1974	4,300	527	20	436	559	760	350
1975	4,270	520	20	509	577	780	440

TABLE 13.4 (cont.)

Year	Crop Farms ¹ (cont.)	Livestock Farms ³					
	Taro	Cattle ⁴	Hogs	Milk	Eggs	Broilers	Honey ⁵
1946	...	...	...	...	...	...	...
1947	325	...	...	...	...	...	30
1948	330	...	...	...	...	...	30
1949	338	...	...	...	...	...	29
1950	314	1,050	1,710	220	1,530	7	23
1951	304	1,140	1,720	220	1,480	9	22
1952	290	1,240	1,750	230	1,410	13	27
1953	280	1,380	1,770	230	1,340	10	27
1954	266	1,530	1,760	240	1,140	16	27
1955	270	1,600	1,730	240	1,200	14	27
1956	266	1,630	1,735	250	1,130	15	29
1957	247	1,690	1,735	250	1,090	15	27
1958	225	1,770	1,735	260	1,040	20	24
1959	229	1,830	1,760	270	960	18	20
1960	233	1,820	1,730	260	900	39	48
1961	202	1,780	1,510	250	840	42	46
1962	187	1,740	1,360	230	780	40	48
1963	165	1,680	1,260	220	700	40	45
1964	162	1,580	1,040	210	660	39	42
1965	162	1,500	950	200	600	36	40
1966	150	1,400	890	190	530	36	38
1967	148	1,400	790	170	450	36	37
1968	141	1,300	710	150	350	34	29
1969	138	1,200	650	130	240	36	25
1970	132	1,100	570	110	160	31	24
1971	128	1,000	540	100	100	22	19
1972	123	970	540	100	90	16	20
1973	127	960	560	100	80	15	19
1974	127	960	580	100	80	15	20
1975	128	930	620	100	80	10	22

1. Excludes farms with estimated annual sales of less than \$600. Sugar farms as of December 31; other crop farms as of January 1.

2. Melon farms included with fruit farms, 1952-1956.

3. As of December 31.

4. Includes beef, dairy, and dairy replacement farms.

5. Commercial farms, 1947-1959.

Note: Source follows table 13.9.

TABLE 13.5 FARM ACREAGE, 1946 TO 1975
(Thousands of acres)

Year	Total Farm Acreage ¹	Acreage in Crop					
		Sugar-cane	Pine-apples ²	Vegetables and Melons ³	Fruits (excluding pineapples) ⁴	Coffee	Macadamia Nuts
1946	2,570	208.4	65.0	5.7	1.8	3.4	1.0
1947	2,560	211.6	68.0	5.2	1.8	3.4	1.3
1948	2,550	206.6	68.0	5.1	1.8	3.4	1.5
1949	2,540	213.4	68.0	5.0	1.8	3.4	1.7
1950	2,540	220.4	70.7	5.3	2.0	3.4	2.2
1951	2,550	221.2	73.6	4.7	1.8	3.5	2.3
1952	2,560	222.0	73.5	4.7	1.8	3.6	2.8
1953	2,560	221.5	73.2	4.5	1.8	3.8	2.9
1954	2,570	220.1	73.2	4.3	1.8	5.0	3.0
1955	2,580	218.8	76.7	4.4	2.4	5.1	3.0
1956	2,590	220.6	76.7	4.3	2.8	5.8	3.2
1957	2,600	221.3	76.7	4.0	2.8	6.5	3.1
1958	2,610	221.7	74.8	3.8	2.6	6.8	3.3
1959	2,600	222.6	74.6	3.6	2.7	6.2	3.8
1960	2,600	224.6	74.6	3.4	2.7	5.5	3.8
1961	2,550	227.0	73.8	3.4	2.8	5.2	3.9
1962	2,500	228.9	71.6	3.3	2.8	4.8	4.1
1963	2,450	231.3	68.6	3.2	2.7	4.7	4.1
1964	2,450	233.1	64.9	3.3	3.2	4.7	4.5
1965	2,400	235.6	64.5	3.3	3.1	4.7	5.4
1966	2,400	237.5	64.5	3.8	3.1	4.6	6.7
1967	2,360	239.8	64.0	3.4	3.5	4.6	8.0
1968	2,330	242.5	63.4	3.2	3.5	4.4	8.5
1969	2,310	242.2	62.4	2.9	3.5	4.3	8.7
1970	2,300	239.0	60.9	3.2	3.5	3.9	8.7
1971	2,300	232.3	60.9	2.9	3.3	3.4	9.2
1972	2,300	229.6	58.1	3.0	3.6	2.9	9.3
1973	2,300	226.6	57.5	3.6	4.0	2.9	10.5
1974	2,300	224.2	57.0	3.7	4.5	2.9	9.9
1975	2,300	221.4	50.0	3.6	4.6	2.4	10.4

1. Includes land not in crop and pasture, such as farm house lots, roads, wood lots, etc.

2. Land used for pineapple.

3. Harvested acreage.

4. Average acreage during year. Includes guavas and passion fruit from 1955.

Note: Source follows table 13.9.

TABLE 13.6 VOLUME OF CROP MARKETINGS, 1946 TO 1975
(Sugar and pineapples in thousands of tons; other crops, in thousands of pounds)

Year	Sugar (unproc- essed cane)	Pine- apples (fresh equivalent)	Vege- tables and Melons	Fruits (excluding pine- apples) ¹	Coffee (parch- ment) ²	Macadamia Nuts (in shell) ²	Taro
1946	6,002	...	55,658	17,528	8,625	630	11,480
1947	7,942	...	47,310	16,570	8,738	680	12,615
1948	7,543	...	47,710	18,385	7,375	700	14,195
1949	8,046	...	46,445	13,650	5,375	680	13,900
1950	8,175	924	45,659	13,755	9,375	755	11,740
1951	8,477	843	44,159	13,425	9,625	850	11,830
1952	8,694	991	47,240	15,760	10,288	965	11,640
1953	9,004	988	47,040	18,330	10,330	970	11,120
1954	9,432	986	46,245	18,730	12,425	930	10,825
1955	9,868	1,048	51,533	20,159	10,872	903	9,560
1956	9,910	1,039	46,935	22,557	11,136	1,027	10,345
1957	9,448	914	48,148	26,233	18,496	1,329	10,285
1958	7,553	1,015	49,730	25,229	10,634	1,832	9,565
1959	9,416	971	48,247	25,126	12,999	2,112	10,200
1960	8,613	953	50,265	22,805	13,272	2,579	9,675
1961	9,595	998	50,047	29,046	8,432	3,761	9,690
1962	9,813	1,002	53,076	26,575	13,392	5,194	10,055
1963	10,034	995	50,090	24,977	6,651	6,011	9,640
1964	10,495	955	53,905	36,497	9,947	7,655	9,275
1965	10,738	941	50,760	32,159	7,500	8,538	9,480
1966	10,970	1,006	56,707	36,087	8,040	8,726	8,990
1967	11,046	1,010	55,440	38,692	5,440	7,972	8,155
1968	11,280	921	51,050	36,883	5,700	10,444	9,140
1969	10,839	915	50,420	32,076	4,130	10,057	8,605
1970	10,457	954	54,798	36,241	4,300	13,216	8,555
1971	10,685	942	50,058	31,348	2,930	14,448	8,840
1972	9,929	947	50,903	38,119	3,640	13,110	9,020
1973	9,645	810	61,952	45,398	3,040	12,124	8,480
1974	9,081	704	58,154	54,222	2,800	13,750	8,835
1975	9,485	680	62,984	54,426	1,800	16,800	7,592

1. Excludes pineapples for fresh market. Beginning 1955, includes guavas and passion fruit used for processing.

2. Year beginning July 1.

Note: Source follows table 13.9.

TABLE 13.7 VOLUME OF LIVESTOCK MARKETINGS, 1946 TO 1975

Year	Beef ¹ (dressed weight) (1,000 lb.)	Pork ¹ (dressed weight) (1,000 lb.)	Milk ¹ (million lb.)	Eggs ¹ (millions)	Broilers and Chickens ¹ (ready-to- cook weight) (1,000 lb.)	Honey ² (1,000 lb.)
1946	19,295	9,410	65.2	29	777	761
1947	18,795	5,780	69.3	32	856	758
1948	18,908	6,111	67.4	38	882	652
1949	18,446	5,634	68.2	37	1,073	738
1950	17,672	6,710	76.6	44	1,296	890
1951	18,692	7,127	82.6	48	1,736	968
1952	18,627	8,341	80.1	57	1,843	637
1953	16,506	9,866	86.5	63	2,198	70
1954	17,669	9,329	87.1	70	2,469	370
1955	19,656	8,568	90.1	77	2,703	296
1956	21,496	9,283	100.6	95	3,202	280
1957	22,804	9,000	108.9	114	4,104	432
1958	24,100	8,780	113.6	118	4,120	416
1959	24,693	8,177	112.0	123	4,203	329
1960	25,001	8,831	120.0	138	4,746	280
1961	25,690	8,725	121.0	150	5,111	301
1962	24,345	8,052	125.0	158	5,227	280
1963	26,282	8,140	123.0	169	5,544	308
1964	26,242	8,624	131.0	187	5,255	315
1965	25,968	9,084	147.2	189	5,456	366
1966	29,228	8,874	148.6	187	4,958	348
1967	31,277	8,263	142.5	195	5,066	246
1968	33,621	8,594	131.6	203	5,363	354
1969	31,364	8,440	130.5	200	5,462	375
1970	32,210	7,903	135.3	196	5,688	215
1971	33,965	8,447	131.6	210	5,745	276
1972	32,183	8,357	134.6	204	6,359	300
1973	31,617	7,433	136.4	208	6,031	132
1974	27,743	7,953	137.4	207	5,853	320
1975	27,283	7,902	143.7	209	5,659	426

1. Commercial production, 1946-1959 (farms with 20 or more cattle and calves, excluding dairy animals; 10 or more milk cows; 10 or more hogs and pigs; 100 or more laying hens or 500 or more meat birds); all farms basis, 1960 and thereafter. Eggs, broilers and chickens exclude quantities consumed at home or otherwise not marketed.

2. Commercial production, 1946-1949; all farms basis, 1950 and later.

Note: Source follows table 13.9.

TABLE 13.8 VALUE OF CROP SALES, 1946 TO 1975
(In thousands of dollars)

Year	All Crops ¹					
	Total	Excluding Sugar and Pineapples	Sugar (unprocessed cane)	Pineapples (fresh equivalent)	Vegetables and Melons	Fruits ² (excluding pineapples)
1946	...	7,835	...	...	4,845	791
1947	...	7,414	...	...	3,832	1,038
1948	...	7,782	...	...	4,460	1,060
1949	...	7,213	...	...	4,028	961
1950	...	8,632	...	32,400	3,681	838
1951	...	9,284	...	29,700	3,922	873
1952	...	9,606	...	35,000	3,959	1,031
1953	...	10,435	...	35,100	3,975	1,073
1954	...	11,306	...	35,200	3,917	1,148
1955	130,476	11,176	81,800	37,500	4,191	1,342
1956	132,503	12,103	83,100	37,300	4,384	1,390
1957	125,169	13,069	79,300	32,800	4,377	1,396
1958	103,307	9,907	57,000	36,400	4,643	1,475
1959	117,352	12,652	69,800	34,900	4,355	1,542
1960	114,677	12,977	67,200	34,500	4,831	1,494
1961	126,945	12,545	78,600	35,800	5,062	1,815
1962	136,992	13,992	86,800	36,200	5,164	1,697
1963	158,840	13,040	108,900	36,900	5,072	1,885
1964	141,048	14,948	90,500	35,600	5,114	2,152
1965	147,643	14,843	97,500	35,300	5,307	2,134
1966	158,705	16,105	105,200	37,400	6,158	2,541
1967	160,834	16,334	106,000	38,500	6,421	2,762
1968	165,166	18,066	111,200	35,900	6,546	3,245
1969	159,614	19,214	104,900	35,500	6,406	3,477
1970	172,041	21,941	110,600	39,500	6,911	3,488
1971	178,639	22,539	115,800	40,300	7,131	3,847
1972	186,255	25,055	117,300	43,900	7,688	4,687
1973	210,502	29,002	141,900	39,600	9,128	5,457
1974	517,577	34,977	442,300	40,300	10,017	6,637
1975	314,501	39,301	236,700	38,500	11,360	7,352

TABLE 13.8 (cont.)

Year	Coffee (parchment) ³	Macadamia Nuts (in shell) ³	Taro	Field Crops (not estimated separately) ⁴	Horticultural Specialties ⁵	Forest Products ⁶
1946	1,535	96	568	...	...	...
1947	1,617	115	812	...	...	...
1948	1,446	119	697	...	...	...
1949	1,672	115	437	...	...	...
1950	3,459	128	526	...	...	...
1951	3,658	144	687	...	...	...
1952	3,930	165	521	...	...	...
1953	4,803	165	419	...	...	...
1954	5,666	159	416	...	...	...
1955	5,001	162	480	...	...	...
1956	5,613	189	527	...	...	...
1957	6,548	248	500	...	...	...
1958	2,961	339	489	...	...	...
1959	3,488	384	592	138	2,060	93
1960	3,202	474	595	133	2,160	88
1961	1,886	695	580	141	2,264	102
1962	2,985	956	574	149	2,367	100
1963	1,744	1,062	574	97	2,500	106
1964	3,025	1,194	564	99	2,700	100
1965	2,362	1,656	573	109	2,600	102
1966	2,058	1,832	561	141	2,700	114
1967	1,474	1,961	579	314	2,700	123
1968	1,471	2,381	676	606	3,000	141
1969	1,466	2,474	671	650	3,910	160
1970	1,449	2,868	736	2,084	4,225	180
1971	1,014	3,569	787	1,527	4,484	180
1972	1,835	3,055	758	1,608	5,244	180
1973	1,711	3,092	798	1,962	6,674	180
1974	714	5,238	900	3,080	8,211	180
1975	936	5,040	851	3,815	9,767	180

1. Excludes field crops, horticultural specialties, forest products, and items not listed separately prior to 1960. Data for sugarcane not available before 1955; pineapple, before 1950.

2. Excludes pineapples for fresh market; includes guavas and passion fruit used for processing from 1955.

3. Year beginning July 1.

4. Forage, grain crops, and rice prior to 1963.

5. Flowers, foliage, and nursery products.

6. Saw logs and craftwood stumpage, firewood, posts, tree ferns, and Christmas trees from private lands.

Note: Source follows table 13.9.

TABLE 13.9 VALUE OF LIVESTOCK SALES, 1946 TO 1975
(Commercial production, 1946-1959; all farms basis thereafter. In thousands of dollars.)

Year	All Livestock ¹	Cattle ²	Hogs ²	Milk ³	Eggs ⁴	Broilers and Chickens ⁴	Other ⁵
1946	14,821	4,323	3,319	4,415	1,975	630	159
1947	18,001	6,025	3,194	5,345	2,559	758	120
1948	20,389	7,473	3,376	5,780	2,876	827	57
1949	20,146	7,358	3,113	5,781	2,808	1,026	60
1950	20,612	7,758	3,003	6,449	2,379	949	74
1951	23,962	8,376	3,470	7,366	3,224	1,437	89
1952	24,930	8,584	3,951	7,263	3,722	1,345	65
1953	23,671	6,554	3,853	7,485	4,036	1,733	10
1954	24,127	6,662	3,980	7,514	4,121	1,809	41
1955	25,111	7,160	3,833	7,845	4,311	1,925	37
1956	27,003	7,439	3,628	8,652	5,031	2,218	35
1957	28,807	8,141	3,654	8,979	5,596	2,385	52
1958	31,926	9,526	3,872	9,803	6,430	2,250	45
1959	32,275	10,165	3,731	9,884	6,269	2,113	113
1960	33,538	9,837	3,684	10,635	6,911	2,347	124
1961	34,361	9,827	3,777	10,560	7,599	2,459	139
1962	34,278	9,357	3,719	10,774	7,886	2,394	148
1963	34,322	9,575	3,825	10,684	7,732	2,356	150
1964	35,607	9,703	3,485	11,599	8,462	2,221	137
1965	35,605	9,365	3,746	12,769	7,449	2,124	152
1966	37,402	10,861	3,976	12,338	8,088	2,011	128
1967	37,459	11,850	3,680	12,804	7,101	1,927	97
1968	37,885	12,860	3,873	12,489	6,631	1,934	98
1969	39,487	12,854	4,029	12,624	7,833	2,042	105
1970	41,648	13,901	4,099	12,960	8,395	2,202	91
1971	43,053	15,772	4,460	13,226	7,438	2,051	106
1972	46,242	16,557	4,524	14,494	7,990	2,540	137
1973	55,269	19,831	4,737	16,472	11,267	2,856	106
1974	57,909	18,286	5,822	19,387	11,385	2,807	222
1975	58,264	17,412	6,142	20,549	11,234	2,638	289

1. Excludes sheep, wool, turkeys, and horses before 1959.

2. Excludes interfarm sales. Includes out-of-state sales of slaughter cattle and feeder calves.

3. Based on prices received for milk sold wholesale to plants and dealers, 1946-1957; based on prices received for milk sold wholesale and for milk retailed by farmers, 1958-1966.

4. Wholesale value, 1946-1957.

5. Includes sheep, wool, turkeys, and horses beginning in 1959 and honey and beeswax for all years. Honey and beeswax data refer to commercial production, 1946-1949, and total (all farms) production thereafter.

Source of tables 13.4 to 13.9: Hawaii Crop and Livestock Reporting Service, Statistics of Hawaiian Agriculture (Hawaii State Department of Agriculture, annually), and records.

TABLE 13.10 PER CAPITA FOOD SUPPLY, 1903 TO 1940
(Pounds per year)

Year	Cereal Food- stuffs ¹	Meat	Eggs	Fish	Fats and Oils	Dairy Products ²	Sugars	Vege- tables ³	Fruits and Nuts
1903 ⁴	369	101	3	63	11.9	76	...	360	99
1904 ⁴	439	105	3	61	12.5	76	...	358	101
1905 ⁴	398	106	3	60	13.0	78	...	330	97
1906 ⁴	368	111	3	64	13.2	82	...	328	94
1907 ⁴	386	108	3	64	12.9	93	...	318	100
1908 ⁴	398	110	3	63	13.7	88	...	319	95
1909 ⁴	394	116	4	66	16.9	93	...	315	99
1910 ⁴	387	117	4	71	14.3	97	...	315	104
1911 ⁴	392	114	4	67	15.4	99	...	302	102
1912 ⁴	389	111	4	67	15.6	103	...	311	99
1913 ⁴	400	115	4	68	17.1	110	...	320	103
1914 ⁴	395	111	5	67	16.8	116	...	307	99
1915 ⁴	401	111	5	61	18.1	126	...	293	103
1916 ⁴	401	107	5	63	19.8	127	...	293	106
1917 ⁴	387	105	5	61	19.3	131	...	269	104
1918 ⁴	329	93	4	56	15.3	119	...	262	92
1918	317	89	4	59	14.7	113	...	263	84
1919	326	96	4	51	15.8	126	...	249	87
1920	328	108	6	54	16.3	131	...	257	101
1921	328	114	11	55	18.8	131	...	303	114
1922	340	108	10	52	19.8	129	...	285	110
1923	338	105	10	47	18.5	124	...	264	107
1924	346	105	10	53	19.6	125	...	268	108
1925	333	100	10	57	18.1	123	...	261	103
1926	338	98	10	46	19.3	135	...	262	108
1927	280	101	12	48	20.2	148	...	265	114
1928	320	101	12	49	20.3	143	...	258	116
1929	332	100	12	47	20.5	145	...	262	117
1930	341	95	13	49	22.5	160	...	259	106
1931	336	99	15	46	23.2	170	...	263	121
1932	329	97	15	48	23.5	164	...	260	121
1933	334	101	14	47	25.1	173	...	264	113
1934	316	103	15	45	23.5	176	77	265	117
1935	337	106	15	44	25.5	200	75	284	125
1936	286	105	15	45	26.1	194	75	275	110
1937	332	119	16	51	26.6	218	75	294	131
1938	299	125	17	45	26.6	222	76	289	151
1939	312	124	17	44	27.1	234	75	292	147
1940	295	128	...	...	...	...	84	...	166

Note: Footnotes and source follow table 13.12.

TABLE 13.11 PERCENT OF FOOD SUPPLY FROM HAWAII, 1903 TO 1940

Year	Cereal Food- stuffs ¹	Meat	Eggs	Fish	Fats and Oils	Dairy Products ²	Sugars	Vege- tables ³	Fruits and Nuts
1903 ⁴	41	87	5	44	0	57	...	73	70
1904 ⁴	34	88	5	46	0	61	...	72	68
1905 ⁴	39	89	5	47	0	63	...	75	70
1906 ⁴	38	87	5	44	0	62	...	75	71
1907 ⁴	37	91	5	44	0	57	...	75	67
1908 ⁴	33	91	5	44	0	62	...	72	69
1909 ⁴	29	89	5	42	0	61	...	71	66
1910 ⁴	30	90	5	39	0	62	...	70	62
1911 ⁴	29	89	5	42	0	64	...	71	61
1912 ⁴	30	88	5	40	0	64	...	67	64
1913 ⁴	26	83	5	40	0	62	...	62	59
1914 ⁴	24	83	5	39	0	61	...	64	61
1915 ⁴	23	81	5	43	0	59	...	65	57
1916 ⁴	20	82	5	41	0	61	...	64	57
1917 ⁴	14	81	5	41	0	60	...	68	57
1918 ⁴	19	88	5	45	0	67	...	67	62
1918	20	91	5	42	0	71	...	66	68
1919	20	82	5	47	0	66	...	69	64
1920	18	74	5	44	0	62	...	67	54
1921	17	68	18	44	0	60	...	54	47
1922	16	69	20	44	0	59	...	56	48
1923	14	69	30	47	0	58	...	58	48
1924	13	67	30	42	0	57	...	56	48
1925	12	67	30	37	0	59	...	55	50
1926	10	68	40	43	0	61	...	55	45
1927	10	65	33	42	0	61	...	53	44
1928	7	62	33	39	0	65	...	53	42
1929	4	62	42	38	0	67	...	51	41
1930	3	63	38	35	0	62	...	51	45
1931	2	61	33	37	0	62	...	50	40
1932	2	60	40	35	0	60	...	51	40
1933	2	57	43	34	0	55	...	51	41
1934	2	56	47	38	0	57	83	54	40
1935	3	55	47	39	0	52	81	51	37
1936	3	53	47	40	0	56	81	54	42
1937	2	47	50	35	0	54	79	48	36
1938	2	42	47	40	0	54	76	47	32
1939	1	43	47	41	0	55	77	47	33
1940	1	40	...	...	...	...	79	...	30

Note: Footnotes and source follow table 13.12.

TABLE 13.12 PER CAPITA FOOD SUPPLY, IN POUNDS AND CALORIES, SPECIFIED PERIODS, 1904 TO 1960

Food	Pounds per Capita per Year			Calories per Capita per Day		
	1904- 1909 ^b	1935- 1939	1958- 1960	1904- 1909 ^b	1935- 1939	1958- 1960
All foods	1,173.9	1,236.9	1,239.3	3,020	2,914	3,055
Cereals						
Rice as cleaned	253.0	216.0	62.6	1,103	942	272
Wheat flour	121.0	80.0	77.4	531	351	340
Other cereals	16.0	18.0	9.5	70	79	42
Vegetables						
Taro	193.7	51.0	17.1	191	50	17
Irish potatoes	38.0	71.0	42.7	32	59	36
Sweet potatoes	5.7	4.0	3.1	7	5	4
Dried legumes	19.2	6.6	2.5	82	28	11
Onions	7.2	18.0	13.8	4	10	8
Other vegetables	58.5	142.0	221.6	24	58	134
Fruits and nuts						
Oranges	8.5	35.0	14.7	4	16	7
Apples	28.8	14.5	11.4	17	9	7
Bananas	42.8	22.0	12.2	34	17	10
Other fresh fruits	29.0	45.0	38.0	19	30	16
Dried fruits	1.4	3.1	63.3	5	11	659
Canned and preserved fruits	2.5	12.2	3	3	13	24
Nuts	0.8	3.2	4.6	4	16	24
Sugar and syrup	70.0	76.0	92.0	348	378	457
Fats and oils						
Butter	2.8	11.2	10.0	27	107	98
Other fats	11.2	16.6	7.5	125	186	88
Meat, eggs, fish						
Beef and veal	82.1	60.7	70.3	135	100	116
Pig meat	21.2	36.4	31.0	77	132	112
Other meat	6.5	18.2	23.7	16	45	59
Eggs	3.1	16.1	192.6	5	26	314
Dried fish	11.7	6.1	...	19	10	...
Canned salmon	6.1	2.8	12.6	11	5	20
Other nonlocal fish	17.9	19.3	...	29	32	...
Local "cleaned" fish	28.1	17.9	19.8	23	15	16
Dairy products						
Cheese	12.2	20.8	3.0	10	18	3
Evaporated milk	21.9	77.3	11.6	19	67	38
Local milk	53.0	115.9	170.7	46	99	147

TABLE 13.12 (cont.)

1. Cleaned rice, wheat flour, and other cereals.
2. As whole milk equivalent, excluding shipped-in butter.
3. Potatoes, taro, and other vegetables.
4. Year ended June 30.
5. Base too small to compute accurate percentage.
6. July 1, 1904 to June 30, 1909.

Source: Merrill K. Bennett, "Trends in Hawaii's Food Consumption, 1904-1939" (with an appendix by Mitsuo Ono for 1958-1960) in Harry T. Oshima and Mitsuo Ono, Hawaii's Income and Expenditures, 1958, 1959, and 1960, vol. III (Honolulu: University of Hawaii, Economic Research Center, January 1965), chapter X.

TABLE 13.13 MARKET SUPPLY OF SELECTED FOODS, 1946 TO 1975

Year	Red Meat ¹	Poultry Meat ²	Fresh Market Vegetables ³	Melons ³	Fresh Market Fruits ³	Rice ⁴	Eggs, Shell ⁵	Milk ³
1946	48,939	4,500	94,200		53,400	42,038	6,087	65,200
1947	41,326	4,100	85,800		56,900	41,360	5,154	69,300
1948	34,350	3,900	75,700		52,300	47,047	5,031	67,400
1949	36,855	4,600	70,700		40,600	63,356	5,457	68,200
1950	37,330	5,700	73,800		47,700	67,535	5,508	76,600
1951	36,996	7,100	78,700		50,000	66,197	6,327	82,600
1952	40,779	6,600	73,500		45,900	65,720	7,185	80,100
1953	43,432	7,600	80,200		49,300	66,771	7,743	86,500
1954	48,972	8,400	83,300		49,700	64,848	8,628	87,100
1955	52,732	9,300	84,800		47,600	65,998	9,327	90,100
1956	58,597	10,120		94,500	45,700	63,803	10,219	100,600
1957	59,249	11,550		95,300	47,600	60,753	10,972	108,900
1958	59,094	12,068	93,794	5,293	46,421	59,236	11,604	114,000
1959	64,690	12,806	89,649	5,288	44,991	50,586	12,499	112,000
1960	66,696	13,624	88,571	4,937	41,669	62,928	13,492	120,000
1961	71,918	15,114	90,793	4,957	44,916	61,872	14,205	121,000
1962	68,839	14,573	90,937	5,856	39,572	57,223	14,805	125,000
1963	72,011	16,430	96,065	9,575	40,094	58,166	15,239	123,000
1964	80,882	17,028	100,493	8,534	48,838	57,068	16,555	131,000
1965	83,126	18,322	95,381	7,286	44,393	57,263	16,738	147,200
1966	82,051	18,296	99,569	7,527	46,564	55,441	16,422	148,600
1967	85,551	20,385	109,653	7,350	49,193	57,997	17,233	142,500
1968	92,603	22,526	106,670	8,434	46,862	59,873	17,546	131,600
1969	93,540	22,600	105,659	8,053	46,727	54,612	17,155	130,500
1970	91,292	25,360	113,258	10,227	52,770	56,139	17,124	135,300
1971	91,831	26,009	112,373	6,810	48,440	75,273	18,287	131,600
1972	93,152	32,276	113,597	9,795	51,758	50,038	18,178	134,600
1973	97,114	31,116	125,166	10,257	55,074	72,853	18,504	136,400
1974	102,126	31,740	128,795	9,939	62,483	61,320	18,933	137,400
1975	NA	NA	132,311	9,025	62,679	68,021	18,897	143,700

1. 1,000 pounds, dressed weight.

2. 1,000 pounds, ready-to-cook.

3. 1,000 pounds.

4. Also includes peanuts, soybeans, and chestnuts. In shipments limited to Honolulu unloads, 1946-1948. 1,000 pounds.

5. 1,000 dozens.

Source: Hawaii Crop and Livestock Reporting Service, Statistics of Hawaiian Agriculture (annual), and records.

TABLE 13.14. INSHIPMENTS OF SELECTED FOODS, 1946 TO 1975

Year	Red Meat ¹	Poultry Meat ²	Fresh Market Vegetables ³	Melons ³	Fresh Market Fruits ³	Rice ⁴	Eggs, Shell ⁵	Milk ³
1946	18,900	3,400	42,200		32,200	41,771	3,693	--
1947	17,600	2,900	42,900		36,100	41,140	2,520	--
1948	9,200	2,700	33,300		28,700	46,663	1,827	--
1949	13,400	3,100	29,400		22,000	62,631	2,367	--
1950	14,800	3,900	32,900		29,500	66,825	1,896	--
1951	11,900	4,700	38,800		32,700	65,452	2,391	--
1952	14,200	4,100	31,200		25,800	65,140	2,433	--
1953	19,300	4,600	37,500		28,000	66,086	2,499	--
1954	21,800	5,000	41,300		29,500	64,233	2,790	--
1955	22,900	5,500	38,700		26,800	65,438	2,922	--
1956	26,400	6,920		48,000	28,200	63,323	2,515	--
1957	27,300	7,450		47,600	26,900	60,343	2,304	--
1958	26,110	7,948	48,057	1,653	25,584	58,909	2,271	--
1959	31,701	8,602	45,258	1,993	26,283	50,342	2,499	--
1960	32,809	8,878	43,253	2,177	23,811	62,707	1,992	--
1961	37,456	10,003	45,284	2,402	22,563	61,697	1,705	--
1962	36,392	9,346	42,813	2,796	19,540	57,040	1,639	--
1963	37,502	10,886	50,363	7,165	22,830	58,166	1,156	--
1964	45,948	11,773	50,413	6,794	24,175	57,068	972	--
1965	48,017	12,866	51,056	5,161	24,779	57,263	1,008	--
1966	43,883	13,338	51,422	3,102	24,887	55,441	839	--
1967	45,993	15,319	60,313	5,715	26,138	57,997	984	--
1968	50,382	17,163	61,402	6,599	25,348	59,873	646	--
1969	53,735	17,138	61,581	5,978	27,532	54,612	455	--
1970	51,178	19,672	66,036	7,397	31,820	56,139	824	--
1971	49,419	20,264	69,510	4,215	31,329	75,273	787	--
1972	52,612	25,917	67,227	7,595	32,729	50,038	1,178	--
1973	58,064	25,085	70,115	6,017	34,856	72,853	1,204	--
1974	66,430	25,885	74,396	8,314	41,071	61,320	1,633	--
1975	NA	NA	74,373	6,615	42,681	68,021	1,497	--

1. 1,000 pounds dressed weight.
2. 1,000 pounds ready-to-cook.
3. 1,000 pounds.
4. Also includes peanuts, soybeans, and chestnuts. Honolulu unloads only, 1946-1948. 1,000 pounds.
5. 1,000 dozens.

Source: Hawaii Crop and Livestock Reporting Service, Statistics of Hawaiian Agriculture (annual), and records.

TABLE 13.15 PERCENT OF MARKET SUPPLY PRODUCED IN HAWAII, 1946 TO 1975

Year	Red Meat ¹	Poultry Meat ²	Fresh Market Vegetables ³	Melons ³	Fresh Market Fruits ³	Rice ⁴	Eggs ⁵	Milk ³
1946	61.4	24.4	55.2		39.7	1.4	39.3	100.0
1947	57.4	29.3	50.0		36.6	2.2	51.1	100.0
1948	73.2	30.8	56.0		45.1	1.2	63.7	100.0
1949	63.6	32.6	58.4		45.8	1.1	56.6	100.0
1950	60.4	31.6	55.4		38.2	1.1	65.6	100.0
1951	67.8	33.8	50.7		34.6	1.1	62.2	100.0
1952	65.2	37.9	57.6		43.8	0.9	66.1	100.0
1953	55.6	39.5	53.2		43.2	1.0	67.7	100.0
1954	55.5	40.5	50.4		40.6	0.9	67.7	100.0
1955	56.6	40.9	54.4		43.7	0.8	68.7	100.0
1956	55.0	31.6		49.2	38.3	0.8	75.4	100.0
1957	53.9	35.5		50.1	43.5	0.7	79.0	100.0
1958	55.8	34.1	48.8		44.9	0.6	80.4	100.0
1959	51.0	32.8	49.5	68.8	41.6	0.5	80.0	100.0
1960	50.8	34.8	51.2	55.9	42.9	0.4	85.2	100.0
1961	47.9	33.8	50.1	51.5	49.8	0.3	88.0	100.0
1962	47.1	35.9	52.9	52.3	50.6	0.3	88.9	100.0
1963	47.9	33.7	47.6	25.2	43.1	0.0	92.4	100.0
1964	43.2	30.9	49.8	20.4	50.5	0.0	94.1	100.0
1965	42.2	29.8	46.5	29.2	44.2	0.0	94.0	100.0
1966	46.5	27.1	48.4	58.8	46.6	0.0	94.9	100.0
1967	46.2	24.9	45.0	22.2	46.9	0.0	94.3	100.0
1968	45.6	23.8	42.4	21.5	45.9	0.0	96.3	100.0
1969	42.6	24.2	41.7	25.8	41.1	0.0	97.3	100.0
1970	43.9	22.4	41.7	27.7	39.7	0.0	95.2	100.0
1971	46.2	22.1	38.1	38.1	35.3	0.0	95.7	100.0
1972	43.5	19.7	40.8	22.5	36.8	0.0	93.5	100.0
1973	40.2	19.4	44.0	41.3	36.7	0.0	93.5	100.0
1974	35.0	18.4	42.2	16.3	34.3	0.0	91.4	100.0
1975	NA	NA	43.8	26.7	31.9	0.0	92.1	100.0

1. Based on dressed weight.

2. Based on ready-to-cook weight.

3. Based on weight.

4. Includes peanuts, soybeans, and chestnuts. Based on weight.

5. Based on number of eggs.

Source: Hawaii Crop and Livestock Reporting Service, Statistics of Hawaiian Agriculture (annual), and records.

TABLE 13.16 APPARENT PER CAPITA CONSUMPTION OF SELECTED FOODS, 1946 TO 1975

Year	Red Meat ¹	Poultry Meat ²	Fresh Market Vegetables ³	Melons ³	Fresh Market Fruits ³	Rice ⁴	Eggs, Shell ⁵	Milk ³
1946	89.7	8.2	172.7		97.9	77.1	11.2	119.5
1947	78.4	7.8	162.8		108.0	78.5	9.8	131.5
1948	66.3	7.5	146.0		100.9	90.7	9.7	130.0
1949	71.9	9.0	138.0		79.2	123.7	10.7	133.1
1950	74.6	11.4	147.6		95.4	135.1	11.0	153.2
1951	71.6	13.7	152.3		96.8	128.1	12.2	159.9
1952	78.4	12.7	141.3		88.2	126.3	13.8	154.0
1953	84.5	14.8	156.1		96.0	130.0	15.1	168.4
1954	96.1	16.5	163.4		97.5	127.2	16.9	170.9
1955	96.9	17.1	155.8		87.5	121.3	17.1	165.6
1956	103.9	17.9		167.5	81.0	113.1	18.1	178.3
1957	100.2	19.5		161.2	80.5	102.8	18.6	184.2
1958	96.6	19.7	153.3	8.7	75.9	96.8	19.0	186.3
1959	102.6	20.3	142.2	8.4	71.4	80.2	19.8	177.6
1960	102.4	20.9	136.0	7.6	64.0	96.6	20.7	184.3
1961	107.6	22.6	135.9	7.4	67.2	92.6	21.3	181.1
1962	99.2	21.0	131.1	8.4	57.1	82.5	21.3	180.2
1963	103.7	23.7	138.3	13.8	57.7	83.8	21.9	177.1
1964	113.7	23.9	141.3	12.0	68.7	80.2	23.3	184.2
1965	116.2	25.6	133.3	10.2	62.1	80.0	23.4	205.8
1966	113.2	25.3	137.4	10.4	64.3	76.5	22.7	205.1
1967	115.2	27.4	147.7	9.9	66.2	78.1	23.2	191.9
1968	122.0	29.7	140.6	11.1	61.8	78.9	23.1	173.4
1969	120.1	29.0	135.7	10.3	60.0	70.1	22.0	167.6
1970	113.9	31.6	141.3	12.8	65.8	70.0	21.4	168.7
1971	110.6	31.3	135.3	8.2	58.3	90.6	22.0	158.5
1972	107.9	37.4	131.6	11.3	59.9	57.9	21.1	155.9
1973	108.4	34.7	139.8	11.5	61.5	81.4	20.7	152.3
1974	111.9	34.8	141.2	10.9	68.5	67.2	20.8	150.6
1975	NA	NA	142.5	9.7	67.5	73.3	20.4	154.8

1. Pounds, dressed weight.

2. Pounds, ready-to-cook.

3. Pounds.

4. Also includes peanuts, soybeans, and chestnuts. Pounds.

5. Dozens.

Source: Hawaii Crop and Livestock Reporting Service, Statistics of Hawaiian Agriculture (annual), and records; de facto population estimates in present volume, table 1.4.

TABLE 13.17 PHYSICAL CAPITAL AND OUTPUT OF SUGAR PLANTATIONS, 1870 TO 1957

Year	Number of Plantations	Acres in Sugar per Plantation	Physical Capital (\$1,000)					
			Total	Per Plantation	Land		Other than Land	
					All Physical Capital (1910-1914 dollars)	(1910-1914 dollars)	1910-1914 Dollars	Current Dollars
1870	20	425	2,660	133	1,297	1,363	1,728	
1880	63	413	8,427	134	3,966	4,461	4,968	
1890	73	1,192	28,000	384	13,347	14,653	14,210	
1900	52	2,462	59,748	1,149	19,525	40,223	35,544	
1910	58	3,695	87,908	1,516	32,691	55,217	54,535	
1920	52	4,548	93,496	1,798	36,077	57,419	94,807	
1930	47	5,352	105,547	2,246	38,369	67,178	108,769	
1940	37	6,354	91,976	2,486	35,864	56,112	81,067	
1945	NA	NA	76,081	NA	32,236	43,845	76,114	
1950	28	7,871	82,437	2,944	33,617	48,820	107,732	
1957	27	8,198	84,853	3,143	33,763	51,090	118,552	

TABLE 13.17 (cont.)

Year	Physical Capital per Worker (1910-1914 dollars)	Gross Output (thousands of current dollars)	Net Output ¹			Value per Worker (1910-1914 dollars)	Tons of Sugar Handled per Worker
			Sugar (1,000 tons, 96° raw value)	Value (\$1,000)			
				Current Dollars	1910-1914 Dollars		
1870	816	1,000	8.5	820	691	139	2.2
1880	1,003	4,300	28.2	3,440	2,286	178	2.9
1890	1,476	11,606	105.0	9,168	8,499	294	5.3
1900	1,581	25,167	238.3	18,800	19,289	341	6.3
1910	1,984	39,046	402.3	28,426	32,571	503	10.4
1920	2,169	95,173	348.5	58,056	28,213	459	10.6
1930	2,008	65,764	546.7	37,420	44,262	612	18.8
1940	2,223	59,304	499.0	30,423	40,398	857	29.3
1945	2,628	63,178	424.6	33,863	34,372	974	NA
1950	3,649	121,057	509.7	63,555	41,266	1,742	67.6
1957	5,053	139,131	545.0	69,426	44,120	2,676	129.0

1. Annual average of three years centered at date indicated, except 1870 (1870 and 1871), 1900 (1899, 1900, and first half of 1901), and 1957 (1956 and 1957). Excludes compliance payments.

Source: J. A. Mollett, Capital in Hawaiian Sugar: Its Formation and Relation to Labor and Output, 1870-1957 (University of Hawaii, College of Tropical Agriculture, Hawaii Agricultural Experiment Station, Agricultural Economics Bulletin 21, June 1961), pp. 22, 24, 28, 35, 46, 50, and 52.

TABLE 13.18 ACREAGE, EMPLOYMENT, WAGES, POPULATION, AND HOUSING ON SUGAR PLANTATIONS, 1826 TO 1975

Year	Area in Cane ¹ (acres)	Area Harvested ² (acres)	Plantation ³ Employment	Average Daily Earnings of Workers ⁴ (dollars)
1826	7	...	40	0.33
1836-38 ⁶	25	...	400	0.125
1841-44	...	...	...	0.125
Late 1840s	...	...	...	0.155
1853	2,760	...	...	...
1854	...	...	...	0.11-0.25
1863	...	...	...	0.31-0.38
1867	10,130	...	...	...
1874	12,225	...	3,786	...
1879	22,455	...	...	...
1882	39,350	...	10,243	...
1884	...	...	...	...
1886	...	...	14,439	...
1888	...	...	15,578	...
1889	60,787	...	16,375	...
1890	...	...	17,895	0.65
1891	...	...	19,930	0.64
1892	...	...	20,536	0.60
1893	...	...	...	0.56
1894	...	...	21,294	0.55
1895	...	47,400	20,120	0.53
1896	...	55,729	23,780	0.53
1897	...	53,825	24,653	0.52
1898	125,000	55,235	28,579	0.52
1899	...	60,308	35,987	0.58
1900	...	63,816	36,050	0.64
1901	...	78,619	39,587	0.76
1902	...	80,954	42,242	0.80 ⁷
1903	...	93,350	...	...
1904	...	91,798	45,860	...
1905	...	95,444	45,243	0.68
1906	...	96,230	41,525	...
1907	...	99,916	44,447	...
1908	...	101,380	46,918	...
1909	201,641	106,127	41,702	...
1910	209,469	110,247	43,917	0.79
1911	214,312	112,796	45,048	...
1912	216,345	113,866	47,345	...

TABLE 13.18 (cont.)

Year	Area in Cane ¹ (acres)	Area Harvested ² (acres)	Plantation Employment ³	Man-Days, Hourly Rated Employees (1,000)	Average Daily Earnings of Workers ⁴ (dollars)	Plantation Housing ⁵	
						Population	Houses
1913	215,741	113,548	45,600	...	...	...	...
1914	217,470	112,700	46,043	...	...	...	...
1915	239,800	113,164	45,654	...	0.97	...	...
1916	246,332	115,419	43,961	...	...	...	...
1917	247,476	117,468	45,000	...	...	...	...
1918	246,813	119,785	44,708	...	...	...	...
1919	239,844	119,679	45,311	...	...	...	...
1920	247,838	114,105	43,371	...	...	...	...
1921	236,510	113,056	38,593	...	...	...	...
1922	228,519	124,124	44,402	...	...	...	...
1923	235,134	114,182	46,648	...	...	...	...
1924	231,862	111,581	44,378	...	1.841	...	...
1925	240,597	120,632	48,473	...	1.705	...	...
1926	237,774	122,309	48,674	...	1.737	...	...
1927	234,809	124,542	46,988 ⁸	...	1.816	98,802	19,124
1928	240,769	131,534	56,630 ⁸	...	1.756	101,248	19,889
1929	239,858	129,131	52,244 ⁹	...	1.716	101,115	19,588
1930	242,761	133,840	51,837	...	1.725	101,223	19,731
1931	251,533	137,037	52,564	...	1.754	103,650	20,057
1932	251,876	139,744	52,410	...	1.603	104,335	20,083
1933	254,563	144,959	52,264	...	1.634	107,297	20,348
1934	252,237	134,318	49,951	...	1.629	105,141	20,281
1935	246,491	126,116	46,720	...	1.699	102,003	20,320
1936	245,891	130,828	47,869	...	1.884	101,390	20,350
1937	240,833	126,671	47,979	...	2.074	101,008	20,462
1938	238,302	135,978	46,307	...	2.134	101,406	21,079
1939	235,227	138,440	37,438 ¹⁰	10,732	2.170	101,976	20,980
1940	235,110	136,417	35,062	9,995	2.180	98,669	20,705
1941	238,111	130,768	30,646	8,871	2.479	87,470	19,380
1942	225,199	114,745	26,371	7,924	2.900	83,562	19,107
1943	220,928	113,754	23,847	7,563	3.590	79,858	18,481
1944	216,072	109,522	22,543	7,062	3.910	78,952	18,677
1945	211,331	103,173	20,806	6,350	5.100	73,593	18,030
1946	208,376	84,379	22,131	5,247	5.275	75,709	17,748
1947	211,624	113,020	22,743 ¹¹	6,443	7.632	72,811	17,169
1948	206,550	100,042	21,381	5,821	8.024	71,990	17,020
1949	213,354	108,794	20,258	5,438	8.040	71,773	16,981
1950	220,383	109,405	19,340	5,070	8.300	70,782	16,834
1951	221,212	109,494	18,654	4,894	9.00	69,255	16,652
1952	221,990	108,089	18,193	4,654	9.70	67,082	17,100

TABLE 13.18 (cont.)

Year	Area in Cane ¹ (acres)	Area Harvested ² (acres)	Plantation Employment ³	Man-Days, Hourly Rated Employees (1,000)	Average Daily Earnings of Workers ⁴ (dollars)	Plantation Housing ⁵	
						Population	Houses
1953	221,542	108,337	17,589	4,387	10.20	65,028	16,251
1954	220,138	107,480	16,773	4,163	10.58	63,274	16,355
1955	218,819	106,180	15,935	3,897	10.62	52,615	15,146
1956	220,606	106,956	15,065	3,647	10.73	50,587	14,494
1957	221,336	106,742	14,085	3,457	11.20	49,904	14,474
1958	221,683	84,136	13,304	2,334	12.78	...	...
1959	222,588	110,371	12,755	3,082	12.84	...	...
1960	224,617	103,584	12,111	2,917	13.18	...	...
1961	227,027	108,320	11,660	2,788	14.11	...	...
1962	228,926	108,600	10,960	2,676	14.96	...	...
1963	231,321	107,436	10,722	2,583	16.68	...	...
1964	233,145	110,759	10,516	2,593	17.60	...	...
1965	235,576	109,600	10,346	2,506	18.40	35,739	6,316
1966	237,499	111,005	10,040	2,448	19.76	...	...
1967	239,813	111,837	9,756	2,346	21.35	...	...
1968	242,476	113,525	9,481	2,283	21.62	...	...
1969	242,216	113,232	9,213	2,066	23.26	...	...
1970	238,997	113,816	8,908	2,139	24.24	...	...
1971	232,278	115,810	8,610	2,077	26.08	...	...
1972	229,611	108,456	8,127	1,935	29.09	...	...
1973	226,580	108,189	7,900	1,897	30.86	...	...
1974	224,227	95,826	7,700	1,744	32.92	...	...
1975	221,426	105,125	7,500	1,938	37.34	...	...

1. Exact dates unspecified, but presumably as of end of reporting period: unstated before 1909, years ended September 30, 1909 to 1933, and calendar years 1934 forward.

2. From 1908 to 1933 (and perhaps earlier), acreage harvested represents summation of plantation crop years and does not necessarily correspond to the HSPA crop year ended September 30.

3. Coverage varies from period to period. Data refer to total plantation employment for 1826, 1838, and 1874, "laborers" for 1882-1922, "employees on payroll" for 1923-1928, total employment for 1929-1938, male adult hourly rated employees for 1939-1946, and total adult hourly rated employees for 1947 forward. As of summer 1826, December 1838, early 1874, unspecified (but probably January 1 or March 31) for 1882-1889, January 1, 1890, January-March 1891, January 1, 1892 and 1894, December 31, 1895 to 1898, October 31, 1899, unspecified for 1900-1902, July 31, 1904, June 30, 1905 to 1911, May 31, 1912 to 1914, April 30, 1915 to 1917, June 30, 1918 and 1919, May 1920 to 1927, June 1928, and annual averages for 1929 forward.

TABLE 13.18 (cont.)

4. Cash wage, exclusive of perquisites and fringe benefits. Workers at Koloa Plantation in 1838 received their wages in scrip redeemable at the company store, plus free housing, fish, and poi. Prior to December 1946, when the perquisite system was abolished, plantation workers received free housing, utilities, medical care, and recreation. Data cited here are averages for plantation laborers prior to 1890, unskilled males for 1890-1901, adult male field employees for 1902-1915, all unskilled male employees (including bonus) for 1924-1938, and nonsupervisory employees for 1935 forward (the 1935-1938 averages for both categories are identical). Exact dates are unspecified prior to 1924; data for 1924 forward are annual averages.

5. As of December 31, 1927; June 30, 1928 to 1957; and October 1965.

6. Data refer to Koloa Plantation, established in 1835 as the first commercially successful sugar plantation in Hawaii. The acreage total refers to September 1836, the employment figure to December 1838, and the wage to an unspecified period around this time.

7. Data for 1902-1915 pertain to adult male field employees and are thus not directly comparable to data for 1890-1901, which refer to unskilled males; the 1902 figure comparable to earlier data was \$0.71.

8. The sharp increase in 1928 appears to have resulted in part from the part-time employment of numerous minors (555 in 1927 and 5,938 in 1928).

9. Data for 1929 are annual averages rather than May or June totals. June totals for 1929-1934, comparable to 1928 and earlier years, are as follows: 1929, 56,662; 1930, 56,117; 1931, 56,411; 1932, 54,992; 1933, 57,039; and 1934, 54,266.

10. Data for 1939-1946 refer to male adult hourly rated employees rather than total employment. Data for 1939-1946 comparable to data for 1929-1938 cited in the table are as follows: 1939, 44,605; 1940, 41,358; 1941, 36,349; 1942, 33,900; 1943, 33,325; 1944, 31,686; 1945, 28,939; and 1946, 26,443.

11. Data for 1947 refer to total (rather than male) adult hourly rated employees.

Source: Acreage from Ralph S. Kuykendall, The Hawaiian Kingdom, vol. I (1938), pp. 172 and 176, and vol. III (1967), p. 62; Andrew W. Lind, An Island Community (1938), pp. 67 and 72; Territorial Planning Board, First Progress Report (1939), p. 89; and Hawaiian Sugar Planters' Association, HSPA Sugar Manual 1976, pp. 10-11, and records. Plantation employment from Harold Whitman Bradley, The American Frontier in Hawaii, The Pioneers, 1789-1843 (1942), pp. 243 and 245; The Hawaiian Immigration Society, Report of the Secretary (July 1874), p. 19; Report of the Bureau of Immigration for 1882-1899; Hawaiian Almanac and Annual for 1890, 1892, and 1920; Report of the Governor of Hawaii for 1915-1917 and 1920-1934; U.S. Bureau of Labor Statistics, Labor in the Territory of Hawaii, 1939 (1940), p. 65; U.S. Office of Business Economics, Income of Hawaii (1953), p. 23; and Hawaiian Sugar Planters' Association, HSPA Sugar Manual 1976, p. 12, and records. Average daily earnings from Ralph S. Kuykendall, The Hawaiian Kingdom, vol. I (1938), pp. 172 and 176; Edward Johannessen, The Hawaiian Labor Movement (1956), p. 51; The Friend, July 1, 1844, p. 63; Theodore Morgan, Hawaii, A Century of Economic Change, 1778-1876 (1948), p. 193; Report of the Commissioner of Labor on Hawaii, 1902 (1903), p. 82; U.S. Bureau of Labor Statistics, Labor Conditions in Hawaii ... 1915 (1916), p. 29; U.S. Bureau of Labor Statistics, Labor in the Territory of Hawaii, 1939 (1940), p. 64; Hawaiian Sugar Planters' Association, HSPA Sugar Manual 1976, p. 8, and records. Man-days from HSPA Sugar Manual 1976, p. 12, and records. Plantation population and housing from Report of the Governor of Hawaii, 1929, p. 48; U.S. Bureau of Labor Statistics, Labor Conditions in the Territory of Hawaii, 1929-1930 (1931), p. 26; Hawaiian Sugar Planters' Association Census of Hawaiian Sugar Plantations for 1927-1957; and Hawaiian Sugar Planters' Association, records.

TABLES IN SECTION 14

- 14.1 Sandalwood imports by American vessels at the Port of Canton, China, 1804-1805 to 1832-1833
- 14.2 Sandalwood exports, 1821 to 1876
- 14.3 Forest reserve, trees planted, and forest fires, 1904 to 1976
- 14.4 Commercial fishing, 1900 to 1976
- 14.5 Mineral operations, 1909 to 1972
- 14.6 Mineral production, 1947 to 1976

SECTION 14

Forestry, Fisheries, and Minerals

This section presents statistics on forest reserve acreage, tree planting, sandalwood exports, and forest fires; commercial fisherman, fishing boats, and fish landings; and mineral production. Data on freshwater game fishing licenses are included in section 11; on general land use, including forested areas, in section 12; on woodland on farms and sales of forest products, in section 13.

Hawaii's first important export was sandalwood, which was shipped to China, mostly on American sailing vessels, during the first four decades of the nineteenth century. Some indication on the growth and decline of this trade is given in a table, published by the Rev. Charles (or Karl Friedrich) Gutzlaff in 1834, "Estimate of the total value of imports by American vessels to the Port of Canton," covering the shipping seasons from 1804-1805 to 1832-1833. Although Gutzlaff's table did not classify sandalwood imports by country of origin, and moreover excluded shipments on non-American vessels and to other Chinese ports, it probably provides a useful index to the Hawaiian sandalwood trade during this period. Theodore Morgan later observed that "from Hawaiian reports it is clear that these figures are not even close to being inclusive, although Canton was nearly the only port to which the wood was brought. Perhaps smuggling explains part of the discrepancy." Morgan noted that the first United States "Agent for Commerce" in Hawaii, John C. Jones, Jr., estimated that "during the year 1821 alone 30,000 piculs of wood had gone to China, commanding in that market at least \$300,000." (A picul amounted to 133 1/3 pounds.) Depletion of the sandalwood forests brought about a steep decline in the industry after 1830. The diminishing trade in this product was documented in unofficial Hawaiian export estimates for 1836-1844 and official data for 1844 and 1864-1876.

Governmental forestry statistics began to appear in the 1880s. An act of the 1876 legislature authorized the minister of the interior to set apart forest reserves, protect water sources, conserve timber and fruit trees, and appoint a superintendent of woods and forests. In his report to the 1884 assembly, the minister included a "Report on Hawaiian Nurseries," with data on the number of trees planted, raised, or distributed. Eight years later the legislature created a Bureau of Agriculture and Forestry within the Interior Department, which in its annual or biennial reports continued to publish

statistics on reforestation activities. Following annexation, such data appeared in the annual and biennial reports of the Board of Commissioners of Agriculture and Forestry (1900-1959), the Department of Agriculture and Conservation (1960-1962), and the Department of Land and Natural Resources (since 1962). Besides continuing the regular tabulations on the number of trees planted, begun in 1884, the Division of Forestry initiated series on forest reserve acreage and forest fires (in 1904) and on acres planted in trees (in 1910), among others.

Statistics on forests and forest products were eventually made available from a variety of sources. Data on timber imports and exports, first compiled by the collector general of customs in the middle of the nineteenth century, were published by the United States government after 1900. Somewhat later, timber and wood products shipped to and from Hawaii were among the commodities included in the annual statistical report issued by the U.S. Army Corps of Engineers on waterborne commerce of the United States. Beginning in 1910, the Bureau of the Census reported on acreage in farm woodland in its agricultural censuses of Hawaii. The Pacific Southwest Forest and Range Experiment Station of the U.S. Department of Agriculture surveyed the production and value of primary forest products harvested in the islands, first in 1958 and later in 1960, 1963, 1967, and 1969. The same agency issued a 1969 report on Wood Products in Hawaii ... Consumption, Production, and Trade, containing annual estimates back to 1954 on lumber and plywood imported to Hawaii.

Notwithstanding the importance of fishing to the Hawaiian economy, dating back to the earliest settlement of the islands, the subject received little or no attention from statisticians prior to 1900. In that year, however, the U.S. Commission of Fish and Fisheries undertook a comprehensive survey of the fishes and fisheries of Hawaii, which it published in Report of the Commissioner for the Year Ending June 30, 1901 and reprinted, in part, in Bulletin of the U.S. Fish Commission for 1903. This study contained detailed statistics for 1900, compiled by John N. Cobb, on the number of persons engaged in fisheries, the number of boats used for fishing, and the weight and value of commercial fish landings by species.

The collection of data on fishing received further impetus with the opening of a cannery (the Macfarlane Tuna Canning Company) in May 1917. Soon thereafter, data on canned tuna shipments to the mainland and abroad began appearing in import and export tabulations issued for Hawaii by the U.S. Department of Commerce, and annual totals on the production of Hawaiian Tuna Packers became

a regular feature of Chamber of Commerce of Honolulu statistical publications.

Regular reporting on commercial fish landings was inaugurated by the Division of Fish and Game. This agency, initially known as the Board of Fish and Game Commissioners, had been created by the 1919 legislature and transferred in 1927 to the Board of Agriculture and Forestry. In 1926 it made an attempt, not entirely successful, to estimate the commercial fish catch of the territory. Beginning with fiscal 1928, these data were compiled on a regular, continuing basis and published in the annual and biennial reports of the Fish and Game Division. These tabulations included data on the number of fishermen and fishing boats, and on the weight and value of commercial fish landings, by species and island. From July 1, 1942 forward, the division also published totals by county on the number of freshwater game fishing licenses issued. These statistics regularly appeared in reports of the division that were included at various times in the annual and biennial reports of the Board of Agriculture and Forestry (1928-1959), Department of Agriculture and Conservation (1960-1961), and Department of Land and Natural Resources (1962 and thereafter). Since 1948, data on island fisheries have also appeared in Fishery Statistics of the United States, annual statistical digests issued by the U.S. Fish and Wildlife Service.

Coverage of mining in Hawaii goes back to 1909 when Hawaii was first included in tabulations on mineral operations compiled as part of the decennial U.S. Census. Island data were reported in six subsequent censuses of mineral industries, conducted in 1919, 1954, 1958, 1963, 1967, and 1972. Annual reporting was initiated in 1947; these statistics were published in the Minerals Yearbook (issued by the U.S. Bureau of Mines), beginning with the 1949 edition, and also in annual preliminary and advance reports on "The Mineral Industry in Hawaii" (likewise issued by the Bureau of Mines). Mining in the islands was for many years limited to rock quarries. In 1959, large-scale production of portland cement was inaugurated at Barbers Point and Waianae, thereby adding significantly to the value of mineral production in the islands.

Statistics for the nation as a whole appear in Historical Statistics of the United States, Colonial Times to 1970, chapters L (forestry and fisheries) and M (minerals), and Statistical Abstract of the United States.

TABLE 14.1 SANDALWOOD IMPORTS BY AMERICAN VESSELS AT THE PORT OF CANTON, CHINA, 1804-1805 to 1832-1833
 (In piculs, a Chinese measure of weight equal to 133 1/3 pounds. Although these data are not limited to sandalwood of Hawaiian origin and they moreover exclude shipments on non-American vessels and to other ports, they are thought nevertheless to provide a useful index of the growth and decline of the Hawaiian sandalwood trade during the nineteenth century. Hawaii was the chief source of sandalwood imported by China during this period, and most of the sandalwood exported by Hawaii was shipped in American vessels to Canton.)

Season	Piculs	Season	Piculs	Season	Piculs
1804-1805	900	1815-1816	2,500	1824-1825	7,438
1805-1806	1,600	1816-1817	7,400	1825-1826	3,097
1806-1807	2,700	1817-1818	15,825	1826-1827	6,680
1807-1808	2,000	1818-1819	14,874	1827-1828	13,265
1808-1809	4,800	1819-1820	10,073	1828-1829	18,206
1809-1810	1,815	1820-1821	6,005	1829-1830	10,807
1810-1811	496	1821-1822 ²	26,822	1830-1831	9,750
1811-1812	11,261	1822-1823	20,653	1831-1832	1,400
1812-1813	19,036	1823-1824	8,404	1832-1833	5,600
1813-1815 ¹	1,100				

1. Combined total for two seasons, 1813-1814 and 1814-1815.
 2. According to John C. Jones, Jr., United States Agent for Commerce in Hawaii, during 1821 alone, 30,000 piculs were shipped from Hawaii to China (see table 14.2).
- Source: Rev. Charles Gutzlaff, A Sketch of Chinese History, Ancient and Modern (London, 1834), vol. II, app. table IV.

TABLE 14.2 SANDALWOOD EXPORTS, 1821 TO 1876

Year	Quantity ¹		Value ² (\$1,000)	Year	Quantity ¹	
	Unit	Amount			Unit	Amount
1821 ³	Piculs ⁴	30,000	300	1866	Pounds	5,515
1836	Piculs ⁴	3,700	26	1867	Pieces	24
1837	Piculs ⁴	1,770	12		Pounds	5,463
1838	Piculs ⁴	860	6	1868	...	...
1839	Piculs ⁴	3,000	21	1869	Pieces	2
1840-1843	Piculs ⁴	--	--	1870	Bundles	2
1844 ⁵	Piculs ⁴	724	5	1871	...	...
1864	Bundles	3	...	1872	Pounds	20,232
1865	Pounds	6,008	...	1873	Pieces	1
	...	...	...	1874	...	...
				1875	Pieces	4
				1876	Pieces	20

1. Not reported for 1865, 1868, 1871, 1874, and after 1876. In 1864 and 1867, different units of measurement were used for different shipments.

2. Not available after 1844.

3. Sandalwood shipped to China, as estimated by John C. Jones, Jr., United States Agent for Commerce in Hawaii. Total sandalwood imports at Canton during the 1821-1822 season were 26,822 piculs (see table 14.1).

4. One picul = 133 1/3 pounds.

5. Also reported as 81,845 pounds (equal to 614 piculs).

Source: Theodore Morgan, *Hawaii, A Century of Economic Change, 1778-1876* (1948), pp. 64 and 67; Custom House Statistics (annual, 1859-1876).

TABLE 14.3 FOREST RESERVE, TREES PLANTED, AND FOREST FIRES, 1904 TO 1976

Year	Forest Reserve ¹ (1,000 acres)	Acres Planted in Trees ²	Forest Fires ³		Year	Forest Reserve ¹ (1,000 acres)	Acres Planted in Trees ²	Forest Fires ³	
			No.	Acres Burned				No.	Acres Burned
1904	20	...	1	250	1941	...	905	11	1,049
1905	210	...	6	3,300+	1942	...	58	6	83
1906	337	...	25	1,856+	1943	...	236	22	2,765
1907	398	...	3	115	1944	1,064	120	56	3,015
1908	444	...	6	600	1945	...	121	37	5,752
1909	546	...	...	...	1946	1,071	169	12	472
1910	575	35	1	...	1947	...	302	] 5	100
1911	632	12	4+	...	1948	1,067	365		
1912	683	14	...	...	1949	...	326	] 15+	1,770
1913	787	] 40	12	...	1950	1,065	434		
1914	798		] 154	[9	675+	1951	...	193	] 5	300
1915	798	] 220			[2	50+	1952	1,062			381
1916	798		] 165	[4		110+	1953	...	278	] 8	...
1917	800	] 251			[1	25	1954	1,207	240
1918	815		] 124	15		7,805+	1955	...	283	9	4,123
1919	815	] 142			17	946	1956	1,202	231	3	5
1920	817		] 380	] 6		9,798	1957	...	194	8	214
1921	817	] 819			1	200	1958	1,198	189	5	1,276
1922	817		] 1,342	7		5,445	1959	...	357	42	469
1923	841	] 1,525			4	14+	1960	1,196	258	34	26,397
1924	841		] 1,534	5		1,223+	1961	...	...	34	1,941
1925	...	] 551			16	1,048+	1962	1,196	1,131	26	3,452
1926	917		] 2,180	11		...	1963	1,196	3,173	7	5,783
1927	917	] 8,615			4	1,631+	1964	1,196	2,057	8	47
1928	981		] 24	12		668	1965	1,196	1,318	6	4,097
1929	...	] 3			4	249	1966	1,196	2,553	37	2,120
1930	1,021		] 490	3		490	1967	1,196	2,404	16	6,572
1931	...	] 3,772			--	--	1968	1,196	2,039	25	13,339
1932	1,027		] 4	3		25	1969	1,196	1,499	34	45,523
1933	...	] 7			2	7	1970	1,196	1,539	62	14,245
1934	1,027		] 25	12		20,672	1971	1,196	776	49	1,951
1935	...	] 249			3	490	1972	1,196	361	67	8,190
1936	1,027		] 162	75		17,968	1973	1,196	162	75	17,968
1937	...	] 88			36	2,640	1974	1,196	88	36	2,640
1938	1,056		] 45	64		6,881	1975	1,196	137	45	3,438
1939	...	] 324			64	6,881	1976	1,196	324	64	6,881
1940	1,056		2,708	9		20,672			

TABLE 14.3 (cont.)

1. Effective July 10, 1961, the area previously known as the forest and water reserve was designated the forest and water reserve within the conservation district. Data include both government and private land. Figures are as of December 31 through 1944 and June 30 thereafter.

2. Coverage varies somewhat from year to year; for most years data are restricted to acreage planted on government land in the forest reserves, but in other years may include acreage on surrendered private land. Data are on a calendar year basis through 1960 and for years ended June 30 thereafter.

3. Includes brushland fires. Data are on a calendar year basis.

Source: Report of the Board of Agriculture and Forestry (annual and biennial, 1904-1959); Report of the Department of Agriculture and Conservation (biennial, 1960 and 1962); Report of the Department of Land and Natural Resources (annual and biennial, 1962 forward); Hawaii State Department of Land and Natural Resources, Division of Forestry, records.

TABLE 14.4 COMMERCIAL FISHING, 1900 TO 1976

Year Ended June 30	Fishermen	Fishing Boats	Commercial Fish Landings	
			Pounds	Value (dollars)
1900 ¹	2,345	745	6,222,455	1,083,646
1928	1,530	949	11,727,803	1,410,089
1929	1,488	790	8,633,169	1,215,796
1930	1,557	923	9,252,926	1,076,452
1931	1,534	814	10,262,442	849,593
1932	1,860	974	8,874,831	955,492
1933	1,991	976	11,392,570	792,357
1934	2,105	909	13,605,200	861,883
1935	2,078	881	10,898,617	901,630
1936	2,966	1,021	10,952,576	899,557
1937 ¹	2,670	999	19,175,509	1,501,273
1938 ¹	2,898	995	15,504,453	1,291,485
1939 ¹	3,123	995	14,261,445	1,209,778
1940 ¹	2,573	857	19,403,249	1,468,688
1941 ¹	2,648	778	8,224,805	1,037,101
1942 ¹	1,353	233	572,918	182,750
1943 ¹	1,941	341	2,124,949	568,980
1944	2,539	503	2,806,551	724,383
1945	2,431	561	3,591,965	994,836
1946	3,396	757	9,990,572	2,621,820
1947	3,532	803	11,151,445	3,556,445
1948	2,998	1,035	14,243,229	4,171,409
1949	3,111	845	15,368,223	4,172,425
1950	3,110	800	14,904,681	3,547,608
1951	2,478	759	19,219,884	3,963,614
1952	2,124	584	15,827,771	3,561,395
1953	2,035	612	17,399,338	3,766,012
1954	1,924	619	18,878,208	3,655,579
1955	1,858	572	19,245,366	3,575,254
1956	1,662	625	15,171,714	3,070,359
1957	1,444	529	14,927,110	3,041,598
1958	1,245	533	10,568,761	2,512,121
1959	1,112	508	13,178,933	2,841,168
1960	1,022	437	14,266,795	2,994,033
1961	941	443	13,730,912	2,898,380
1962	940	423	13,931,171	2,873,274
1963	808	366	10,879,389	2,566,045
1964	805	373	12,099,123	2,738,323
1965	717	387	17,192,431	3,355,553
1966	715	365	15,987,978	3,319,917
1967	801	397	12,354,658	3,147,566
1968	760	387	12,829,326	3,253,622
1969	1,028	509	11,096,116	3,378,553
1970	1,264	670	9,786,726	3,584,936

TABLE 14.4 (cont.)

Year Ended June 30	Fishermen	Fishing Boats	Commercial Fish Landings	
			Pounds	Value (dollars)
1971	1,373	738	15,176,525	4,633,877
1972	1,544	NA	15,577,302	5,536,385
1973	1,857	NA	14,029,491	5,676,780
1974	2,051	NA	13,997,435	6,234,933
1975	1,931	NA	10,801,380	6,242,572
1976	2,183	NA	11,891,275	7,503,964

I. Year ended December 31.

Source: John N. Cobb, "The Commercial Fisheries," in Bulletin of the U.S. Fish Commission, vol. XXIII, 1903, part II, section III, pp. 715-765; Hawaii State Department of Land and Natural Resources, Division of Fish and Game, Commercial Fish Landings (semiannual and annual report), and records.

TABLE 14.5 (cont.)

- D. Withheld to avoid disclosing figures for individual companies.
1. Data for mineral industries only include purchased machinery installed. Data including mineral operations in manufacturing establishments exclude purchased machinery installed.
 2. For crushed and broken stone, sand, and gravel mining operations in manufacturing establishments, includes the estimated value of minerals produced and used in the same establishment in making manufactured products.
 3. Excludes data for crushed and broken stone, sand, and gravel mining operations in manufacturing establishments.
 4. Figure for 1909 represents number of mines and quarries.
 5. Excludes data for companies without paid employees. In 1963 there were sixteen single-unit establishments without paid employees in Hawaii; these establishments accounted for approximately 3 percent of value added.
 6. Excludes data for any sand and gravel mining operations in manufacturing establishments.
- Source: U.S. Bureau of the Census, U.S. Census of Mineral Industries for 1963, MIC63(2)-10, table 1; 1967, MIC67(2)-10, table 1; and 1972, MIC72(2)-9, table 1.

TABLE 14.6 MINERAL PRODUCTION, 1947 TO 1976
(Production as measured by mine shipments, sales, or marketable production, including consumption by producers.)

Year	Quantity (1,000 short tons)		Value (\$1,000)			Other Minerals ¹
	Cement	Stone	Total	Cement	Stone	
1947	--	786	1,705	--	1,471	234
1948	--	838	2,171	--	1,917	254
1949	--	654	988	--	719	269
1950	--	696	1,775	--	1,555	220
1951	--	650	1,726	--	1,337	389
1952	--	706	1,947	--	1,545	402
1953	--	1,519	3,332	--	2,918	414
1954	--	1,485	3,596	--	2,993	603
1955	--	1,414	3,592	--	2,884	708
1956	--	3,494	6,971	--	6,076	895
1957	--	2,585	5,930	--	4,632	1,298
1958	--	3,277	6,298	--	4,446	1,852
1959	--	3,034	7,630	--	5,480	2,150
1960	21	3,535	9,254	571	6,443	2,240
1961	202	4,429	14,588	5,574	7,656	1,358
1962	212	4,071	14,844	6,055	6,883	1,906
1963	279	3,844	15,307	7,125	6,480	1,702
1964	323	5,282	19,605	8,877	8,765	1,963
1965	294	5,172	20,835	8,297	9,353	3,185
1966	329	5,079	21,253	9,046	9,482	2,725
1967	262	4,100	16,936	7,360	7,207	2,369
1968	346	5,211	23,225	9,254	11,273	2,698
1969	390	6,534	29,539	10,544	16,059	2,936
1970	406	6,331	28,965	10,334	15,538	3,093
1971	386	6,056	28,107	10,627	14,357	3,123
1972	415	5,005	28,074	11,116	13,494	3,464
1973	469	7,180	35,147	13,750	18,466	2,931
1974	501	7,638	42,042	17,111	21,370	3,561
1975	469	7,569	49,710	20,704	25,319	3,687
1976 ²	339	6,965	42,630	15,919	22,807	3,904

1. Chiefly sand and gravel; pumice, pumicite, and volcanic cinder; and lime.

2. Preliminary.

Source: U.S. Bureau of Mines, Minerals Yearbook (annual) and "The Mineral Industry in Hawaii," Mineral Industry Surveys (annual preliminary and advance summary reports).

TABLES IN SECTION 15

- 15.1 Number and value of building permits, for Honolulu, 1888 to 1911, and Oahu, 1912 to 1976
- 15.2 Number and value of building permits, by county, 1950 to 1976
- 15.3 General excise tax base for contracting and rentals, 1936 to 1976
- 15.4 Construction cost indexes, 1948 to 1976
- 15.5 Housing units authorized by building or demolition permits or built or demolished by public agencies, for the state, 1950 to 1976, and Oahu, 1940 to 1976
- 15.6 Tenure of occupied housing units, 1890 to 1974
- 15.7 Tenure and control of housing, 1928 to 1976
- 15.8 Housing characteristics, 1896 to 1970
- 15.9 Postal vacancy surveys of Oahu, 1955 to 1976
- 15.10 Real estate mortgage loans outstanding, by type of lending institution, 1939 to 1976
- 15.11 Hawaii Housing Authority operations, 1939 to 1976
- 15.12 Characteristics of homes insured under Federal Housing Administration Section 203, 1937 to 1975

SECTION 15

Construction and Housing

This section presents statistics on building permits, construction cost indexes, the size and composition of the housing inventory, residential vacancies, real estate mortgage loans, public housing, and FHA-insured homes. Related series appear in section 1 (on average household size and persons in group quarters), section 3 (mobility), section 4 (construction employment, hours, and earnings), section 5 (price indexes and family budgets for housing), section 7 (family expenditures), section 12 (land use, assessed valuation, and deeds filed), section 13 (plantation housing), and section 19 (residential use of electricity and gas).

Hawaiian housing statistics had their beginning in January 1778. Anchored off "Wymoa, Atooi" (Waimea, Kauai), his first landfall in the islands, Captain James Cook estimated that the village contained approximately 100 houses, with an average of about five persons per house. A year later, after Cook's death, Captain King wrote that the four villages along "the bay of Karakakooa" (Kealahou) averaged eighty houses each, with an average of six persons per unit.

Similar statistics appeared sporadically over the ensuing century. In 1844, for example, Wyllie reported that there were 113 houses in Honolulu, exclusive of grass shacks: 38 made of stone, 26 of wood, and 59 of adobe.

The regular compilation of data on construction commenced in 1888, two years after enactment of the first island building permit requirement. This law, which was amended in 1890 and repealed twenty-one years later, required building permits for all new construction, additions, alterations, and repairs undertaken in Honolulu between Kalihi Stream and Manoa and Kalia Streams, and outside this area as well for churches, schools, and hotels. Statistics appeared in the reports of the minister of the interior and superintendent of public works. Beginning in 1912, data on building permits were compiled and published by the City and County of Honolulu Department of Buildings. Regular reporting of building permits issued on the neighbor islands was not initiated until after World War II, first in Hawaii County and later (in 1956) in Kauai and Maui counties.

The earliest official census to present housing statistics for Hawaii was conducted in 1890. This census included data on persons owning real estate, inhabited structures by type, and the population in each kind of structure.

Similar tabulations appeared in the governmental census of 1896, together with additional series on home ownership, exterior material, and number of rooms.

Relatively little housing information was collected in the decennial censuses of 1900 through 1930, but beginning in 1940 the housing content of the census was greatly expanded. The only housing statistics in the 1900-1930 censuses concerned the number of residential structures (called "dwellings") and occupied housing units ("families"), classified by tenure, for counties and major cities. The 1940 census, in contrast, included a separate bulletin on housing, which contained detailed statistics on the number of dwelling units, by units per structure, rooms per unit, exterior material, condition, plumbing, electric lighting, vacancy status, persons per unit, persons per room, and value or rent. In 1950 questions were added regarding the year in which the units were built and the land tenure of owner-occupied units. Items deleted from the schedule included exterior material, electric lighting, and land tenure in 1960, and condition of unit in 1970. The 1940 census of housing was the first to present data by census tract. Block statistics for Honolulu, Hilo, Lahaina, and Wailuku were published for both 1960 and 1970, and block statistics for the remainder of Oahu were added in 1970.

The census bulletins were supplemented by a growing number of special surveys and studies during the postwar decades. The Hawaii Housing Authority, for example, undertook housing surveys in Hilo and Honolulu in late 1949 and mid-1950, and underwrote the costs of three Bureau of the Census studies made at the authority's request: Family Income and Rent Surveys in Honolulu and Hilo (May 1954) and the Housing Survey of Persons 65 and Over in Honolulu (May 1956). The City and County of Honolulu Rent Control Commission authorized surveys of rental units in Honolulu in 1952 and 1954, the first by University of Hawaii sociologists and the second by a local research firm. From 1956 to 1962, the Honolulu Redevelopment Agency cooperated with the Honolulu Star-Bulletin in its annual sample surveys of consumer characteristics and preferences; the results of these surveys, published in part by the Redevelopment Agency, included detailed tabulations on household and housing characteristics.

Several important housing series were initiated during the 1950s. In 1955 the Honolulu Redevelopment Agency (HRA) began publication of its annual analyses of changes in the housing inventory. Based on benchmark data from the most recent census and postcensal data supplied by county building departments, the armed forces, and the Hawaii Housing Authority, these yearly reports

(published in Redevelopment and Housing Research) included estimates of the total housing inventory, public and private, and annual changes resulting from construction, conversion, demolition, and the transfer of control. These estimates were later supplemented by information from the State Department of Taxation on owner-occupants qualifying for home exemptions, reported separately for those on owned and leased land. Also in 1955 was the first postal vacancy survey, in which the Federal Housing Administration (FHA) joined with the U.S. Post Office in surveying residential vacancies by type of structure and postal zone. These surveys were conducted on Oahu on sixteen occasions between 1955 and 1976, and, beginning in 1967, were also undertaken from time to time in Hilo, Kahului, Wailuku, Kapaa, and Lihue.

The basic unit of analysis in most of the census reports, special studies, and annual series listed above was the "housing unit" or its equivalent. A housing unit, as defined for the 1960 and 1970 censuses, was a house, an apartment, a group of rooms, or a single room occupied or intended for occupancy as separate living quarters. The 1940 and 1950 censuses referred to "dwelling units," defined much like housing units except for the exclusion of one-room units without separate cooking equipment. The 1900-1930 censuses contained data on "dwellings," "families," and "private families." A dwelling was defined as a structure in which one or more persons regularly slept. The number of families was equivalent to the number of occupied dwelling units (as defined in 1940) and group quarters; private families excluded group quarters. The 1890 and 1896 censuses referred to "inhabited buildings." Most intercensal surveys and special studies have used the then-current census terminology. The chief exception has been the postal vacancy surveys, which since 1965 have been based on "residential deliveries."

Other series useful for housing analysis include data on the contracting tax base, construction costs, real estate mortgage loans, FHA-insured dwellings, and public housing.

Perhaps the best measure of the dollar volume of completed construction is the general excise tax base for contracting, published by the State Department of Taxation since 1936. Totals from this source differ from corresponding values for building permits, in part because of timing; but also because some kinds of construction do not require permits, because permits are sometimes allowed to lapse, and because permit values are often understated.

Construction cost indexes for the islands go back to 1948. From 1957 to 1969, Builders Report Service issued the monthly and annual "Hawaiian Construc-

tion Cost Index" in its Builders Report Pacific. This index was maintained from 1969 until April 1971 by the First Hawaiian Bank, which then discontinued it in favor of the "Honolulu Construction Cost Index," issued separately for single-family residences and high-rise buildings. These two indexes, published every month in the Bank's Economic Indicators, have been extended back to 1965, but without any effort to splice them to the earlier index.

Data on residential financing include various FHA series and totals for real estate mortgage loans outstanding. The latter statistics, based on reports of the State Bank Examination and Insurance divisions, go back to 1939 for banks, trust companies, and savings and loan associations, and to 1946 for insurance companies. Annual data on average property values, mortgagors' incomes, lot size, and other subjects have been published by the Federal Housing Administration, separately for new and existing homes under its Section 203 program, in its annual reports for 1937-1939, 1954, and 1955, and in FHA Homes, Data for States and Selected Areas for 1960 and later years.

Public housing was introduced to the islands shortly before World War II, with the creation of the Hawaii Housing Authority (HHA). Statistics on these subsidized units--total inventory, vacancy status, rooms per unit, operating revenues, assets, rent levels, and turnover--have appeared in HHA annual reports and "composite reports."

Virtually all the foregoing statistics have been summarized or recapitulated in recent years in various reports of the Bank of Hawaii, Honolulu Redevelopment Agency (now the Honolulu Department of Housing and Community Development), and State Department of Planning and Economic Development (DPED). The HRA reports, titled Redevelopment and Housing Research through 1974 and Housing and Community Development Research thereafter, have appeared on a quarterly, semiannual, or annual basis since 1955. The Bank of Hawaii commenced publication of its quarterly report on Housing Activity on Oahu in 1962, and since 1967 has issued it on an annual basis under the title Construction in Hawaii. The DPED summary appears as the section on "Construction and Housing" in its annual statistical abstract, The State of Hawaii Data Book.

Comparable figures for other states and the country as a whole appear in Historical Statistics of the United States, Colonial Times to 1970, chapter N, and in recent editions of Statistical Abstract of the United States.

TABLE 15.1 NUMBER AND VALUE OF BUILDING PERMITS, FOR HONOLULU, 1888 TO 1911, AND OAHU, 1912 TO 1976

All Building Permits ²			All Building Permits ²		New Dwellings ³		
Year ¹	Number of Permits	Est. Value (\$1,000)	Year ¹	Number of Permits	Est. Value (\$1,000)	Number of Permits	Est. Value (\$1,000)
1888 ⁴	7	NA	1926	3,521	5,733	1,303	3,356
1889	14	NA	1927	3,637	6,398	1,447 ⁸	3,540
1890	42	NA	1928	3,808	6,750		3,558
1891	NA	NA	1929	3,577	7,254	1,547	3,423
1892 ⁵	88	NA	1930	2,402	5,921	680	1,959
1893	119	NA	1931	2,176	3,622	710	2,056
1894 ⁶	28	NA	1932	2,137	2,423	635	1,170
1895	115	NA	1933	2,035	1,408	524	844
1896	395	NA	1934	1,881	1,717	371	735
1897	NA	NA	1935	2,605	3,064	621	1,200
1898	NA	NA	1936	3,008	4,940	1,085	3,060
1899	NA	NA	1937	3,689	7,266	1,132	3,865
1900	NA	NA	1938	4,420	9,584	1,439	4,500
1901 ⁷	272	NA	1939	5,710	10,142	1,489	5,650
1902 ⁷	335	NA	1940	6,797	10,845	1,822	6,520
1903 ⁷	189	NA	1941	6,268	11,874	1,808	6,968
1904 ⁷	137	NA	1942	2,303	2,684	92	241
1905 ⁷	174	NA	1943	4,201	3,374	198	835
1906 ⁷	145	NA	1944	4,729	9,491	730	4,308
1907 ⁷	NA	NA	1945	5,475	11,818	954	6,080
1908 ⁷	117	266	1946	7,470	23,021	1,130	9,642
1909 ⁷	162	338	1947	9,107	35,066	2,056	19,811
1910 ⁷	416	618	1948	8,644	46,047	2,109	24,713
1911 ⁷	427	948	1949	6,773	30,003	1,480	12,372
1912	NA	2,400	1950	7,323	46,692	2,670	26,644
1913	NA	1,675	1951	6,230	42,633	2,137	29,159
1914	NA	1,275	1952	6,156	42,164	1,965	31,158
1915	NA	1,450	1953	6,218	45,768	1,813	29,508
1916	NA	2,350	1954	6,981	49,373	1,935	30,591
1917	NA	2,090	1955	7,178	62,245	2,340	36,890
1918	NA	1,500	1956	8,201	65,623	2,465	36,438
1919	NA	4,400	1957	9,930	78,303	3,355	45,134
1920	1,550	3,403	1958	9,971	99,144	3,312	48,641
1921	2,040	5,081	1959	11,385	129,020	3,965	82,381
1922	3,143	6,222	1960	13,157	164,098	4,437	85,546
1923	3,239	5,866	1961	12,840	135,900	3,652	61,080
1924	3,783	5,643	1962	14,569	179,229	3,901	107,872
1925	4,078	8,611	1963	14,260	137,888	3,645	71,169

TABLE 15.1 (cont.)

Year ¹	All Building Permits ²		New Dwellings ³	
	Number of Permits	Est. Value (\$1,000)	Number of Permits	Est. Value (\$1,000)
1964	14,683	145,873	3,938	79,847
1965	16,585	219,294	4,967	126,903
1966	15,210	255,176	3,135	141,027
1967	14,632	210,408	3,171	117,696
1968	16,997	345,600	4,210	235,107
1969	15,426	412,594	4,056	234,623
1970	16,792	386,687	4,089	225,583
1971	17,239	298,630	4,087	161,634
1972	17,706	364,835	3,792	221,801
1973	22,767	480,639	3,804	314,946
1974	19,169	594,896	2,237	384,440
1975	16,514	495,871	1,341	241,085
1976	15,937	411,497	1,464	212,898

1. Calendar years unless otherwise specified.

2. New construction, additions, alterations, and repairs, both residential and nonresidential. Data for 1888-1911 limited (except for churches, schools, and hotels) to Honolulu between Kalihi Stream and Manoa and Kalia Streams; data for 1912 and later years cover all Oahu.

3. New residential construction, including hotels.

4. Earliest year available. Building permits were first required under the Laws of 1886, chap. XVI. This law was amended by L. 1890, chap. LXXII, and repealed by L. 1911, Act 73, effective July 1, 1911.

5. Last nine months.

6. First three months.

7. Year ended June 30.

8. Given as 2,143 in the 1931 report and 1,547 in the 1941 report.

Source: Report of the Minister of the Interior, 1890-1899; Report of the Superintendent of Public Works, Territory of Hawaii, 1902-1912; Department of Buildings, City and County of Honolulu, Annual Report and tabular releases, 1931 and thereafter.

TABLE 15.2 NUMBER AND VALUE OF BUILDING PERMITS, BY COUNTY, 1950 TO 1976

Year	Number of Building Permits Issued				Estimated Value of Building Permits (\$1,000)					
	State Total	Honolulu	Hawaii	Kauai	Maui	State Total	Honolulu	Hawaii	Kauai	Maui
1950	...	7,323	2,069	...	...	46,692	7,394	...	...	...
1951	...	6,230	1,701	...	...	42,633	4,898	...	...	...
1952	...	6,156	1,420	...	...	42,164	4,704	...	...	...
1953	...	6,218	1,401	...	...	45,768	3,782	...	...	...
1954	...	6,981	1,432	...	...	49,373	3,951	...	...	...
1955	...	7,178	1,327	...	...	62,245	5,926	...	...	...
1956	11,154	8,201	1,314	4	1,635	73,306	4,575	36	3,072	3,072
1957	12,660	9,930	1,311	163	1,256	86,833	4,218	1,499	2,813	2,813
1958	12,709	9,971	1,279	122	1,337	108,401	5,243	1,666	2,348	2,348
1959	14,008	11,385	1,260	95	1,268	141,262	6,479	2,512	3,251	3,251
1960	16,351	13,157	1,406	166	1,622	178,539	6,616	1,898	5,927	5,927
1961	16,255	12,840	1,517	148	1,750	158,953	11,407	3,874	7,772	7,772
1962	17,726	14,569	1,426	167	1,564	200,767	10,638	2,786	8,114	8,114
1963	17,911	14,260	1,729	236	1,686	137,888	11,560	5,050	8,536	8,536
1964	18,129	14,683	1,799	322	1,325	145,873	19,449	8,375	10,348	10,348
1965	20,628	16,585	2,160	408	1,475	219,294	18,582	9,986	14,867	14,867
1966	19,700	15,210	2,419	339	1,732	255,176	17,965	5,612	15,419	15,419
1967	19,284	14,632	2,659	275	1,718	210,408	21,935	8,522	15,571	15,571
1968	21,262	16,997	2,126	389	1,750	345,600	22,535	14,627	22,856	22,856
1969	20,944	15,426	3,050	460	2,008	412,594	60,757	18,013	33,303	33,303
1970	23,162	16,792	3,402	514	2,454	386,687	61,362	15,777	42,823	42,823
1971	24,562	17,239	3,876	556	2,891	298,630	61,237	15,768	41,060	41,060
1972	25,342	17,706	3,982	862	2,792	364,835	69,016	25,741	48,669	48,669
1973	30,581	22,767	4,260	1,132	2,422	480,639	56,376	31,578	80,528	80,528
1974	26,027	19,169	3,635	1,066	2,157	594,896	85,350	36,745	114,906	114,906
1975	23,287	16,514	3,506	1,255	2,012	495,871	72,575	53,205	117,698	117,698
1976	22,785	15,937	3,535	986	2,327	411,497	58,137	17,929	74,795	74,795

Source: City and County of Honolulu Department of Buildings, Summary of Building Permits (annual); Hawaii, Kauai, and Maui County departments of public works, records.

TABLE 15.3 GENERAL EXCISE TAX BASE FOR CONTRACTING AND RENTALS, 1936 TO 1976
(Thousands of dollars)

Year Reported ¹	Contracting	Rentals ²	Year Reported ¹	Contracting	Rentals ²
1936	8,717	13,807	1960	268,530	153,134
1937	10,754	15,187	1961	267,340	171,162
1938	13,323	16,426	1962	256,952	195,053
1939	16,122	17,637	1963	265,223	208,073
1940	18,343	20,458	1964	302,913	235,907
1941	24,733	24,499	1965	338,557	275,906
1942	132,334	28,541	1966	392,408	303,615
1943	85,524	32,745	1967	346,778	362,320
1944	43,778	34,080	1968	451,697	417,247
1945	34,363	36,216	1969	624,957	490,856
1946	47,339	36,471	1970	782,972	531,668
1947	72,325	43,838	1971	692,938	573,606
1948	73,408	51,319	1972	695,939	649,954
1949	60,831	53,470	1973	904,629	761,447
1950	67,710	56,174	1974	1,027,195	893,347
1951	94,788	63,787	1975	1,161,913	1,019,792
1952	97,867	66,221	1976	1,012,952	1,161,955
1953	96,905	71,516			
1954	94,673	75,224			
1955	94,227	81,894			
1956	110,457	87,713			
1957	133,609	100,041			
1958	174,449	111,152			
1959	206,822	134,060			

1. Calendar year in which reported, including "prior years" reports. Income received in December is reported the following January; hence these annual totals generally refer to an "income year" ended November 30.

2. Includes residential, hotel, office, and equipment rentals.

Source: Report of the Tax Commissioner for 1940, 1941-1947, and 1954; Hawaii State Department of Taxation, "General Excise and Use Tax Base" (annual tabular release) for 1955 and later years.

TABLE 15.4 CONSTRUCTION COST INDEXES, 1948 TO 1976

Year	Builders Report Pacific ¹ (1950-54=100)	Year	Builders Report ¹ Pacific (1950-54=100)	First Hawaiian Bank ² (1967=100)	
				Single-Family Residence	High-Rise Building
1948	87.2	1963	161.5	...	...
1949	90.3	1964	168.0	...	...
1950	95.8	1965	175.4	90.4	90.8
1951	95.7	1966	185.9	95.6	95.8
1952	99.8	1967	193.7	100.0	100.0
1953	104.0	1968	201.3	106.7	105.2
1954	107.6	1969	209.9	115.2	110.8
1955	110.6	1970	222.1	118.0	117.9
1956	118.4	1971	...	125.7	125.1
1957	126.8	1972	...	135.2	133.6
1958	132.3	1973	...	154.7	144.9
1959	138.0	1974	...	164.6	163.7
1960	142.0	1975	...	175.7	178.8
1961	147.2	1976	...	193.9	199.1
1962	154.2				

1. This index, known as the Hawaiian Construction Cost Index, was developed in 1957 by the Hawaiian Construction Engineering Company (now defunct). From that time until 1969 it was maintained by Builders Report Service and published in its periodical, Builders Report Pacific. The First Hawaiian Bank assumed responsibility for the index in 1969 and continued its publication until April 1971, when it was finally discontinued. For further discussion, see the Hawaii Economic Planning and Coordination Authority, Economic Indicators, State of Hawaii (1959), pp. 31-33.

2. These indexes, known collectively as the Honolulu Construction Cost Index, were developed by the First Hawaiian Bank to replace the series described in the preceding footnote. According to the description of this index in the Bank's Economic Indicators Source Book (1971), p. 21, "There is no satisfactory way of splicing either of these two new indexes to the former index."

Source: "Hawaiian Construction Cost Index," Builders Report Pacific, January 13, 1969, as corrected; First Hawaiian Bank, "Honolulu Construction Cost Indexes--revised," Economic Indicators, December 1974, insert, and records.

TABLE 15.5 HOUSING UNITS AUTHORIZED BY BUILDING OR DEMOLITION PERMITS OR BUILT OR DEMOLISHED BY PUBLIC AGENCIES, FOR THE STATE, 1950 TO 1976, AND OAHU, 1940 TO 1976

Year	Housing Units Authorized by Permits ¹					Public Housing Units ²		
	New Construction ³					New Construction	Conversions (net)	Demolitions
	Total	Single-Family	Duplex Units	Apartments	Demolitions ⁴			
STATE								
1950	3,947	...	...	...	358	--	- 247	346
1951	3,708	...	...	...	106	191	- 30	243
1952	3,512	...	...	...	118	818	- 74	216
1953	3,641	...	...	...	203	1,506	- 102	279
1954	4,138	...	...	...	475	1,277	+ 4	--
1955	4,840	...	...	...	287	84	+ 16	263
1956	4,475	...	...	...	177	56	+ 173	242
1957	5,281	...	...	...	230	238	+ 4	430
1958	5,903	...	...	...	678	1,552	- 68	405
1959	8,932	...	...	...	681	1,639	- 1	209
1960	8,158	4,867	88	3,203	1,283	2,778	- 280	795
1961	6,576	4,113	222	2,241	1,014	50	- 273	626
1962	8,791	4,448	176	4,167	1,855	70	- 48	207
1963	7,053	4,321	192	2,540	879	159	- 55	225
1964	7,568	4,551	100	2,917	1,034	356	+ 1	236
1965	11,453	5,480	178	5,795	1,016	1,308	- 46	264
1966	10,528	3,953	80	6,495	985	842	- 47	643
1967	7,325	3,930	54	3,341	1,137	321	- 32	210
1968	12,134	4,814	338	6,982	1,189	768	- 15	1,238
1969	13,748	4,886	316	8,546	1,000	586	--	547
1970	10,749	5,399	228	5,122	930	944	+ 1	279
1971	11,525	5,802	100	5,623	857	306	- 10	524
1972	14,999	5,852	124	9,023	956	148	+ 15	297
1973	17,610	5,420	326	11,864	1,156	1,491	- 2	110
1974	19,142	3,455	484	15,203	983	131	--	84
1975	10,315	3,042	242	7,031	913	1,100	- 8	124
1976	6,988	3,386	110	3,492	857	...	...	...
OAHU								
1940	2,501	2,103	278	120	21	1,522	--	--
1941	2,627	1,972	526	129	15	2,608	--	--
1942	124	106	14	4	10	594	--	--
1943	231	219	8	4	10	395	--	1
1944	877	835	38	4	5	85	--	--
1945	1,187	1,095	28	64	4	534	--	--

TABLE 15.5 (cont.)

Year	Housing Units Authorized by Permits ¹					Public Housing Units ²		
	New Construction ³				Demo- li- tions ⁴	New Con- struction	Con- ver- sions (net)	Demo- li- tions
	Total	Single- Family	Duplex Units	Apart- ments				
OAHU (cont.)								
1946	1,382	1,157	22	203	5	778	+ 1,471	1
1947	2,625	2,312	38	275	8	--	+ 1,197	19
1948	3,025	2,267	78	680	68	--	+ 713	51
1949	1,657	1,507	30	120	87	--	+ 270	57
1950	3,140	2,827	46	267	229	--	- 247	346
1951	2,916	2,385	90	441	20	191	- 30	243
1952	2,968	2,428	68	472	13	818	- 74	216
1953	3,035	2,284	168	583	65	1,506	- 102	279
1954	3,530	2,695	92	743	268	1,277	+ 4	--
1955	4,254	3,328	164	762	186	84	+ 16	263
1956	3,959	2,871	84	1,004	77	56	+ 173	242
1957	4,787	3,137	68	1,582	97	238	+ 4	430
1958	5,516	3,061	66	2,389	534	1,552	- 68	405
1959	8,522	3,591	60	4,871	463	1,639	- 1	209
1960	7,458	4,189	76	3,193	939	2,778	- 280	795
1961	5,774	3,412	216	2,146	875	--	- 273	626
1962	7,900	3,654	170	4,076	1,672	--	- 17	207
1963	5,833	3,352	182	2,299	667	159	- 55	189
1964	6,629	3,671	90	2,868	685	342	--	234
1965	10,195	4,512	132	5,551	794	1,226	- 48	260
1966	9,315	2,943	52	6,320	788	660	- 47	643
1967	6,210	3,005	46	3,159	722	261	- 31	180
1968	10,056	3,683	330	6,043	927	760	- 15	1,237
1969	11,140	3,569	286	7,285	694	538	--	538
1970	7,978	3,809	212	3,957	642	820	+ 1	277
1971	7,858	3,771	70	4,017	596	263	- 10	484
1972	10,417	3,353	112	6,952	669	124	+ 15	271
1973	13,065	3,008	312	9,745	874	1,479	- 2	75
1974	13,160	1,626	464	11,070	703	126	--	56
1975	5,430	1,078	112	4,240	632	1,100	- 8	113
1976	4,524	1,326	56	3,142	613	...	...	...

TABLE 15.5 (cont.)

1. By calendar year in which permit was issued. Units added to or deleted from the inventory by conversion of existing structures are not generally reported in building permit statistics and hence are not shown in this table.

2. Calendar years 1940 to 1957; 12-month periods beginning April 1, 1958 forward (and 1957 forward for the Hawaii Housing Authority). By date of completion, 1958 forward; by date started for some agencies, 1954-1956; and not specified, 1940-1953. Data for years before 1962 limited to housing built or operated by the armed forces and Hawaii Housing Authority; for 1962 and later years, data include all government housing, exclusive of private housing leased by the government.

3. Not available by type of structure for islands other than Oahu prior to 1960. These data refer to units authorized, without regard to actual completions; permits for many apartment structures, in particular, have either been allowed to lapse or have been used only after a period of a year or more. Data for Kauai, 1950-1955, and Maui, 1950, are estimates by the Honolulu Redevelopment Agency.

4. Oahu data for 1940-1953 refer to number of residential structures; Maui, 1950, and Kauai, 1950-1958, are estimates by the Honolulu Redevelopment Agency. Totals usually exclude housing lost by fire or other disaster, such as the Kapoho volcanic eruption of 1960 (35 units) or the 1960 tsunami (155 units in Hilo). Demolition in rural areas appears to have been seriously under-reported for most of these years.

Source: Honolulu Redevelopment Agency, Honolulu Redevelopment Research, No. 8 (April 23, 1954) and No. 16 (April 1, 1955), and Redevelopment and Housing Research, No. 4 (April 1956) to No. 34 (July 1974); Honolulu Department of Housing and Community Development, Housing and Community Development Research, No. 35 (July 1975), and No. 36 (July 1976); Hawaii State Department of Planning and Economic Development, 1976 data compiled from county building departments.

TABLE 15.6 TENURE OF OCCUPIED HOUSING UNITS, 1890 TO 1974
(Data are only approximately comparable from year to year.)

Coverage and Year	Families or Occupied Housing (or dwelling) Units ²						Tenure not Reported
	Residential Structures ¹	Total	Owner-Occupied		Renter-Occupied		
			Number	Percent			
Including group quarters							
1890	15,693	NA	NA	NA	NA	...	
1896	17,899	NA	5,996	NA	NA	...	
1900	32,366	36,922	6,554	17.8	27,537	2,831	
1910	43,764	52,219	6,776	13.0	44,900	543	
1920	54,314	65,670	8,695	13.2	56,386	589	
1930	69,048	77,070	14,624	19.0	61,807	639	
1974	NA	243,520	130,868	53.7	112,650	--	
Excluding group quarters							
1900	NA	29,763	6,321	21.2	21,086	2,356	
1940	NA	86,855	22,030	25.4	64,825	--	
1950	NA	112,290	37,025	33.0	75,265	--	
1960	NA	153,064	62,937	41.1	90,127	--	
1970	NA	203,088	95,271	46.9	107,817	--	
1974	NA	241,485	NA	NA	NA	...	

1. "Inhabited buildings" for 1890 and 1896, "dwellings" for 1900-1930. A dwelling was defined for census purposes as a structure in which one or more persons regularly slept.

2. Persons who "own [the] house they live in" for 1896, "families" and "private families" for 1900, "families" for 1910-1930, "occupied dwelling units" for 1940 and 1950, and "occupied housing units" for 1960, 1970, and 1974. A housing unit, as defined for the 1960 and 1970 censuses, was a house, an apartment or a group of rooms, or a single room occupied or intended for occupancy as separate living quarters. The concepts of private family and occupied dwelling unit used in earlier censuses were somewhat more restricted than that of occupied housing unit, but were generally comparable for most purposes. In data including group quarters, each institution, barracks, lodging house, or other group quarters is counted as a single unit.

TABLE 15.6 (cont.)

Source: Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), p. 129, and underlying data; U.S. Census of Housing: 1970, Final Report HC(1)-A13, table 2; Hawaii State Department of Health and Department of Planning and Economic Development, "Characteristics of Occupied Housing Units in Hawaii, 1974; Employment by Place of Work in Hawaii, 1974," Population Report, No. 7, December 1976, pp. 3-4.

TABLE 15.7 TENURE AND CONTROL OF HOUSING, 1928 TO 1976

Year	All Housing Units ¹		Owner-Occupied Units ²		Renter-Occupied and Vacant Units ³		State and County
	State Total	Oahu	Land Owned	Land Leased	Private ¹	Federal	
1928	NA	NA	16,594	NA	NA	NA	NA
1929	NA	NA	13,328	NA	NA	NA	NA
1930	77,070	39,563	14,257	NA	NA	NA	22
1931	NA	NA	15,264	NA	NA	NA	NA
1932	NA	NA	15,999	NA	NA	NA	NA
1933	NA	NA	15,672	NA	NA	NA	NA
1934	NA	NA	15,457	NA	NA	NA	NA
1935-38	NA	NA	NA	NA	NA	NA	NA
1939	NA	NA	18,183	NA	NA	NA	29
1940	90,830	53,500	19,693	NA	NA	NA	250
1941	NA	58,060	NA	NA	NA	NA	250
1942	NA	64,008	NA	NA	NA	NA	390
1943	NA	64,815	NA	NA	NA	NA	NA
1944	NA	65,516	21,812	NA	NA	NA	656
1945	NA	66,607	22,693	NA	NA	NA	656
1946	NA	68,564	NA	NA	NA	NA	2,347
1947	NA	72,695	24,326	NA	NA	NA	3,351
1948	NA	77,020	26,262	NA	NA	NA	3,810
1949	NA	81,144	28,589	NA	NA	NA	4,494
1950	120,606	83,175	30,373	1,502	76,354	7,880	4,497
1951	123,941	85,991	33,423	1,758	76,167	8,020	4,573
1952	126,499	88,004	35,968	2,177	76,250	7,430	4,674
1953	129,769	91,078	37,813	2,531	76,939	7,397	5,089
1954	132,732	93,978	39,906	2,888	77,371	7,229	5,338
1955	137,675	98,817	41,806	3,686	77,756	9,273	5,154
1956	141,266	102,194	43,927	4,290	79,086	9,004	4,959
1957	145,184	105,975	46,068	4,706	80,411	9,160	4,839
1958	149,156	109,868	47,823	4,891	82,713	9,036	4,693
1959	154,950	115,680	48,767	5,566	85,556	10,574	4,502
1960	165,506	125,795	49,798	6,247	92,805	12,115	4,541
1961	171,409	131,607	51,227	7,300	94,753	13,427	4,702
1962	174,383	134,434	51,967	8,128	95,930	13,630	4,728
1963	178,181	138,064	52,941	9,273	97,828	13,579	4,560
1964	181,973	141,655	54,171	10,981	98,685	13,397	4,739
1965	186,208	145,732	55,242	11,332	100,761	13,658	5,215
1966	192,781	152,079	57,371	14,073	101,459	14,254	5,624
1967	199,016	158,086	59,403	14,988	104,083	14,958	5,584
1968	204,248	163,118	63,115	16,708	103,760	14,952	5,713
1969	209,598	168,158	65,164	18,585	105,337	14,236	6,276
1970	216,774	174,742	68,422	20,802	106,821	14,439	6,290
1971	224,585	180,945	72,086	21,732	109,367	15,089	6,311
1972	232,009	186,436	75,939	24,565	110,350	14,959	6,196
1973	240,265	192,255	78,878	26,776	113,457	15,071	6,083
1974	250,697	200,161	82,494	30,333	115,237	16,373	6,260
1975	261,197	207,837	85,264	30,543	122,707	16,386	6,297
1976	270,646	214,078	88,284	33,730	125,215	17,225	6,192

TABLE 15.7 (cont.)

1. Data for 1930 refer to "families;" for 1940-1959, to "dwelling units." Based on the 1940-1959 definition, there were approximately 162,714 dwelling units in the state in 1960, including 123,484 on Oahu and 90,013 renter-occupied or vacant privately controlled units. All data refer to April 1.

2. As indicated by the number of taxpayers granted home exemptions. Owner-occupants of single-family dwellings on fee simple land were made eligible for such exemptions under the provisions of Act 33, S.L.H. 1920, Sp., effective January 1, 1921. Eligibility was extended to owner-occupants of single-family dwellings on land leased for five years or longer, by Act 64, S.L.H. 1949, Sp., effective January 1, 1950. Owner-occupants of condominium apartments became eligible under Act 180, S.L.H. 1961, effective July 10, 1961, and owner-occupants of cooperative apartments became eligible with approval of Act 102, S.L.H. 1963, on May 29, 1963. Data for 1968 and earlier refer to January 1; for 1969 and later years, to July 1. The number of owner-occupied units reported by the decennial census is somewhat higher than the number based on taxpayer home exemptions, chiefly because of differences in definition.

3. Housing owned by the Navy but controlled by the Hawaii Housing Authority is included with state totals. Housing for teachers and school custodians, formerly operated by the counties and now by the state, is included with private housing totals through 1964 and thereafter with the state totals. Data for both federal and state agencies include housing leased by these agencies from private owners. As of July 1, 1940-1942, January 1, 1944-1949, April 1, 1950 and later years.

Source: Honolulu Redevelopment Agency, Redevelopment and Housing Research, No. 33 (July 1973), pp. 15-16, and No. 34 (July 1974), p. 5; Honolulu Department of Housing and Community Development, Housing and Community Development Research, No. 35 (July 1975), pp. 10-11, and No. 36 (July 1976), pp. 5-6 and 37.

TABLE 15.8 HOUSING CHARACTERISTICS, 1896 TO 1970

Subject	Inhabited Buildings, 1896	Dwelling Units		Housing Units	
		1940	1950	1960	1970 ¹
ALL UNITS					
Number of units	17,899	90,830	120,606	165,506	216,568
Percent of 1-unit structures	NA	78.9	71.9	74.2	65.0
Percent of wood exterior material	93.1	98.4	93.1	NA	NA
Median number of rooms	3.7	4.2	4.3	4.5	4.6
Median age (years)	NA	NA	19.7	17.2	14.4
Percent needing major repairs or dilapidated ²	NA	15.5	13.0	8.7	NA
Percent lacking some or all plumbing facilities	NA	NA	38.8	NA	5.6
Percent with piped hot and cold water inside structure	NA	NA	64.8	86.8	96.7
Percent with flush toilet	NA	63.2	80.3	93.8	98.3
Inside structure, exclusive use	NA	NA	78.1	89.9	96.6
Percent with bathtub or shower	NA	63.1	83.1	96.0	98.6
Exclusive use	NA	NA	80.6	91.3	96.8
Percent with electric lights	NA	91.7	96.7	NA	NA
Percent vacant	NA	4.4	6.9	7.5	5.9
For rent or sale	NA	NA	2.4	2.7	2.9
Other vacant	NA	NA	4.5	4.8	3.0
OCCUPIED UNITS					
Number of units	17,899	86,855	112,290	153,064	203,088
Median number of persons in unit	NA	3.97	3.8	3.7	3.3
Percent with 1.01 or more persons per room	NA	38.4	30.8	25.7	19.9
Percent with 1 or more radio sets	0	74.3	NA	92.3	NA
Percent with 1 or more television sets	0	0	0	77.9	93.4
Percent with telephone available	NA	NA	NA	81.7	90.7
Percent with automobile available	0	NA	NA	83.1	89.1
Two or more	0	NA	NA	25.4	42.9

TABLE 15.8 (cont.)

Subject	Inhabited Buildings, 1896	Dwelling Units		Housing Units	
		1940	1950	1960	1970 ¹
Owner-occupied:	NA	2,540	12,283	20,900	35,100
Renter-occupied:	NA	NA	NA	72	132
	NA	16.97	32.34	64	120
	NA				

OCCUPIED UNITS (cont.)

Owner-occupied: Median value (dollars)³
 Renter-occupied: Median gross rent (dollars)⁴
 Median contract rent (dollars)⁴

1. Data on characteristics limited to year-round units (215,897).
2. Percent needing major repairs in 1940, percent dilapidated in 1950 and 1960.
3. In 1940 the value of owner-occupied units in structures with more than one unit or used partly for business was based on the value only of that part occupied by the owner and his household. Data for 1950 were limited to one-unit structures without business, on land owned by the occupant. Data for 1960 and 1970 were limited to one-family homes on less than ten acres and no business on property; owner-occupied units on leased land were included. For all years, value was defined as the respondent's estimate of how much the property (house and lot) would sell for, if it were for sale.

4. Data for 1940 include estimated rental value of rent-free units, omitted from computations for later years.

Source: Republic of Hawaii, Report of the General Superintendent of the Census, 1896, table XVII; Sixteenth Census of the U.S.: 1940, Housing, General Characteristics, Hawaii, pp. 4-16; U.S. Census of Housing: 1950, bull. H-A52, tables 1-12; U.S. Census of Housing: 1960, Final Report HC(1)-13, tables 1-7; U.S. Census of Housing: 1970, Final Report HC(1)-A13, tables 1-4, and Final Report HC(1)-B13, tables 35-37.

TABLE 15.9 POSTAL VACANCY SURVEYS OF OAHU, 1955 TO 1976

Survey Date	All Possible Deliveries ¹	Vacant Units				Under Construction
		Used and New		Used ²	New ²	
		Number	Percent			
1955, Feb. 16	100,600	1,334	1.3	NA	NA	1,054
1956, Mar. 5-9	104,333	1,734	1.7	NA	NA	1,522
1959, May 12-14	119,800	1,982	1.7	NA	NA	6,927
1960, Oct.	118,992	3,264	2.7	959	894	6,377
1961, Oct. 16-20	121,750	3,615	3.0	1,847	885	2,825
1963, Sept. 18	131,214	3,368	2.6	2,365	487	4,836
1965, Sept. 14-30	130,234	3,106	2.4	2,044	1,062	4,902
1967, Feb. 27-Mar. 2	145,032	2,713	1.9	1,915	798	3,631
1969, Feb. 12-16	156,175	1,812	1.2	1,188	624	5,873
1970, Feb. 9-18	162,835	2,715	1.7	1,700	1,015	6,704
1971, Apr. 23-May 4	175,359	3,956	2.3	2,038	1,918	3,727
1972, Feb. 24-28	192,848	3,289	1.7	1,490	1,799	6,361
1973, Feb. 15-22	189,209	2,805	1.5	1,163	1,642	9,217
1974, Mar. 12-14	200,924	4,013	2.0	1,862	2,151	5,313
1975, Feb. 11-26	207,812	4,765	2.3	2,367	2,398	7,438
1976, Feb. 4-18	197,899	5,930	3.0	2,698	3,232	5,474

1. Data before 1965 refer to "dwelling units" or "housing units" rather than "deliveries" and are not exactly comparable to data for 1965 and later years.

2. Limited to privately owned housing before 1965.

Source: U.S. Department of Housing and Urban Development, Federal Housing Administration, releases.

TABLE 15.10 REAL ESTATE MORTGAGE LOANS OUTSTANDING, BY TYPE OF LENDING INSTITUTION, 1939 TO 1976
(Thousands of dollars)

Year (Dec. 31)	All Types	Banks	Savings, Building, and Loan Associations	Trust Companies ¹	Industrial Loan Companies	Insurance Companies
1939	26,485	17,248	6,110	2,914	213	NA
1946	45,000	20,000	20,000	3,000	1,000	1,000
1947	66,000	34,000	27,000	3,000	1,000	1,000
1948	92,000	57,000	29,000	3,000	1,000	1,583
1949	106,076	68,316	32,920	2,725	394	1,722
1950	131,525	84,731	39,884	3,843	387	2,680
1951	159,253	101,900	44,150	3,972	475	8,757
1952	176,094	103,542	51,310	3,638	326	17,278
1953	193,056	103,014	60,989	3,855	280	24,917
1954	218,218	104,749	76,645	4,205	376	32,242
1955	255,643	109,798	96,734	4,339	390	44,431
1956	286,919	117,161	112,190	3,770	543	53,255
1957	315,697	124,015	126,456	3,133	904	61,190
1958	364,377	152,829	136,917	3,737	1,629	69,264
1959	443,365	186,961	161,637	3,351	4,110	87,307
1960	508,095	203,144	185,034	4,413	5,463	110,041
1961	582,025	203,636	208,959	3,129	6,385	159,916
1962	664,864	220,877	252,651	2,589	7,469	181,277
1963	770,011	226,342	312,752	2,706	9,719	218,492
1964	905,955	249,340	377,193	2,418	15,696	261,309
1965	1,022,725	259,377	423,603	1,962	16,366	321,417
1966	1,138,569	298,496	437,993	1,808	20,900	379,372
1967	1,228,091	317,620	453,631	2,795	25,647	428,397
1968	1,386,863	355,510	513,339	2,744	28,791	486,479
1969	1,579,560	421,018	595,029	5,595	35,936	521,982
1970	1,790,220	469,483	678,688	4,760	37,587	599,702
1971	2,093,033	496,899	854,183	5,156	63,852	672,944
1972	2,424,166	570,525	1,061,068	2,199	90,733	699,641

TABLE 15.10 (cont.)

Year (Dec. 31)	All Types	Banks	Savings, Building, and Loan Associations	Trust Companies	Industrial Loan Companies	Insurance Companies
1973	2,797,345	662,989	1,231,323	984	194,758	707,292
1974	3,210,216	751,142	1,344,025	593	291,566	822,890
1975	3,564,867	816,412	1,547,871	479	318,305	881,800
1976	NA	827,689	1,841,239	2,219	284,856	NA

1. Excluding mortgage loans held in trust and agency accounts.

Source: Hawaii State Department of Regulatory Agencies, Bank Examination Division and Insurance Division, records; Honolulu Department of Housing and Community Development, Housing and Community Development Research, No. 36 (July 1976), p. 21.

TABLE 15.11 HAWAII HOUSING AUTHORITY OPERATIONS, 1939 TO 1976

Year ¹	Units Managed by HHA		Popula- tion in Units ²	Operating Revenues of HHA (\$1,000)		Operating Revenues per Unit per Mo. ³ (dollars)	Total Assets ⁴ (\$1,000)	Average Rent Charged ⁵ (dollars)
	Total	Occupied		Gross ⁶	Net ⁷			
1939	--	--	--	--	--	--	210	--
1940	657	...	1,029	...	...	...	3,366	...
1941	1,207	...	5,504	144	...	15.59	3,672	14.03
1942	759	...	1,798	78	64	18.18	3,929	16.36
1943	931	...	1,844	171	89	20.31	...	30.00
1944	1,027	...	...	252	131	21.17	...	42.50
1945	1,959	...	...	374	96	...	...	...
1946	2,820	...	...	708	353	30.54	2,574	35.38
1947	3,772	...	...	1,190	565	36.96	2,651	33.26
1948	4,456	...	...	1,454	593	35.22	2,813	31.69
1949	4,768	4,397	18,722	1,925	784	36.63	2,965	32.95
1950	4,441	4,369	18,862	2,011	818	37.82	7,804	34.03
1951	4,593	4,439	19,510	2,045	756	38.08	11,865	34.27
1952	4,866	4,652	20,722	2,204	...	37.27	14,197	33.48
1953	5,146	5,039	22,805	2,399	...	37.84	18,340	34.05
1954	5,212	5,055	23,500	2,638	807	42.79	17,991	38.51
1955	5,053	4,989	23,274	2,655	818	44.54	18,185	40.08
1956	4,657	4,612	22,302	2,648	771	44.01	18,254	39.60
1957	4,578	4,542	22,404	2,543	677	46.28	20,951	41.65
1958	4,413	4,369	21,876	2,592	393	47.50	24,054	42.75
1959	4,385	4,345	21,838	2,244	251	53.04	25,166	47.73
1960	4,506	4,323	21,282	2,821	638	53.96	27,587	48.54
1961	4,417	4,387	21,160	2,941	766	55.84	28,339	50.25
1962 ⁸	4,401	4,332	20,289	2,909	308	56.15	31,061	50.53
1963 ⁸	4,333	4,317	20,331	2,909	308	56.15	31,061	50.53
1964	4,264	4,245	19,836	2,987	456	58.64	37,623	52.77
1965	4,704	4,385	21,165	2,975	280	56.54	41,867	50.88
1966	4,885	4,590	20,709	3,068	234	55.70	43,741	50.13
1967	4,825	4,593	20,242	3,194	221	57.94	49,424	62.18
1968	4,868	4,780	20,359	3,402	110	57.13	53,429	51.41
1969	4,729	4,581	19,289	3,824	105	47.73	64,872	42.95
1970	4,974	4,737	19,791	4,991	48	87.79	69,522	79.01
1971	4,917	4,683	18,806	6,238	54	111.00	75,003	67.61
1972	5,403	5,333	19,368	6,006	22	93.84	80,848	70.05
1973	5,406	5,361	19,078	6,175	19	95.98	82,060	73.26
1974	5,547	5,407	18,898	6,940	100	106.95	72,826	84.94
1975	5,442	5,419	18,175	7,186	422	106.85	81,169	67.88
1976	5,515	5,498	17,783	8,057	128	136.38	88,426	68.18

TABLE 15.11 (cont.)

1. Data for earlier years usually based on periods ended December 31, but sometimes June 30 or September 30. Data for 1964 and later years refer to fiscal years ended June 30.

2. Excludes Mayor Wright slums, 1940-1952, and evacuation camps, 1943. Figure for 1941 estimated.

3. Excludes Mayor Wright slums, 1941-1943.

4. Figure for 1946 estimated; excludes bond subscriptions, included in earlier years. Increase after 1949 attributable to rising development costs.

5. Data for 1941-1946 and 1967 forward reflect rent schedules rather than amounts actually charged. Data for 1947-1966 are estimates based on 90 percent of operating revenue per unit per month.

6. Excludes Mayor Wright slums, 1941-1943, and three unreported projects, 1945; estimated for 1946-1949.

7. Operating revenues less operating expenditures. Excludes Mayor Wright slums, 1943, and three nonreporting projects, 1945.

8. Data on revenues, assets and rents refer to 18-month period ended June 30, 1963.

Source: Hawaii Housing Authority, records.

TABLE 15.12 CHARACTERISTICS OF HOMES INSURED UNDER FEDERAL HOUSING ADMINISTRATION SECTION 203, 1937 TO 1975

Year	Average Property Value (dollars)		Average Price of Site (dollars)		Price of Site as Percent of Value (average)		Improved Living Area (average, square feet)		Average Lot Size (square feet)	
	New Homes	Existing Homes	New Homes	Existing Homes	New Homes	Existing Homes	New Homes	Existing Homes	New Homes	Existing Homes
1937	4,809	...	1,137	...	...	...	...	...	9,200	...
1938	5,085	4,885	1,187	1,803	23.3	36.9	...	...	...	...
1939	5,176	5,324	1,094	1,813	21.1	34.1	...	...	...	...
1954	14,451	16,215	4,670	5,382	32.3	33.2	944	1,064	...	...
1955	15,440	16,086	4,296	5,011	27.8	31.2	1,041	1,077	...	...
1960	21,622	20,093	6,502	6,396	30.1	31.8	1,063	1,022	...	...
1961	23,146	23,098	7,424	7,441	32.1	32.2	1,050	1,112	...	...
1962	22,449	24,810	8,075	7,250	36.0	29.2	1,004	1,139	...	...
1963	24,019	23,732	8,842	8,768	36.8	36.9	1,080	1,135	...	...
1964	24,970	25,565	9,058	9,226	36.3	36.1	1,085	1,095	...	...
1965	26,258	26,355	10,973	10,606	41.8	40.2	1,062	1,104	...	...
1966	27,533	27,595	11,259	12,437	40.9	45.1	1,091	1,046	7,363	7,350
1967	29,938	29,817	11,802	12,532	39.4	42.0	1,106	1,091	6,847	7,854
1968	32,038	31,647	13,235	12,768	41.3	40.3	1,104	1,126	6,788	8,350
1969	33,391	32,262	13,853	12,587	41.5	39.0	1,120	1,089	7,292	7,797
1970	38,713	34,319	16,577	13,118	42.8	38.2	1,152	1,079	6,834	7,522
1971	42,618	40,209	17,247	15,917	40.5	39.6	1,192	1,089	7,158	7,154
1972	46,609	41,611	18,026	16,924	38.7	40.7	1,211	1,041	6,951	6,860
1975	48,633	...	17,609	...	35.9	...	1,082	...	3,348	...

Source: Annual Report of the Federal Housing Administration for 1937-1955; U.S. Dept. of Housing and Urban Development, FHA Homes. Data for States and Selected Areas for 1960-1975.



TABLES IN SECTION 16

- 16.1 Manufacturing, 1899 to 1973
- 16.2 Manufacturing by industries, 1899 to 1972
- 16.3 General excise tax base for sugar processing, pineapple canning, and manufacturing, 1936 to 1976
- 16.4 Hawaiian pineapple production, 1903 to 1976
- 16.5 Employment and earnings in the pineapple industry, 1939 to 1975
- 16.6 Sugar production, 1837 to 1976

SECTION 16

Manufactures

This section summarizes statistics on the manufacturing segment of the economy, including sugar processing and pineapple canning. It includes series on the number of manufacturing establishments, employment and payroll, value added by manufacture, capital expenditures, physical output, and value of sales. Related statistics appear in sections 4 (labor), 13 (agriculture), 21 (foreign and interstate trade), and 22 (business enterprise).

The presentation of data on Hawaiian manufacturing is complicated by the fact that two of the most important activity groups, the sugar and pineapple industries, are both agricultural and manufacturing under provisions of the Standard Industrial Classification (SIC), and statistics for these two industries must accordingly be disaggregated into their two component categories. This principle is observed in all major federal statistical reports, although island economists often prefer to combine the agricultural and manufacturing segments for analytical purposes.

The earliest island statistics on manufactures are the series on exports compiled by the collector-general of customs. From 1843 to 1900, the annual custom house reports carried data on the pounds and (except for 1850-1874) value of sugar and other manufactured products exported. These series were continued by the U.S. government after 1900, with separate data available for foreign trade and shipments to the U.S. mainland. Although the latter category was dropped early in 1948, statistics on foreign trade continue to be published. Such data are, of course, limited to products shipped out of state and exclude locally manufactured products consumed in the islands.

The compilation of comprehensive information on sugar production dates from the 1890s, when the Hawaiian Sugar Planters' Association commenced publication of annual totals by island and plantation. In recent years these statistics have been included in the HSPA Sugar Manual, issued annually.

Data on pineapple production are tabulated by the Pineapple Growers Association of Hawaii and published in Pineapple Fact Book Hawaii, most recently revised in 1969 and 1973. Although the history of pineapple cultivation in Hawaii goes back to the early days of the kingdom, large-scale commercial production did not start until 1903.

The first Census of Manufactures was conducted in Hawaii in 1900, covering activity in 1899. This survey, taken by the U.S. Census Office (later Bureau

of the Census), included tabulations for each industry on the number of establishments, employment, primary horsepower, capital, payroll, cost of materials, value of products, and value added by manufacture.

Later censuses of manufactures were conducted by the Bureau of the Census for 1909, 1919, 1939, 1954, 1958, 1963, 1967, and 1972. Since 1954, these enumerations have been taken on the same schedule as that used for other states, but in earlier years Hawaii was often omitted from nationwide manufacturing censuses. The 1909, 1919, and 1939 data were compiled at the same time as the decennial census of population and published along with other decennial census bulletins. Beginning with the 1954 census, these data have appeared separately.

Since 1959, Hawaii has been included in the Annual Survey of Manufactures. Results of this sample survey are published annually by the Bureau of the Census, often with industry detail, for states and standard metropolitan statistical areas. The types of data shown generally correspond to those obtained in the full-scale quinquennial census of manufactures. The tabulations for Hawaii are rather severely restricted by sampling variation, however.

The usefulness of both the Census of Manufactures and the Annual Survey of Manufactures is further limited by the lack of detail for industry groups of special importance to the islands. Pineapple canning, for example, has not been reported as a separate category since 1939; in the 1972 Census of Manufactures, data for this activity were submerged in SIC 2033, canned fruits and vegetables, and in 1963 pineapple canning was concealed in SIC 203, canned and frozen foods. Sometimes such apparent overgeneralization of data reflects the absence of a suitable rubric in the Standard Industrial Classification system. More commonly, however, it results from Bureau of the Census disclosure rules, which require suppression of any detail which might reveal data for individual companies.

Statistics on employment in manufacturing (as well as in other activities) have been compiled as part of the decennial Census of Population in Hawaii since 1900. These data (cited in section 4) are obtained by household interviews. Corresponding totals in the censuses of manufactures, in contrast, are tabulated from questionnaires completed by the employers. The population census thus reports employment by place of residence, while the manufactures census reports employment by place of work.

Since 1939, the Territorial (and State) Department of Labor and Industrial Relations has compiled information on employment and payrolls for all workers

covered by the Hawaii Employment Security Law. These data, tabulated by industry, have since 1952 been published in an annual report, Employment and Payrolls in Hawaii. The same records provide the basis for the department's monthly and annual estimates of employment by industry and island, issued in monthly bulletins and tabular releases and summarized in section 4. A somewhat similar set of data, presenting data by county and detailed industry, provides first-quarter statistics on number of employing units, wage and salary workers, payroll, and employees per unit; initiated in 1946, these reports are now published by the U.S. Bureau of the Census under the title County Business Patterns. All of these sources show separate data for manufacturing, usually in considerable kind-of-business detail.

Since 1935, the general excise tax base reports of the Tax Commissioner (now State Department of Taxation) have provided monthly and annual data on income received by Hawaiian manufacturers. Prior to the mid-1950s, these reports included separate totals for sugar processing, canning, printing and publishing, and other manufacturing; since that time, the categories have been designated sugar processing, pineapple canning, and (other) manufacturing. Data are published by month and county in which reported; accordingly, neighbor island manufacturing income received by a firm headquartered in Honolulu is reported with Oahu totals, and income received in December is reported early the following year.

Nationwide statistics on manufactures are summarized in Historical Statistics of the United States, Colonial Times to 1970, chapter P.

TABLE 16.1 MANUFACTURING, 1899 TO 1973

Year	Establishments		All Employees		Production Workers			Value Added by Manufacture (million dollars)	Cost of Materials (million dollars)	Value of Industry Shipments (million dollars)	Capital Expenditures, New (million dollars)
	Total	With 20 Employees or More	Number	Payroll (million dollars)	Number	Man-Hours (millions)	Wages (million dollars)				
1899	222	NA	4,418	2.0	3,655	NA	1.5	NA	NA	NA	NA
1909	500	NA	7,572	2.8	5,904	NA	2.1	NA	NA	NA	NA
1919	496	NA	11,744	8.7	9,969	NA	6.6	NA	NA	NA	NA
1939	474	NA	19,518	15.3	17,002	NA	11.5	NA	NA	NA	NA
1954	520	137	24,381	77.1	19,524	36.1	50.8	NA	NA	NA	11.7
1958	618	179	23,896	82.2	17,823	31.9	51.8	NA	NA	NA	17.2
1959	NA	NA	25,962	93.1	19,397	35.9	61.8	NA	NA	NA	NA
1960	NA	NA	23,456	89.4	17,358	32.7	56.6	NA	NA	NA	60.6
1961	NA	NA	23,238	93.4	16,840	31.2	57.4	NA	NA	NA	31.5
1962	NA	NA	22,645	94.0	16,159	29.9	57.5	NA	NA	NA	14.2
1963	672	203	25,144	109.0	18,722	33.2	67.5	NA	NA	NA	15.4
1964	NA	NA	25,000	113.7	18,300	33.1	69.4	372.0	638.4	17.7	17.7
1965	NA	NA	25,400	118.1	18,700	34.0	73.5	365.9	655.5	17.2	17.2
1966	NA	NA	24,800	123.8	18,700	34.3	78.2	371.5	680.9	24.1	24.1
1967	697	215	25,400	139.6	19,000	35.9	86.9	399.6	723.4	26.0	26.0
1968	NA	NA	23,200	134.0	17,400	32.2	83.3	381.9	737.1	15.6	15.6
1969	NA	NA	23,900	145.3	17,900	33.2	90.8	408.3	758.1	19.8	19.8
1970	NA	NA	24,800	168.7	18,100	35.3	102.8	451.1	856.9	40.5	40.5
1971	NA	NA	24,400	176.6	17,500	34.3	105.7	465.9	899.9	28.0	28.0
1972	773	238	24,800	191.1	17,700	33.1	113.7	548.3	955.1	46.7	46.7
1973	NA	NA	24,300	195.5	17,500	31.9	117.9	592.9	1,086.4	36.6	36.6

1. Data for 1899-1958, 1963, 1967, and 1972 are from the Census of Manufactures for those years. Data for other years are from the Annual Survey of Manufactures and are subject to considerable sampling variation. Because of changes in definitions over time, data are not entirely comparable from year to year; see sources for discussion.
 Source: U.S. Bureau of the Census, Census of Manufactures, 1963, MC63(3)-12, table 2; Census of Manufactures, 1967, MC67(3)-12, table 2; and Census of Manufactures, 1972, MC72(3)-12, table 2; Annual Survey of Manufactures, 1973, M73(AS)-6, p. 205.

TABLE 16.2 MANUFACTURING, BY INDUSTRIES, 1899 TO 1972

Industry and Year	Number of Es- tablish- ments	All Employees		Production Workers ¹		Value Added by Manu- facture (\$1,000)
		Number	Payroll (\$1,000)	Number	Wages (\$1,000)	
All industries, total ²						
1899	222	4,418	2,038	3,655	1,473	11,103
1909	500	7,572	2,795	5,904	2,109	21,586
1919	496	11,744	8,666	9,969	6,637	51,917
1939	474	19,518	15,319	17,002	11,458	58,354
1954	520	24,381	77,130	19,524	50,806	140,275
1958 ³	618	23,896	82,249	17,823	51,802	164,861
1963	672	25,144	109,007	18,722	67,471	261,147
1967	697	25,400	139,600	19,000	86,900	326,200
1972	773	25,000	191,700	17,700	113,800	410,300
Canned fruits and vegetables ⁴						
1909	10	853	222	816	175	664
1919	9	3,027	1,739	2,855	1,392	8,225
1939	18	8,532	5,463	7,949	4,578	24,143
1954	19	6,858	17,717	5,939	12,828	32,612
1958	23	8,330	20,605	7,730	17,178	41,573
1963	45	7,502	22,955	6,925	18,662	63,012
1967	18	6,800	26,800	6,100	20,800	67,200
1972	15	4,800	27,400	4,300	21,500	69,000
Canned pineapple and pineapple juice ⁵						
1909	10	853	222	816	175	664
1919	9	3,033	1,739	2,855	1,392	8,225
1939	9	8,475	5,428	7,900	4,553	24,079
Raw cane sugar ⁶						
1899	44	2,754	1,112	2,369	748	9,477
1909	46	2,696	1,047	2,517	781	17,228
1919	43	3,420	2,802	3,143	2,027	34,337
1939	35	4,800	3,710	4,371	2,894	18,769
1954	28	8,977	28,032	7,714	22,104	53,227
1958 ³	26	4,316	19,274	3,051	11,993	45,994
1963	24	4,316	20,339	3,075	13,225	69,405
1967	23	3,800	24,400	2,700	16,300	71,300
1972	18	3,400	29,500	2,300	19,400	67,100

TABLE 16.2 (cont.)

Industry and Year	Number of Establishments	All Employees		Production Workers ¹		Value Added by Manufacture (\$1,000)
		Number	Payroll (\$1,000)	Number	Wages (\$1,000)	
Apparel ⁷						
1909	4	3	1	3	1	4
1919	15	26	12	26	12	41
1939	16	335	206	303	149	298
1954	56	998	2,240	896	1,753	3,518
1958	NA	NA	NA	NA	NA	NA
1963	82	2,185	NA	1,953	NA	NA
1967	96	2,500	9,900	2,200	7,400	16,300
1972	120	3,300	15,400	2,900	11,700	29,600
Furniture and fixtures ⁸						
1909	6	61	19	54	15	31
1919	5	13	11	10	9	21
1939	12	87	78	71	66	145
1954	30	390	1,374	305	910	1,648
1958	NA	NA	NA	NA	NA	NA
1963	38	653	NA	NA ⁹	NA	NA
1967	37	10	NA	NA	NA	NA
1972	26	700	5,100	400	2,400	7,900
Printing and publishing						
1899	10	163	63	132	22	167
1909	37	421	230	319	147	332
1919	49	731	605	576	407	962
1939	56	1,274	1,726	783	880	3,183
1954	53	1,493	5,682	790	2,689	9,734
1958	61	1,639	7,300	864	3,570	12,510
1963	70	1,733	9,255	985	5,026	16,791
1967	81	2,000	13,000	1,200	7,400	27,000
1972	117	2,500	22,800	1,300	11,400	46,200

1. "Wage earners" for 1899-1939.

2. Incorporates revisions published in later census reports.

3. Data reflect the effects of a prolonged strike in the sugar industry.

4. "Canned and frozen foods" in 1963; "fruit canning and preserving" in 1909-1939; not available before 1909. Data for all years include canned pineapple and pineapple juice, shown separately only for 1909-1939.

5. "Canning and preserving pineapples" in 1909 and 1919; not separately available before 1909 or after 1939.

TABLE 16.2 (cont.)

6. "Cane sugar" in 1899-1939; "sugar" in 1954 and 1958. Data relate solely to sugar mills and do not include agricultural activities of the sugar industry.

7. "Clothing, men's (including shirts) and women's" in 1909-1939; "apparel and related products" in 1954 and 1963; "apparel and other textile products" in 1967 and 1972; not available for 1899 and 1958.

8. "Furniture" in 1909-1939; not available for 1899 and 1958.

9. The published total is apparently a misprint.

10. Between 500 and 999.

Source: U.S. Bureau of the Census, Thirteenth Census ... 1910, Abstract of the Census ... with Supplement for Hawaii, pp. 617-619; Fourteenth Census ... 1920, vol. IX, Manufactures, 1919, pp. 1678-1679; Sixteenth Census ... 1940, Manufactures, 1939, Outlying Areas, pp. 11-15; U.S. Census of Manufactures, 1954, bull. MC-151, pp. 3-4; U.S. Census of Manufactures, 1958, Area Report MC58(3)-51, pp. 4-5; U.S. Census of Manufactures, 1963, MC63(3)-12, pp. 4 and 6; U.S. Census of Manufactures, 1967, MC67(3)-12, pp. 2, 5, and 6; U.S. Census of Manufactures, 1972, MC72(3)-12, pp. 3, 5, and 6.

TABLE 16.3 GENERAL EXCISE TAX BASE FOR SUGAR PROCESSING, PINEAPPLE CANNING, AND MANUFACTURING, 1936 TO 1976
(Thousands of dollars)

Year Reported ¹	Sugar Processing	Pineapple Canning ²	Manu- facturing ³	Year Reported ¹	Sugar Processing	Pineapple Canning ²	Manu- facturing ³
1936	62,333	36,836	NA	1960	99,079	96,939	145,739
1937	54,186	49,254	NA	1961	118,398	93,777	168,514
1938	48,667	26,181	NA	1962	135,328	99,143	158,157
1939	46,126	37,331	18,060	1963	146,761	99,353	170,501
1940	46,141	35,972	14,115	1964	148,103	109,808	178,830
1941	52,687	53,156	26,812	1965	152,701	123,761	188,741
1942	51,757	42,520	29,077	1966	178,909	105,747	205,463
1943	64,881	44,421	28,542	1967	171,155	131,695	218,272
1944	62,418	47,876	25,063	1968	184,663	114,554	234,071
1945	62,107	41,460	28,745	1969	196,744	116,466	279,482
1946	62,875	49,034	27,651	1970	175,337	114,634	285,251
1947	83,540	61,083	38,303	1971	190,209	124,548	284,929
1948	76,494	68,744	74,470	1972	205,962	124,265	307,833
1949	77,465	64,824	70,948	1973	213,095	123,597	356,023
1950	109,484	94,742	73,479	1974	454,660	103,686	376,268
1951	109,644	75,244	86,627	1975	605,521	131,655	429,748
1952	107,964	92,729	88,925	1976	275,078	95,488	413,186
1953	119,823	87,166	104,598				
1954	111,520	90,412	93,839				
1955	120,516	105,936	103,767				
1956	103,948	97,913	104,715				
1957	121,119	97,465	101,956				
1958	67,358	107,300	103,867				
1959	113,865	98,957	129,123				

TABLE 16.3 (cont.)

1. Calendar year in which reported, including "prior years" reports. Income received in December is reported the following January; hence these annual totals generally refer to an "income year" ended November 30.
2. Includes canning of products other than pineapple through 1957.
3. Excludes sugar processing and pineapple canning. Includes printing and publishing, shown separately before 1955. Canning of products other than pineapple excluded through 1957 and included beginning in 1958.

Source: Report of the Tax Commissioner for 1940, 1941-1947, and 1954; Hawaii State Department of Taxation, "General Excise and Use Tax Base" (annual tabular release) for 1955 and later years.

TABLE 16.4 HAWAIIAN PINEAPPLE PRODUCTION, 1903 TO 1976

Calendar Year	Canned Fruit (1,000 actual cases)	Calendar Year	Canned Fruit (1,000 actual cases)	Pack Year Ended May 31	Canned Fruit (1,000 actual cases)	Canned Juice (1,000 actual cases)
1903	2	1918	3,847	1932-33	4,678	...
1904	10	1919	5,072	1933-34	8,733	700
1905	45	1920	5,987	1934-35	9,201	3,000
1906	74	1921	5,263	1935-36	11,428	4,087
1907	168	1922	4,770	1936-37	12,071	6,811
1908	344	1923	5,896	1937-38	12,599	7,162
1909	402	1924	6,826	1938-39	11,142	8,871
1910	465	1925	8,729	1939-40	12,924	8,556
1911	726	1926	8,940	1940-41	10,947	10,808
1912	1,313	1927	8,879	1941-42	12,086	8,563
1913	1,667	1928	8,663	1942-43	11,943	9,574
1914	2,269	1929	9,210	1943-44	11,127	8,298
1915	2,670	1930	12,672	1944-45	10,164	7,957
1916	2,609	1931	12,808	1945-46	9,051	8,671
1917	2,607	1932 ¹	407	1946-47	10,237	8,207

TABLE 16.4 (cont.)

Pack Year Ended May 31	Canned Fruit		Canned Juice		Frozen Concentrate		Value ² (millions of dollars)
	1,000 Actual Cases	1,000 Standard Cases ³	1,000 Actual Cases	1,000 Standard Cases ⁴	1,000 Equivalent 6/10 Cases	1,000 Standard Cases ⁴	
1947-48	11,400	...	8,890	...	...	...	...
1948-49	13,697	...	10,817	...	...	...	...
1949-50	14,073	...	11,111	...	...	...	...
1950-51	15,098	11,314	12,354	9,425	...	...	101.9
1951-52	14,690	10,953	10,197	7,951	...	...	95.1
1952-53	16,915	12,508	12,561	9,663	...	...	96.2
1953-54	16,581	12,228	12,830	9,830	...	...	112.7
1954-55	16,399	11,977	13,014	10,005	...	...	107.9
1955-56	18,613	13,726	12,224	9,604	...	...	114.6
1956-57	17,992	13,211	12,795	9,896	...	...	121.3
1957-58	16,798	12,220	10,472	8,049	...	...	114.7
1958-59	17,677	12,863	12,454	9,682	1,170	1,071	128.8
1959-60	17,287	12,584	10,850	8,435	841	770	127.0
1960-61	18,462	13,240	11,574	8,839	724	662	117.8
1961-62	18,122	13,130	11,759	9,142	450	412	116.2
1962-63	18,457	13,177	11,938	9,199	728	666	113.4

TABLE 16.4 (cont.)

Pack Year Ended May 31	Canned Fruit		Canned Juice		Frozen Concentrate		Value ² (millions of dollars)
	1,000 Actual Cases	1,000 Standard Cases ³	1,000 Actual Cases	1,000 Standard Cases ⁴	1,000 Equivalent 6/10 Cases	1,000 Standard Cases ⁴	
1963-64	17,645	12,731	11,150	8,700	1,185	1,084	122.0
1964-65	16,301	11,520	10,428	8,000	1,041	953	124.1
1965-66	17,833	12,595	11,881	9,200	1,019	932	123.2
1966-67	19,005	13,168	11,323	8,800	1,062	972	124.5
1967-68	17,002	11,994	10,794	8,400	643	588	130.5
1968-69	17,728	12,116	10,930	8,600	692	633	125.0
1969-70	16,971	11,596	11,814	9,000	731	669	123.0
1970-71	17,718	12,028	10,590	8,100	1,016	929	135.0
1971-72	17,961	12,537	11,004	8,400	789	722	137.7
1972-73	15,891	11,108	9,282	7,400	633	580	140.5
1973-74	14,042	9,550	8,470	6,600	886	810	135.0
1974-75	11,584	8,110	5,643	4,400	438	610	118.1
1975-76	12,142	8,380	6,178	4,800	471	430	126.6

1. First five months.

2. Value of canned fruit and juices and byproducts shipped out of the state and sold within the state, as estimated by the Bank of Hawaii.

3. 24 #2 1/2 45-1b. cases.

4. 24 #2 1/2 42.5-1b. cases.

Source: The Pineapple Growers Association of Hawaii, Pineapple Fact Book/Hawaii, 1973 (January 1973), p. 18, and records; Hawaii Crop and Livestock Reporting Service, Statistics of Hawaiian Agriculture (annual), and records.

TABLE 16.5 EMPLOYMENT AND EARNINGS IN THE PINEAPPLE INDUSTRY, 1939 TO 1975
(Includes both field and cannery employment and earnings.)

Year	Full-Time Equivalent Employment	Total Wages and Salaries (dollars)	Earnings per Full-Time Equivalent Employee (dollars)
1939	11,895	10,981,000	923
1940	12,053	11,514,000	955
1941	12,254	14,710,000	1,200
1942	12,065	16,897,000	1,400
1943	12,163	23,397,000	1,924
1944	11,365	22,673,000	1,995
1945	10,581	21,563,000	2,038
1946 ¹	11,305	26,266,000	2,323
1947	11,591	26,581,000	2,293
1948	11,861	30,394,000	2,563
1949	11,934	29,159,000	2,443
1950	10,788	30,794,000	2,854
1951	11,001	34,393,000	3,126
1952	11,186	34,807,000	3,112
1953	11,625	35,243,000	3,032
1954	10,434	33,017,000	3,164
1955	11,072	35,583,000	3,214
1956	11,140	36,951,000	3,317
1957	10,501	35,405,000	3,372
1958	10,600	36,812,000	3,473
1959	10,376	38,554,000	3,716
1960	10,396	40,739,000	3,919
1961 ²	10,113	40,937,000	4,048
1962 ²	8,903	40,281,042	4,511
1963 ²	9,420	40,859,000	4,337
1964 ²	9,005	40,806,000	4,531
1965 ²	9,190	42,731,000	4,650
1966 ²	8,765	43,949,000	5,014
1967 ²	8,646	46,144,230	5,337
1968	8,410	45,414,539	5,400
1969	8,038	49,413,435	6,147
1970	7,779	52,580,858	6,759
1971	7,403	51,194,731	6,915
1972	7,110	48,376,978	6,804
1973	5,759	42,613,741	7,400
1974	4,894	37,764,230	7,716
1975	4,915	42,137,633	8,573

1. Includes increase of 15 cents per hour for regular plantation employees as a result of converting perquisites (free housing, etc.) to cash as part of the hourly wage rate.

2. Does not include bonuses, separation payments, etc.

Source: The Pineapple Growers Association of Hawaii, Pineapple Fact Book/Hawaii 1973 (January 1973), pp. 4 and 7; Hawaii Employers Council; unpublished estimates for 1969-1975.

TABLE 16.6 SUGAR PRODUCTION, 1837 TO 1976

Year	Sugar Exported ¹ (short tons)	Year	Sugar Exported ¹ (short tons)	Year	Sugar Produced ¹ (1,000 short tons)	Average New York Raw Sugar Price per Pound ² (cents)
1836	4	1859	913	1881	46.9	...
1837	2	1860	722	1882	57.1	...
1838	44	1861	1,284	1883	57.1	...
1839	50	1862	1,503	1884	71.3	5.29
1840	180	1863	2,648	1885	85.7	5.19
1841	30	1864	5,207	1886	108.1	5.52
1842-43	573	1865	7,659	1887	106.4	5.38
1844	257	1866	8,865	1888	117.9	5.93
1845	151	1867	8,564	1889	121.1	6.57
1846	150	1868	9,156	1890	129.9	5.57
1847	297	1869	9,151	1891	146.2	3.92
1848	250	1870	9,392	1892	122.3	3.32
1849	327	1871	10,880	1893	152.6	3.69
1850	375	1872	8,498	1894	166.4	3.24
1851	11	1873	11,565	1895	149.6	3.23
1852	365	1874	12,283	1896	225.8	3.62
1853	317	1875	12,540	1897	251.1	3.56
1854	291	1876	13,036	1898	229.4	4.24
1855	145	1877	12,788	1899	282.8	4.42
1856	277	1878	19,216	1900	289.5	4.57
1857	350	1879	24,510	1901	360.0	4.05
1858	602	1880	31,792	1902	355.6	3.54

Year	Cane Used ₃ for Sugar ₃ (1,000 short tons)	Sugar Produced (1,000 short tons)		Average New York Raw Sugar Price per Pound ² (cents)	Value of Sales, Raw Sugar ₃ (\$1,000)
		Converted to 96° Raw Value ¹	Equivalent Refined ³		
1903	...	438.0	...	3.72	...
1904	...	367.5	...	3.97	29,207
1905	...	426.2	...	4.28	36,470
1906	...	429.2	...	3.69	31,642
1907	...	440.0	...	3.76	33,054
1908	...	521.1	...	4.07	42,451
1909	4,050	545.7	510.0	4.00	42,887
1910	4,122	529.9	495.3	4.19	43,398
1911	4,623	582.2	544.1	4.45	50,481
1912	4,711	607.9	568.1	4.16	49,573

TABLE 16.6 (cont.)

Year	Cane Used for Sugar ³ (1,000 short tons)	Sugar Produced (1,000 short tons)		Average New York Raw Sugar Price per Pound ² (cents)	Value of Sales ³ (\$1,000)		Government Payments (\$1,000)
		Converted to 96° Raw Value ¹	Equivalent Refined ³		Raw Sugar	Molasses ⁴	
1913	4,445	556.7	520.2	3.51	38,341	...	...
1914	5,000	624.2	583.3	3.81	47,068	...	...
1915	5,184	651.0	608.4	4.64	60,016	...	...
1916	4,859	596.7	557.7	5.79	68,678	...	...
1917	5,220	654.4	611.6	6.23	80,288	...	...
1918	4,856	582.2	544.1	6.45	69,567	...	...
1919	4,744	607.2	567.5	7.72	87,882	...	...
1920	4,473	560.4	523.7	12.33	146,101	...	...
1921	4,657	546.3	510.5	4.76	51,536	...	...
1922	5,088	618.5	578.0	4.63	56,352	...	...
1923	4,560	554.2	518.0	7.02	76,625	...	...
1924	5,661	715.9	669.1	5.96	83,639	...	...
1925	6,297	781.0	730.0	4.33	67,223	...	...
1926	6,496	804.6	752.0	4.34	68,254	...	...
1927	6,992	831.6	777.3	4.73	76,622	...	...
1928	7,707	920.9	860.7	4.23	76,156	...	...
1929	7,447	925.1	864.6	3.77	68,726	...	...
1930	7,853	939.3	877.9	3.39	62,401	...	...
1931	8,485	1,018.0	951.5	3.33	66,166	...	...
1932	8,865	1,057.3 ⁵	988.2 ⁶	2.92	60,004	...	...
1933	8,567			3.21	66,482	...	...
1934	7,992	959.3	896.6	2.99	57,426	...	4,682
1935	8,555	986.8	922.3	3.23	63,593	...	8,642
1936	9,170	1,042.3	974.1	3.60	75,005	...	--
1937	8,803	944.4	882.6	3.45	65,181	989	4,174
1938	8,835	941.3	879.7	2.93	55,348	959	8,594
1939	8,610	994.2	929.2	2.98	59,491	784	8,976
1940	8,557	976.7	912.8	2.78	54,499	952	8,852
1941	8,560	947.2	885.2	3.39	64,087	1,169	8,595
1942	7,918	870.1	813.2	3.74	65,049	1,831	8,147
1943	8,185	885.6	827.7	3.74	66,246	3,891	8,251
1944	7,832	874.9	817.7	3.74	65,499	3,762	8,211
1945	7,371	821.2	767.5	3.75	61,591	3,739	8,065
1946	6,002	680.1	635.6	4.59	62,322	4,539	6,574
1947	7,942	872.2	815.1	6.22	108,430	8,135	8,109
1948	7,543	835.1	780.5	5.56	92,931	8,514	7,629
1949	8,046	955.9	893.4	5.81	105,889	3,263	8,438
1950	8,175	961.0	898.1	5.93	111,616	5,822	8,471
1951	8,477	995.8	930.6	6.06	118,430	10,076	9,143

TABLE 16.6 (cont.)

Year	Cane Used for Sugar ³ (1,000 short tons)	Sugar Produced (1,000 short tons)		Average New York Raw Sugar Price per Pound ² (cents)	Value of Sales ³ (\$1,000)		Government Payments (\$1,000)
		Converted to 96° Raw Value ¹	Equivalent Refined ³		Raw Sugar	Molasses ⁴	
1952	8,694	1,020.4	953.7	6.26	127,689	6,827	9,398
1953	9,004	1,099.3	1,027.4	6.29	136,450	5,057	10,156
1954	9,432	1,077.3	1,006.9	6.09	129,616	4,731	9,932
1955	9,868	1,140.1	1,065.5	5.95	136,061	5,473	10,538
1956	9,910	1,099.5	1,027.6	6.09	134,210	8,262	10,179
1957	9,448	1,084.6	1,013.7	6.25	131,337	5,378	10,052
1958	7,553	765.0	714.9	6.27	93,371	4,593	7,430
1959	9,416	974.6	910.9	6.24	118,609	4,303	9,293
1960	8,613	935.7	874.5	6.31	113,618	4,768	8,779
1961	9,595	1,092.5	1,021.0	6.30	130,912	5,564	9,965
1962	9,813	1,120.0	1,046.8	6.45	142,102	7,224	10,177
1963	10,034	1,100.8	1,028.8	8.20	171,309	10,417	10,019
1964	10,495	1,178.8	1,101.7	6.90	149,415	5,217	10,563
1965	10,738	1,217.7	1,138.0	6.75	160,089	5,592	10,760
1966	10,970	1,234.1	1,153.4	6.99	170,957	8,558	10,831
1967	11,046	1,191.0	1,113.1	7.28	172,421	7,945	10,570
1968	11,280	1,232.2	1,151.6	7.52	182,455	6,621	10,861
1969	10,839	1,182.4	1,105.1	7.75	171,498	7,501	10,463
1970	10,457	1,162.1	1,086.0	8.08	180,680	7,061	10,261
1971	10,685	1,230.0	1,149.5	8.52	196,253	6,669	10,722
1972	9,929	1,118.9	1,045.7	9.10	176,550	8,052	9,667
1973	9,645	1,128.5	1,054.7	10.30	203,788	18,370	9,510
1974	9,083	1,040.7	972.7	29.43	659,227	17,390	8,646
1975	9,485	1,107.2	1,034.8	22.49	354,600	11,500	--
1976	...	1,050.5	...	13.32	240,500	11,500	--

1. Data prior to 1891 refer to sugar exported rather than sugar produced, and thus exclude sugar locally consumed or used in provisioning ships. Data for 1909 and later years are converted to 96° raw value; type of conversion for earlier years is unspecified, but 1909 total is 535,156 tons on old basis and 545,738 tons on 96° basis. Data refer to calendar years, except as follows: 1840, to January-August period; 1841, to August 1840-August 1841; 1842-1843, to biennial period; and 1904-1933 (and possibly earlier years), to years ended September 30.

2. Hawaiian basis, 1935 and thereafter; basis unspecified before 1935, but 1935-1939 average is 3.24 cents on both old basis and Hawaiian basis. (Hawaiian basis is the average New York raw sugar price computed over all the days of the year; the New York price is computed for days the New York market is operating.)

3. Years ended September 30, 1904 to 1933; calendar years 1934 forward.

4. Not available before 1937. Data for 1937-1949 exclude molasses sold locally.

TABLE 16.6 (cont.)

5. For year ended September 30, 1,063.6 thousand short tons; for October 1-December 31, 127.3 thousand.

6. For year ended September 30, 994.0 thousand short tons; for October 1-December 31, 119.0 thousand.

Source: Ralph S. Kuykendall, The Hawaiian Kingdom, vol. I (1938), p. 315, vol. II (1953), p. 141, and vol. III (1967), p. 83; Hawaiian Sugar Planters' Association, HSPA Sugar Manual 1976, pp. 8, 10, and 11, and records; Hawaii Crop and Livestock Reporting Service, records; The Hawaiian Annual for 1940, pp. 33 and 37; Statistical Abstract of the United States for 1907 (p. 567) and 1920 (p. 577).

TABLES IN SECTION 17

- 17.1 Mileage of streets and highways, paved and unpaved, 1923 to 1976
- 17.2 Motor vehicle registration, 1900 to 1976
- 17.3 New passenger car sales and cars scrapped or shipped, for Oahu, 1950 to 1976
- 17.4 Highway fuel consumption and vehicle miles of travel, 1932 to 1976
- 17.5 Registered bicycles by county, 1925 to 1976
- 17.6 Motor vehicle deaths and traffic deaths, injuries, and major accidents, 1906 to 1976
- 17.7 Bus and street railway service, for Honolulu, 1888 to 1976
- 17.8 Public steam railroad track mileage, 1890 to 1976
- 17.9 Revenue passengers on steam railways, 1890 to 1976
- 17.10 Registered vessels, 1843 to 1976
- 17.11 Ship arrivals at the port of Honolulu, 1824 to 1900
- 17.12 Ship arrivals at the port of Honolulu, 1901 to 1976
- 17.13 Revenue passengers on ships, 1860 to 1976
- 17.14 Overseas and interisland cargo tonnage, 1933 to 1975
- 17.15 Freight and passenger traffic for specified harbors, 1908 to 1975
- 17.16 Airports, pilots, civil aircraft, and aircraft operations, 1922 to 1976
- 17.17 Revenue passengers on airlines, 1929 to 1976
- 17.18 Air cargo and airmail, 1947 to 1976
- 17.19 Characteristics of intra-Hawaii certificated route airlines, 1929 to 1975
- 17.20 Air fares and scheduled flight times between Honolulu and San Francisco, by Pan American World Airways, 1936 to 1977
- 17.21 Air fares and scheduled flight times between Honolulu and other airports, by Hawaiian Airlines, 1929 to 1977

SECTION 17 Transportation

This section presents statistics on land, water, and air transportation. More specifically, it includes tables on highway mileage; motor vehicle sales, registration, usage, accidents, and disposal; bicycles; streetcars and buses and their use; steam railway track mileage and passengers; ship registration, arrivals, passengers, and cargo; airports; and air passengers, cargo, fares, and flight times.

Related statistics appear in section 2 (on major accidents), section 3 (migration), section 4 (employment in transportation), section 5 (transportation price indexes and family budgets), section 7 (family expenditures), section 11 (visitors), section 19 (liquid-fuel tax base), section 20 (retail and wholesale trade and selected services), section 21 (foreign and interstate trade), and section 25 (tax revenues).

Statistics on street and highway mileage were not compiled until 1910, when the city and county engineer reported that Honolulu district (the area between Red Hill and Makapuu Point) contained 69.2 miles of paved streets and roads; 32.3 miles of coral, cinder, or graded dirt roadway; and an unspecified length of unimproved thoroughfares. Six years later his measurements were extended to all Oahu, which he found to have 383.45 miles of improved streets and highways and 90.55 miles unimproved--labeled "altogether impassable" in his report. The earliest all-island mileage totals appeared in 1923, and subsequent measurements provided totals for 1938, 1958, and annually beginning in 1961. The all-island data (which remain largely unpublished) have been compiled by the Highways Division of the State Department of Transportation and its predecessor agencies.

Statistics on motor vehicle ownership or registration go back to the first decade of the century. The first automobile appeared on the streets of Honolulu October 9, 1899. Registration ordinances were enacted in Oahu, Maui, and Hawaii Counties in 1906, and Kauai County in 1910, thereby providing a basis for regular tabulations on the number of motor vehicles by island. These data appeared in a variety of publications, including Report of the Governor of Hawaii to the Secretary of the Interior and several unofficial compilations. After 1930 the territorial highway department routinely collected registration totals from the four county treasurers and published the results in traffic surveys and other reports. Statistics for earlier decades have been reviewed in "Automobile

Ownership in Hawaii Before 1931: Dates and Data," published in Hawaii Historical Review for January 1968.

Annual data on new passenger car sales have been compiled for Oahu since 1950. This work has been undertaken by Cardinal Services, Limited, with the cooperation of the City and County Department of Finance; annual totals have appeared in Hawaii Facts and Figures, issued by the Chamber of Commerce of Hawaii. Subtracting these totals from the net changes in passenger car registrations provides data on the net loss due to the scrapping or shipping out of cars.

Annual information on highway fuel consumption and vehicle miles of travel has been compiled since 1932, when liquid fuel taxes first became effective in the islands. By combining highway fuel tax base data (available from the Department of Taxation) with motor vehicle registration data and an estimated average of fourteen miles per gallon, the Highways Division has been able to calculate total vehicle miles, miles per vehicle, and gallons per vehicle.

Bicycles have been used in Hawaii since 1869. In 1890, the earliest year for which statistics are available, 82 bicycles and tricycles were imported into the island; five years later the annual number imported was 282 (for bicycles alone), and by 1899 it was 987. County registration of bicycles did not commence until many years later, however, and the earliest territorial total appears to be 1,345, for 1930. Such data should be regarded as minimum values for ownership; not all owners have registered their bicycles, and the records for Kauai were lost in a fire.

Statistics on traffic accidents, injuries, and deaths have been systematically compiled only since 1955, but annual totals for motor vehicle deaths have been recorded since 1914. The latter series includes both traffic and nontraffic deaths--nontraffic deaths being those occurring on military bases or private property. Accident data are limited to "major" accidents, defined as those causing injury, death, or damage of \$100 or more (\$300 or more effective July 1, 1974). Statistics on motor vehicle deaths have been published in the annual statistical reports of the National Center for Health Statistics, the State Department of Health, and their predecessor agencies. Data on traffic accidents, injuries, and deaths appear in Major Traffic Accidents, Summary and Analysis, issued by the State Department of Transportation. No record exists of the earliest automobile accident in the islands, but the earliest recorded motor vehicle fatality occurred (in Aiea) on June 4, 1906.

Statistics on streetcar and bus service likewise originated near the turn of the century. The Pioneer Omnibus Line operated a horse-pulled vehicle in Honolulu beginning in 1868 but gave up after a few years; no statistics of its service survived. On December 28, 1888, Hawaiian Tramways, Limited, initiated city-wide mule-car service, which it continued to provide until 1903; here, too, few statistics were kept. The first electric streetcars were those of the Pacific Heights Electric Railway, a short-lived service inaugurated in 1900. Then, on August 31, 1901, the Honolulu Rapid Transit and Land Company (HRT) commenced service with a fleet of electric streetcars. Unlike its predecessors, HRT maintained reasonably detailed statistics, which were published in annual reports of the company, reports of the governor to the secretary of the interior, the 1902 and 1907 U.S. Census of Street and Electric Railways, reports of the Public Utilities Commission, and statistical compilations by the Chamber of Commerce of Honolulu. Bus service was introduced in 1915; trolley buses, in 1938. With expansion of the motor bus fleet, HRT terminated streetcar service in 1941 and trolley coach service in 1958. Bus service by HRT was ended by a prolonged strike that began January 1, 1971. Two months later, Mass Transit Lines (MTL) commenced service. Routes initially extended only from Kalihi to Hawaii Kai, but by 1974 service was islandwide. (Previously, service outside Honolulu proper--the area covered by the HRT franchise--had been provided by the Leeward Bus Company and other suburban carriers.) Statistics for MTL are maintained by the Honolulu Department of Transportation Services, Bus Systems Division.

Steam railroads have operated on all major islands, providing passenger and freight service for almost a century. The first common carrier (preceded by a number of marine and plantation railways) was the Kahului and Wailuku Railroad, established on Maui in 1879. The Oahu Railway and Land Company ran its first trains in 1889, and on the Big Island the Hilo Railroad Company (later reorganized as the Hawaii Consolidated Railway, Limited) began operation in 1900. Smaller lines served Windward Oahu, North Kohala, and parts of Kauai. Statistics for island railroads were published in company annual reports, Report of the Governor of Hawaii to the Secretary of the Interior, reports of the Public Utilities Commission, and publications of the U.S. Interstate Commerce Commission. Passenger service ended on Maui in 1936, the Big Island in 1946, and Oahu in 1947, although limited freight service on Maui continued for a few more years. The Lahaina, Kaanapali, and Pacific Railroad has carried passengers over a six-mile line in west Maui since 1970, but as a recreational

railway rather than as a common carrier.

Statistics on ocean transportation had their inception in 1824, when S. Reynolds began a register of merchant ships, whalers, and foreign naval or survey ships calling at Honolulu. Reynolds' compilation, eventually published in The Friend, was continued after 1843 in the official tabulations published by the collector general of customs. Both sets of data apparently excluded interisland vessels. After annexation, statistics on oversea vessel arrivals were carried in the Report of the Governor and later in the Annual Report of the Board of Harbor Commissioners. Totals for interisland vessels were added in 1928. Statistics also appear in Waterborne Commerce of the United States, issued annually by the U.S. Army Corps of Engineers.

Data on the number of vessels registered in Hawaii have been available since 1843. Ships under Hawaiian registry were registered with the Minister of the Interior from 1846 to 1851 and with the collector general of customs from 1851 to 1900. Statistics on these vessels appeared in the annual reports of the responsible agencies and also in Thrum's Annual. Data for the years since 1900 refer to two classes of registered craft: documented and numbered vessels. All vessels over five net tons, used for commercial purposes, must be documented by the U.S. Coast Guard. Nondocumented boats, except for the smallest, had to be numbered by the Coast Guard until 1966 and since then by the State Department of Transportation. Statistics on documented vessels go back to 1902; on numbered boats, to 1944. Data on numbered craft until 1970 included an unknown number of vessels with duplicated registration or no longer in operation. Statistics on island craft registered with the Coast Guard have been published in various periodicals issued by that agency. The State Department of Transportation, Harbors Division, puts out an annual release, Report of Undocumented Vessel Registration.

Statistics on passenger arrivals and departures have been compiled since 1860. This was seven years before the beginning of regular transpacific steamship service and seven years after the start of regular steamer service among the islands. Data on transpacific passenger movement were published in Custom House Statistics for 1860-1884, Report of the Collector General of Customs for 1885-1900, Annual Report of the Governor and Thrum's Annual during the first third of the twentieth century, Annual Report of the Board of Harbor Commissioners for 1933-1961, and reports of the Harbors Division thereafter. Statistics on interisland passengers were collected for 1861 and 1862 by the collector of customs and then discontinued. Data for 1908-1949 were published in annual

reports of the Inter-Island Steam Navigation Company, the Territorial Planning Board First Progress Report (1939), and a 1957 study by John Child and Company for the Economic Planning and Coordination Authority. Interisland surface passenger service was suspended from 1949 until 1975, when modern hydrofoil service was inaugurated. Passenger totals (interisland and transpacific combined) have been published since 1914 by the U.S. Army Corps of Engineers.

Data on ocean cargo first became available in 1843, with regular compilation of statistics on imports and exports. Since 1908 the Army Engineers have collected data on both interisland and transpacific cargo movement. Published originally in Report of the Chief of Engineers, U.S. Army and more recently in Waterborne Commerce of the United States, these tabulations provide annual cargo tonnages by commodity, direction of movement, and harbor. In July 1932, the Board of Harbor Commissioners (now the Department of Transportation, Harbors Division) began compilation of statistics on overseas and interisland cargo at territorial piers, eventually extending coverage to private and federal piers as well. These data were published in the board's annual report through 1962 and in its Shipping Information from 1963 to 1968. Differences among these sources have sometimes been quite large, in part because of differential coverage, different time references (that is, fiscal and calendar years), and lack of comparability in definitions. Military security restrictions (particularly during wartime) and the increase in containerized cargo in recent years have also affected coverage.

Statistics on island airports have been developed only in recent decades. The earliest recorded use of an airplane in Hawaii was on December 31, 1910, when a biplane took off at Moanalua, Oahu. The first air fields were operated by the armed forces: Luke Field, established on Ford Island on April 29, 1919, and Wheeler Field, dedicated in July 1922. John Rodgers Airport (now Honolulu International Airport), opened in March 1927, was the first airfield operated by the territory. Limited statistics on territorial airports were compiled by the Territorial Aeronautical Commission, created in 1927; the Department of Public Works, which assumed the functions of the Commission in 1932; the Hawaii Aeronautics Commission, established in 1947; and the Airports Division of the Department of Transportation, beginning in 1961. Data on aircraft operations (takeoffs and landings) were not compiled until the late 1940s. Additional information on island airports--type, control, runway length, and facilities--as well as on the number of active pilots and active civilian aircraft began to appear in FAA Statistical Handbook of Aviation, an annual publi-

cation of the Federal Aviation Administration, during the 1950s. In all of these reports, however, comparability tended to vary over time.

Passenger statistics on air travel have been compiled since November 1929, when regular interisland passenger service was initiated. Transpacific passenger service commenced in October 1936, and statistical coverage followed in 1938. Data have appeared regularly in the annual reports and other releases of the Hawaii Aeronautics Commission and its successor agency, the Airports Division of the Department of Transportation. The same publications have, since 1948, carried statistics on the tonnage of interisland and overseas air cargo and airmail. Detailed information on the characteristics of the two scheduled interisland airlines is included in Handbook of Airline Statistics, issued biennially by the Civil Aeronautics Board. These reports carry historical series--in some cases going back to 1932 and earlier--on aircraft revenue miles, average speeds, seats per aircraft, load factors, revenue ton-miles, employees, and financial characteristics. The Department of Planning and Economic Development has published a complete chronology of interisland and Honolulu-San Francisco air fares and flight times.

Transportation data for the nation as a whole can be found in Historical Statistics of the United States, Colonial Times to 1970, chapter Q, and the annual editions of Statistical Abstract of the United States.

TABLE 17.1 MILEAGE OF STREETS AND HIGHWAYS, PAVED AND UNPAVED, 1923 TO 1976

Year ¹	Total	Paved	Unpaved
1923 ²	1,479.0	565.0	914.0
1938 ³	2,040.4	1,367.2	673.2
1958	2,967.45	2,392.61	574.84
1961	3,119.75	2,910.75	209.00
1962	3,159.89	2,943.89	216.00
1963	3,183.50	2,997.90	187.60
1964	3,247.10	3,064.40	182.70
1965	3,308.56	3,129.56	179.00
1966	3,372.96	3,193.96	179.00
1967	3,401.52	3,222.62	178.90
1968	3,442.43	3,258.53	183.90
1969 ⁴	3,511.60	3,325.60	186.00
1970 ⁴	3,529.10	3,047.10	482.00
1971	3,598.95	3,098.51	500.44
1972	3,611.48	3,117.38	494.10
1973	3,665.84	3,171.58	494.26
1974	3,659.44	3,269.83	389.61
1975	3,743.44	3,354.59	388.85
1976	3,797.24	3,436.53	360.71

1. As of December 31 unless otherwise specified.

2. As of September 1.

3. "Public and semi-public."

4. Includes 284.00 miles reclassified from "paved" to "unpaved."

Source: Hawaii. An Integral Part of the United States ... (anon. booklet, c. 1923), p. 18; Hawaii Territorial Highway Department and U.S. Bureau of Public Roads, A Road Inventory of the Territory of Hawaii (1939), pp. 2-3; Hawaii State Highway Department, "Mileages of Existing Roads, Streets and Highways (As of December 31, 1958)" (unpublished table); Hawaii State Department of Transportation, Highways Division, records.

TABLE 17.2 MOTOR VEHICLE REGISTRATION, 1900 TO 1976

Year ¹	All Reg. Motor Vehicles ²		By Island		By Type of Vehicle	
	Number	Rate ³	Oahu	Other Islands	Passenger Cars	Other Motor Vehicles ⁴
1900	...	...	4	...	...	...
1901	...	...	...	...	...	...
1902	...	...	...	...	...	...
1903	...	...	...	...	...	...
1904	...	...	...	...	...	...
1905	80	2,080	25	...	...	...
1906	125	1,331	90	...	...	...
1907	...	...	180	...	...	...
1908	...	...	294	...	...	...
1909	...	...	329	...	...	...
1910	861	222	555	306	...	...
1911	...	...	900	...	...	...
1912	...	...	1,015	...	...	...
1913	2,235	95	1,264	971	...	...
1914	3,035	72	1,782	1,253	...	...
1915	3,781	59	2,309	1,472	...	...
1916	...	...	2,993	...	...	...
1917	...	...	3,791	...	...	...
1918	...	...	4,582	...	...	...
1919	...	...	5,527	...	...	...
1920	...	...	6,384	...	...	...
1921	...	...	7,191	...	...	...
1922	15,336	17.7	9,115	6,221	...	...
1923	19,659	14.4	11,931	7,728	...	...
1924	23,467	12.6	14,466	9,001	...	...
1925	28,001	11.1	17,439	10,562	...	...
1926	31,476	10.0	19,665	11,811	...	...
1927	35,069	9.3	22,204	12,865	...	...
1928	39,350	8.5	25,048	14,302	...	...
1929	43,214	8.0	27,648	15,566	...	...
1930	45,118	7.8	28,697	16,421	...	...
1931	48,392	7.5	30,863	17,529	38,857	9,535
1932	48,717	7.6	31,259	17,458	39,495	9,222
1933	47,889	7.7	30,522	17,367	38,894	8,995
1934	48,498	7.6	30,685	17,813	39,319	9,179
1935	50,422	7.4	32,107	18,315	40,772	9,650
1936	52,953	7.1	34,055	18,898	42,647	10,306
1937	57,095	6.7	37,496	19,599	46,078	11,017
1938	61,973	6.3	40,961	21,012	49,774	12,199
1939	65,629	6.0	43,729	21,900	53,309	12,320
1940	71,596	5.6	48,539	23,057	58,541	13,055

TABLE 17.2 (cont.)

Year ¹	All Reg. ² Motor Vehicles ²		By Island		By Type of Vehicle	
	Number	Rate ³	Oahu	Other Islands	Passenger Cars	Other Motor Vehicles ⁴
1941	80,675	5.1	57,148	23,527	66,329	14,346
1942	74,991	5.9	53,627	21,364	61,324	13,667
1943	69,551	6.5	48,661	20,890	56,532	13,019
1944	69,178	6.5	48,346	20,832	55,642	13,536
1945	70,618	6.5	49,673	20,945	55,672	14,946
1946	81,700	5.9	58,755	22,945	62,463	19,237
1947	98,360	5.0	72,174	26,186	75,231	23,129
1948	113,322	4.3	82,575	30,747	87,885	25,437
1949	122,960	3.9	88,293	34,667	97,744	25,216
1950	137,917	3.5	98,134	39,783	110,622	27,295
1951	153,076	3.1	110,339	42,737	125,230	27,846
1952	162,251	2.8	117,680	44,571	134,171	28,080
1953	166,473	2.8	122,422	44,051	139,923	26,550
1954	170,447	2.7	125,097	45,350	143,155	27,292
1955	180,755	2.7	133,535	47,220	153,451	27,304
1956	187,955	2.7	139,656	48,299	159,926	28,029
1957	197,675	2.7	147,750	49,925	168,783	28,892
1958	202,434	2.7	152,990	49,444	173,744	28,690
1959	213,808	2.6	163,491	50,317	184,076	29,732
1960	230,791	2.5	178,388	52,403	199,829	30,962
1961	244,898	2.4	190,653	54,245	212,650	32,248
1962	257,215	2.4	200,783	56,432	225,086	32,129
1963	270,176	2.3	211,576	58,600	237,422	32,754
1964	288,452	2.2	226,967	61,485	254,249	34,203
1965	309,331	2.1	244,116	65,215	273,559	35,772
1966	323,843	2.0	254,810	69,033	286,836	37,007
1967	335,326	2.0	262,689	72,637	297,766	37,560
1968	353,888	1.9	277,805	76,083	315,024	38,864
1969	373,541	1.9	294,089	79,452	332,213	41,328
1970	404,463	1.8	318,553	85,910	358,255	46,208
1971	425,210	1.8	332,212	92,998	375,205	50,005
1972	446,355	1.7	347,193	99,162	392,179	54,176
1973 ⁵	476,759	1.6	369,120	107,639	416,663	60,096
1974 ⁵	487,647	1.6	375,440	112,207	423,642	64,005
1975 ⁵	501,783	1.6	383,115	118,668	434,088	67,695
1976 ⁵	536,514	1.5	408,445	128,069	462,685	73,829

1. June 30 for 1910, 1913, 1914, and 1915; date not specified for other years.

2. Taxable and nontaxable, excluding Federal vehicles, motorcycles, motor scooters, trailers, and semitrailers.

3. Civilian population per registered vehicle. Based on population estimates in Robert C. Schmitt, Demographic Statistics of Hawaii: 1778-1965 (University of Hawaii Press, 1968), p. 223, and present volume, table 1.4.

TABLE 17.2 (cont.)

4. Buses, trucks, tractor-trucks, ambulances, and hearses.
5. Adjusted to include unregistered vehicles owned by members of the armed forces.

Source: Robert C. Schmitt, "Automobile Ownership in Hawaii Before 1931: Dates and Data," Hawaii Historical Review, January 1968, pp. 426-432; Hawaii State Highway Department, Annual Traffic Summary, Island of Oahu, 1959 (August 1960), tables II and III; Hawaii State Department of Transportation, Land Transportation Facilities (Highways) Division, annual releases and records.

TABLE 17.3 NEW PASSENGER CAR SALES AND CARS SCRAPPED OR SHIPPED, FOR OAHU, 1950 TO 1976

Year	Net Change in Pass. Car Registrations	New Passenger Car Sales			Pass. Cars Scrapped or Shipped Out
		Total	American	Foreign	
1950	8,721	11,971	11,752	219	3,250
1951	12,062	14,383	NA	NA	2,321
1952	7,207	11,062	NA	NA	3,855
1953	5,154	11,652	NA	NA	6,498
1954	2,097	8,901	NA	NA	6,804
1955	8,285	12,807	12,421	386	4,522
1956	5,710	9,421	8,803	618	3,711
1957	7,515	10,438	8,698	1,740	2,923
1958	4,846	9,836	6,119	3,717	4,990
1959	9,644	12,923	8,805	4,118	3,279
1960	13,967	15,857	12,527	3,330	1,890
1961	11,225	14,741	12,816	1,925	3,516
1962	10,339	15,759	13,921	1,838	5,420
1963	10,251	16,971	14,975	1,996	6,720
1964	14,453	20,880	17,926	2,954	6,427
1965	15,939	22,603	18,884	3,719	6,664
1966	9,830	23,525	18,722	4,803	13,695
1967	7,870	24,331	17,399	6,932	16,461
1968	14,130	29,044	19,539	9,505	14,914
1969	14,273	33,361	22,002	11,359	19,088
1970	20,749	33,542	20,293	13,249	12,793
1971	11,748	32,109	16,308	15,801	20,361
1972	12,256	32,450	17,842	14,608	20,194
1973	18,235	35,548	20,738	14,810	17,313
1974	4,143	26,592	13,708	12,884	22,449
1975	5,693	28,199	14,519	13,680	22,506
1976	21,800	31,175	17,870	13,305	9,375

Source: Net change from Hawaii State Highway Department, Annual Traffic Summary, Island of Oahu, 1959 (August 1960), table 11, and Hawaii State Department of Transportation, Highways Division, records; new sales from City and County of Honolulu, Department of Finance, Division of Licenses, records, and data supplied by Cardinal Services, Ltd., and published in the Chamber of Commerce of Hawaii, Hawaii Facts & Figures (annual or biennial, 1959-1977); cars scrapped or shipped computed as residual.

TABLE 17.4 HIGHWAY FUEL CONSUMPTION AND VEHICLE MILES OF TRAVEL, 1932 TO 1976

Year	Highway Fuel Consumption ¹		Vehicle Miles of Travel ²		Year	Highway Fuel Consumption ¹		Vehicle Miles of Travel ²	
	Total (1,000 gallons)	Gallons per Vehicle	Total (millions)	Per Vehicle		Total (1,000 gallons)	Gallons per Vehicle	Total (millions)	Per Vehicle
1932 ³	23,785	488	333.0	6,835	1955	112,223	621	1,571.1	8,692
1933	30,797	643	431.2	9,004	1956	116,928	622	1,637.0	8,710
1934	31,931	658	447.0	9,217	1957	121,001	612	1,694.0	8,570
1935	32,962	654	461.5	9,153	1958	121,940	602	1,707.2	8,433
1936	37,706	712	527.9	9,969	1959	131,528	615	1,841.4	8,612
1937	41,534	727	581.5	10,185	1960	142,117	616	1,989.6	8,624
1938	43,995	710	615.9	9,938	1961	147,404	602	2,063.7	8,428
1939	45,935	700	643.1	9,799	1962	153,061	595	2,142.9	8,330
1940	51,112	714	715.6	9,995	1963	156,588	580	2,192.3	8,120
1941	58,124	720	813.7	10,086	1964	165,479	574	2,316.7	8,036
1942	34,642	462	485.0	6,467	1965	174,982	566	2,449.8	7,924
1943	30,959	445	433.4	6,231	1966	183,255	566	2,565.6	7,922
1944	37,801	546	529.2	7,650	1967	194,368	580	2,721.1	8,114
1945	45,025	638	630.4	8,927	1968	209,597	592	2,934.4	8,292
1946	60,966	746	853.5	10,447	1969	225,917	605	3,162.8	8,467
1947	73,299	745	1,026.2	10,433	1970	243,482	602	3,408.9	8,428
1948	81,306	717	1,138.3	10,045	1971	261,476	615	3,660.7	8,609
1949	86,720	705	1,214.1	9,874	1972	268,407	601	3,757.7	8,414
1950	88,596	642	1,240.3	8,993	1973	289,847	608	4,057.9	8,511
1951	97,488	637	1,364.8	8,916	1974	279,996	574	3,919.9	8,038
1952	103,152	636	1,444.1	8,900	1975	296,160	590	4,146.2	8,263
1953	106,144	638	1,486.0	8,926	1976	308,151	574	4,314.1	8,041
1954	106,432	624	1,490.0	8,742					

1. Includes gasoline, diesel oil, and butane gas.

2. Based on average of 14 miles per gallon.

3. Last nine months of year.

Source: Hawaii State Highway Department, Annual Traffic Summary, Island of Oahu, 1959 (August 1960), tables VI and VII; Hawaii State Department of Transportation, Highways Division, annual releases and records.

TABLE 17.5 REGISTERED BICYCLES BY COUNTY, 1925 TO 1976

Year	State, Total ¹	City and County of Honolulu	County of Hawaii	County of Kauai ²	County of Maui
1925	...	...	...	...	277
1930	1,345	780	390	...	175
1935	2,625	1,987	361	...	277
1940	5,913	4,668	467	...	778
1945	8,560	6,732	734	...	1,094
1950	11,919	8,154	1,387	...	2,378
1955	15,174	11,150	1,913	...	2,111
1960	25,880	20,821	2,227	...	2,832
1965	28,085	22,283	2,857	...	2,945
1970	34,530	28,749	2,489	...	3,292
1971	52,485	44,159	2,735	2,141	3,450
1972	79,188	68,620	3,766	2,729	4,073
1973	91,052	79,177	3,947	3,049	4,879
1974	107,826	91,504	6,118	4,034	6,170
1975	99,910	85,976	4,927	3,693	5,314
1976	89,018	78,220	3,781	2,890	4,127

1. Excludes Kauai before 1971.

2. Records for years before 1971 lost in fire.

Source: Compiled by Hawaii State Department of Planning and Economic Development from County Departments of Finance.

TABLE 17.6 MOTOR VEHICLE DEATHS, 1906 TO 1975, AND TRAFFIC DEATHS, INJURIES, AND MAJOR ACCIDENTS, 1945 TO 1976

Calendar Year	Motor Vehicle Deaths ¹	Calendar Year	Motor Vehicle Deaths ¹	Traffic Deaths	Traffic Injuries	Major Traffic Accidents ²
1906 ³	1	1945	161	107	1,944	5,526
1907	--	1946	105	...	...	...
1908	2	1947	69	...	...	...
1909	3	1948	86	...	...	...
1910	3	1949	64	...	...	...
1911	1	1950	74	61	2,112	6,599
1912	6	1951	77	...	...	...
1913 ⁴	NA	1952	65	...	...	...
1914 ⁴	16	1953	73	...	...	...
1915 ⁴	18	1954	57	...	...	...
1916 ⁴	12					
1917	21	1955	64	53	2,220	6,912
1918	19	1956	73	63	2,411	6,917
1919	25	1957	96	91	2,553	6,449
1920	40	1958	73	65	3,559	5,721
1921	45	1959	89	78	4,176	6,202
1922	46	1960	111	96	4,754	7,254
1923	47	1961	93	81	5,273	7,785
1924	65	1962	81	85	5,525	8,104
1925	54	1963	99	86	5,726	7,862
1926	60	1964	105	97	7,023	8,720
1927	51					
1928	84	1965	110	99	7,493	9,495
1929	73	1966	130	116	8,051	10,225
1930	85	1967	150	138	8,707	11,529
1931	92	1968	166	147	10,082	13,989
1932	86	1969	148	133	10,603	16,174
1933	78	1970	163	153	11,743	18,172
1934	87	1971	170	154	10,934	18,048
1935	72	1972	164	146	11,141	18,259
1936	80	1973	146	136	11,860	19,544
1937	76	1974	123	129	10,022	14,855
1938	80					
1939	59	1975	138	146	10,554	13,895
1940	63	1976	...	149	11,667	14,860
1941	92					
1942	112					
1943	109					
1944	157					

TABLE 17.6 (cont.)

1. Traffic and nontraffic deaths combined, on a place of occurrence basis (except 1974 and 1975, which are on a place of residence basis). Nontraffic motor vehicle deaths include those occurring on military bases or private property. For many of these years, data published in federal reports differ somewhat from the corresponding figures in territorial or state reports.

2. Major traffic accidents are defined as those causing injury, death, or damage of \$100 or more (until June 30, 1974) or \$300 or more (effective July 1, 1974).

3. The first motor vehicle death in Hawaii took place in Aiea on June 4, 1906.

4. Year ended June 30.

Source: Motor vehicle deaths from Honolulu newspapers, 1906 and 1907; Hawaii State Department of Health, "Mortality Trends in Hawaii, 1908-1962," R&S Report, No. 2, April 1973, underlying data for 1908-1912; Territorial Board of Health, Report of the Registrar General ... 1914; U.S. Bureau of the Census, Mortality Statistics (annual, 1915-1936); U.S. Bureau of the Census, Federal Security Agency, and U.S. Department of Health, Education, and Welfare (for varying periods), Vital Statistics of the United States (annual, 1937-1973); Hawaii State Department of Health, Statistical Report, 1974, and unpublished data for 1975. Traffic deaths, injuries, and accidents from Hawaii State Department of Transportation, Highways Division, Major Traffic Accidents (annual), and records.

TABLE 17.7 BUS AND STREET RAILWAY SERVICE, FOR HONOLULU, 1888 TO 1976

Year ¹	Passenger Vehicles, End of Year		Revenue Passengers
	Streetcars ²	Buses	
Hawaiian Tramways ³			
1888	4	--	...
1900	31	--	...
1902	32	--	...
Pacific Hts. Elec. Rwy. ⁴			
1902	2	--	...
Honolulu Rapid Transit ⁵			
1901	6	--	...
1902 ⁶	15	--	3,255,233
1903	24	--	5,789,157
1904	24	--	6,563,817
1905	23	--	6,494,936
1906	47	--	6,937,356
1907	47	--	7,358,278
1908	45	--	7,696,376
1909	47	--	8,269,652
1910	54	--	8,979,874
1911	54	--	9,899,044
1912	54	--	11,307,460
1913	54	--	12,263,402
1914	NA	--	12,117,484
1915	29	4	11,822,269
1916	30	NA	13,213,700
1917	NA	NA	14,378,092
1918	NA	NA	14,304,489
1919	NA	NA	15,225,168
1920	30	NA	16,926,617
1921	NA	NA	19,073,213
1922	60	--	19,767,680
1923	63	4	20,259,517
1924	69	4	19,686,845
1925	70	6	17,436,122
1926	70	6	16,655,296
1927	78	9	16,638,689
1928	78	9	15,826,483
1929	78	12	14,761,896
1930	78	12	14,505,045
1931	78	12	13,991,328
1932	78	14	12,248,368
1933	64	34	10,612,536
1934	60	39	11,886,997
1935	60	45	12,712,052
1936	60	51	13,736,540
1937	60	61	16,284,447

TABLE 17.7 (cont.)

Year ¹	Passenger Vehicles, End of Year			Revenue Passengers
	Streetcars ²	Trolley Coaches	Buses	
Honolulu Rapid Transit (cont.)				
1938	60	30	71	18,460,134
1939	60	30	81	19,224,906
1940	60	30	100	23,390,745
1941	--	90	125	28,814,029
1942	--	90	201	53,325,862
1943	--	90	226	76,805,829
1944	--	90	226	93,016,633
1945	--	115	200	85,245,013
1946	--	115	215	66,787,807
1947	--	115	220	62,020,941
1948	--	115	192	47,527,098
1949	--	115	191	46,246,156
1950	--	115	179	41,787,045
1951	--	115	148	38,070,175
1952	--	100	131	37,320,271
1953	--	100	123	31,031,947
1954	--	85	123	29,231,404
1955	--	85	123	29,658,374
1956	--	85	123	29,900,409
1957	--	--	198	29,786,647
1958	--	--	198	29,350,543
1959	--	--	198	29,336,610
1960	--	--	198	29,083,700
1961	--	--	193	26,116,687
1962	--	--	186	24,530,398
1963	--	--	198	22,922,296
1964	--	--	202	22,945,470
1965	--	--	176	23,190,704
1966	--	--	146	23,694,206
1967 ¹⁰	--	--	146	18,301,341
1968	--	--	143	23,514,205
1969	--	--	141	24,079,233
1970	--	--	141	23,693,547

TABLE 17.7 (cont.)

Year ¹	Buses, End of Year	Total Passengers ⁷	Revenue Passengers ⁸
Mass Transit Lines ⁹			
1971 ¹¹	108	19,413,259	14,701,440
1972	143	31,031,764	22,147,002
1973	315	36,741,009	26,161,149
1974	333	50,519,626	35,909,256
1975	350	58,295,732	41,213,997
1976	350	64,585,334	45,795,574

1. Calendar years unless otherwise specified.

2. Hawaiian Tramways used mule- and horse-drawn cars; Pacific Heights Electric Railway and Honolulu Rapid Transit used electric power.

3. In operation from December 28, 1888 (or January 1, 1889--sources differ) to December 23, 1903. Service was limited to Honolulu.

4. In operation from November 30, 1900 until sometime in 1904.

5. In operation from August 31, 1901 to December 31, 1970. Service was limited primarily to Honolulu and Halawa.

6. Number of cars as of December 31; passenger total for 12-month period ended August 31, 1902.

7. Includes senior citizens, free transfers, and school subsidy passengers.

8. Adult fares, students, revenue transfers, and chartered service.

9. Began service March 1, 1971, with routes extending from Kalihi to Hawaii Kai. Service was extended to Pearl Harbor, Windward, and North Shore areas in 1972, Waianae in 1973, and islandwide after March 15, 1974.

10. Service suspended during 48-day strike, March-May 1967.

11. Service by HRT was terminated by a prolonged strike that began January 1, 1971. MTL commenced service March 1, 1971.

Source: Roy S. Melvin and Robert Ramsay, "Hawaiian Tramways," Pacific Railway Journal, vol. 2, No. 9, January 1960; Report of the Governor of Hawaii to the Secretary of the Interior for 1900, 1902, 1904, and 1906; Hawaiian Almanac and Annual for 1902; Annual Report of the Honolulu Rapid Transit and Land Co. for 1903, 1904, 1905, 1908, 1915, 1916, and 1920; Pacific Commercial Advertiser, December 23, 1903; U.S. Bureau of the Census, Street and Electric Railways 1907; Honolulu Rapid Transit and Land Co., Condensed Statement for 1909, 1910, 1912, and 1913 (typescripts in Executive File, Hawaii State Archives); Chamber of Commerce of Honolulu, Business Statistics, 1922-1936, General Information About Honolulu, Hawaii, U.S.A. for 1935-1939, 1936-1940, and 1938-1942, and Hawaii Facts and Figures for 1942-1945, 1945-1946, 1946-1947, 1948, 1949, 1951, and 1953; Annual Report of the Honolulu Rapid Transit Co., Ltd. ... 1923; Public Utilities Commission, Annual Report for 1925-1932, and records; Honolulu Rapid Transit Co., Ltd., records; Honolulu Department of Transportation Services, Bus Systems Division, records.

TABLE 17.8 PUBLIC STEAM RAILROAD TRACK MILEAGE, 1890 TO 1976
(Excludes plantation railroads.)

Year	All Railroads	Oahu Railway and Land Co.	Year	All Railroads	Oahu Railway and Land Co.
1890	NA	19.9	1940	322.64	157.40
1900	102.7	71.7	1945	125.85	83.35
1907	170.79	88.94	1950	59.06	20.00
1910	209.28	98.47	1955	45.31	20.00
1915	307.43	113.82	1960	45.31	20.00
1920	339.33	147.92	1965	35.08	9.77
1925	345.83	162.98	1970	6.00	--
1930	368.51	171.83	1975	6.00	--
1937	330.83	167.32	1976	6.00	--

Source: Second Annual Report of the Oahu Railway & Land Co. ... 1890, p. 46; Report of the Governor of Hawaii to the Secretary of the Interior for 1900 (p. 11), 1907 (pp. 22-23), 1915 (p. 31), 1925 (p. 35), 1930 (p. 48), and 1940 (p. 72); Territorial Planning Board, First Progress Report: An Historic Inventory of the Physical, Social and Economic and Industrial Resources of the Territory of Hawaii (1939), p. 284; Public Utilities Commission, records.

TABLE 17.9 REVENUE PASSENGERS ON STEAM RAILWAYS, 1890 TO 1976

Year	All Public Steam Railways ¹	Oahu Railway & Land Co. ²	Koolau Railway ³	Kahului Railroad ⁴	Hawaii Railway ⁶	Hawaii Consolidated Railway, Ltd. ⁷
1890	...	36,352	...	...	...	...
1891	...	103,644	...	...	...	...
1892	...	92,794	...	...	...	...
1893	...	82,623	...	...	...	...
1894	...	79,642	...	...	...	...
1895	...	70,354	...	...	...	...
1896	...	85,596	...	...	...	...
1897	...	116,897	...	...	...	...
1898	...	153,460	...	...	...	...
1899	...	236,482	...	...	...	...
1900	...	278,872	...	...	...	22,768
1901	...	438,823	...	...	...	47,988
1902	570,026	436,554	...	27,083	...	106,389
1903	...	442,889	...	...	1,200	81,843
1904	...	427,679	...	...	...	74,789
1905	...	424,379	...	...	...	52,495
1906	...	436,404	...	...	...	50,728
1907	...	443,152	...	...	...	25,787
1908	...	446,318	...	55,000	...	62,885
1909	...	494,487	...	...	...	75,324
1910	...	617,719	...	...	...	77,074
1911	...	708,755	...	...	...	84,895
1912	1,022,783	787,939	...	...	...	140,510
1913	1,393,510	1,071,062	...	73,600	...	248,848
1914	1,468,085	1,139,278	9,047	85,556	...	234,204
1915	1,344,905	996,944	7,356	116,583	...	224,022
1916	1,548,183	1,116,669	5,534	127,201	...	298,779
1917	1,960,084	1,436,726	5,428	118,425	...	399,505
1918	2,143,619	1,592,440	4,775	115,896	...	430,508
1919	2,054,568	1,407,645	1,762	121,675	110	523,376
1920	2,760,585	2,033,756	1,056	118,395	158	607,220
1921	2,160,437	1,493,594	935	159,950	197	505,761
1922	1,975,878	1,363,160	1,089	150,845	345	460,439
1923	1,913,053	1,301,636	1,563	165,282	222	444,350
1924	1,643,510	1,053,082	874	168,666	370	420,518
1925	1,463,053	919,513	931	162,321	146	380,142
1926	1,170,604	680,186	608	169,513	112	320,185
1927	1,072,154	618,637	448	186,155	86	266,828
1928	988,537	571,499	282	193,789	...	222,967

TABLE 17.9 (cont.)

Year	All Public Steam Railways ¹	Oahu Railway & Land Co. ²	Koolau Railway ³	Kahului Railroad ⁴	Lahaina, Kaanapali & Pacific Railroad ⁵	Hawaii Consolidated Railway, Ltd. ⁷
1929	709,557	392,777	41	185,263	...	131,476
1930	591,069	322,685	67	190,423	...	77,894
1931	595,839	306,192	1,304	236,316	...	52,027
1932	483,506	209,265	...	239,518	...	34,723
1933	418,714	160,855	...	228,074	...	29,785
1934	450,954	193,729	...	232,867	...	24,358
1935	619,488	370,646	...	230,110	...	18,732
1936	179,058	143,144	...	19,233	...	16,681
1937	202,335	176,433	...	...	...	25,902
1938	281,450	254,777	...	...	...	26,673
1939	220,630	193,651	...	...	...	26,979
1940	354,159	331,587	...	...	...	22,572
1941	993,107	964,766	...	...	...	28,341
1942	2,535,683	2,471,306	...	...	...	64,377
1943	2,725,668	2,642,516	...	...	...	83,152
1944	2,041,634	1,937,999	...	...	...	103,635
1945	2,039,550	1,937,825	...	...	...	101,725
1946	472,164	454,358	...	...	...	17,806
1947	144,242	144,242	...	...	...	...
1948-1969 ⁸	...	...	...	...	...	...
1970]	[]	[]	[
1971	341,882	...	...	...	341,882	...
1972	...	...	...	...	...	...
1973	35,079	...	...	...	35,079	...
1974	62,619	...	...	...	62,619	...
1975	70,974	...	...	...	70,974	...
1976	80,362	...	...	...	80,362	...

1. Excludes plantation and other industrial railways.

2. For the six-month period ended December 31, 1890, calendar years 1891 to 1906, years ended June 30, 1907 to 1915, and calendar years 1916 to 1947. The Oahu Railway and Land Company provided passenger service on Oahu from November 1889 to December 1947.

3. Calendar year data. The Koolau Railway Company provided passenger service between Kahuku and Kahana Bay, Oahu, from 1907 to 1931.

4. For the year ended June 30, 1902 and calendar years thereafter. The Kahului Railroad Company provided rail passenger service on Maui from July 20, 1879 until 1936, but passenger statistics did not become regularly available until 1913.

5. Calendar year data. The Lahaina, Kaanapali and Pacific Railroad, connecting Kaanapali and Lahaina, Maui, commenced service May 10, 1970, suspended operations October 10, 1972, and resumed service June 30, 1973.

6. For the year ended June 30, 1903 and unspecified periods thereafter. The Hawaii Railway Company (known as the Hawaiian Railroad Company until 1896) served North Kohala from 1881 until 1945, but offered only limited passenger service.

TABLE 17.9 (cont.)

7. For calendar years 1900 to 1906, the first six months of 1907, years ended June 30, 1908 to 1915, the last ten months of 1916, and calendar years 1917 to 1946. The Hilo Railroad Company was organized in 1900, reorganized as the Hawaii Consolidated Railway, Ltd., in 1916, and dissolved in 1946.

8. Passenger service was unavailable from January 1, 1948 until May 10, 1970.

Source: Hawaii State Department of Planning and Economic Development, Passenger Statistics of Hawaii (Statistical Report 75, August 25, 1970); Lahaina, Kaanapali and Pacific Railroad, records.

TABLE 17.10 REGISTERED VESSELS, 1843 TO 1976

Category and Year	Number Registered	Category and Year	Number Registered	Category and Year	Number Registered
Hawaiian Registry ¹		Documented Vessels ²		Numbered Vessels ³	
1843	10	1902	40	1944, Jan.	1,572
1850	80	1905, June 30	56	1945, Nov.	1,816
1855	45	1910, June 30	42	1950, Dec. 31	3,458
1860	68	1915, June 30	46	1955	3,297
1865	65	1920, June 30	52	1960	3,081
1970	64	1925, June 30	58	1961	4,309
1975	51	1930, June 30	57	1962	5,725
1880	63	1935, June 30	71	1963	5,883
1885	51	1940, June 30	135	1964	6,525
1890	55	1945, Jan. 1	126	1965	7,045
1895	52	1950, Jan. 1	240	1966, Dec. 31	6,153
1900	62	1955, Jan. 1	202	1967, Dec. 31	6,506
		1960, Jan. 1	208	1968, Dec. 31	6,477
		1965, Jan. 1	298	1969, Dec. 31	7,287
		1970, June 30	553	1970, Dec. 31	8,042
		1971, June 30	597	1971, Dec. 31	8,803
		1972, June 30	621	1972, Dec. 31	10,250
		1973, June 30	692	1973, Dec. 31	12,049
		1974, Aug. 22	707	1974, Dec. 31	11,843
		1975, Sept. 1	797	1975, Dec. 31	12,956
		1976, Dec. 31	802	1976, Dec. 31	13,130

TABLE 17.10 (cont.)

1. Merchantmen and traders, whalers, and coasters registered with the Hawaiian government. The 1900 figure refers to June 14, when the registration of vessels was transferred to the U.S. government; the exact dates for earlier years are unspecified.
2. Vessels documented under the laws of the United States with the U.S. Coast Guard, for Hawaii. All vessels over five net tons, used for commercial purposes, must be documented. In addition, yachts over five net tons may be documented.
3. Nondocumented numbered vessels registered with the U.S. Coast Guard (1944-1966) or Hawaii State Department of Transportation (beginning June 1, 1966). In 1944, undocumented vessels were defined, generally speaking, as those of less than 5 net tons engaged in trade and those of less than 16 gross tons used exclusively as pleasure vessels. In 1948 all boats with outboard motors, less than 16 feet in length, were removed from the files. At present, any mechanically propelled boat (including those with auxiliary engines) and any boat powered solely by sail if over eight feet in length must be numbered. The Coast Guard registration (which for some boats remained valid until 1970) included an unknown number of vessels with duplicated registration or no longer in operation.

Source: Thomas G. Thrum, comp. and pub., Hawaiian Almanac and Annual for 1876 (p. 56), 1901 (p. 28), and 1903 (p. 24); Proceedings of the Merchant Marine Council, United States Coast Guard for December 1944 (p. 246), February 1946 (p. 20), and February 1951 (p. 31); U.S. Coast Guard, Washington, D.C., records; U.S. Coast Guard, Honolulu, records; Hawaii State Department of Transportation, Harbors Division, Report of Undocumented Vessel Registration (annual, 1966 and later years).

TABLE 17.11 SHIP ARRIVALS AT THE PORT OF HONOLULU, 1824 TO 1900

Calendar Year	Merchant Ships ¹		Whaling Ships ²		National Ships ³
	No.	Tonnage (1,000)	No.	Tonnage (1,000)	
1824	17	...	88	...	--
1825	18	...	38	...	1
1826	37	...	108	...	3
1827	23	...	83	...	1
1828	37	...	114	...	1
1829	32	...	112	...	1
1830	39	...	94	...	--
1831	37	...	81	...	--
1832	37	...	118	...	1
1833	35	...	107	...	--
1834	31	...	111	...	--
1835	32	...	77	...	--
1836	38	...	74	...	3
1837	32	...	67	...	3
1838	23	...	76	...	1
1839	33	...	61	...	5
1840	31	...	47	...	6
1841	31	...	60	...	11
1842	46	...	79	...	2
1843	37	...	135	...	11
1844	42	...	165	...	14
1845	41	...	163	...	14
1846	53	...	167	...	17
1847	72	16.2	123	37.0	4
1848	87	...	148	...	7
1849	157	...	120	...	13
1850	342	90.3	125	46.4	13
1851	312	87.3	90	...	9
1852	177	51.3	226	...	4
1853	154	50.9	246	...	10
1854	125	42.6	189	...	25
1855	142	48.9	171	...	16
1856	107	40.6	150	...	15
1857	75	23.3	142	...	10
1858	100	40.9	224	...	10
1859	128	55.3	249	...	4
1860	107	38.7	179	...	9
1861	92	45.3	110	...	6
1862	105	47.0	51	...	7
1863	83	41.5	66	...	7
1864	164	75.1	110	...	9
1865	145	65.7	106	...	7
1866	147	61.1	138	...	5
1867	129	58.8	143	...	14
1868	108	53.4	107	...	9

TABLE 17.11 (cont.)

Calendar Year	Merchant Ships ¹		Whaling Ships ²		National Ships ³
	No.	Tonnage (1,000)	No.	Tonnage (1,000)	
1869	125	75.4	75	...	7
1870	155	90.7	84	27.7	16
1871	163	102.2	31	10.4	9
1872	138	97.0	30	10.2	7
1873	106	62.1	40	12.1	12
1874	115	69.7	29	8.4	19
1875	131	92.9	24	7.5	19
1876	138	107.8	19	6.4	14
1877	168	116.6	25	7.8	17
1878	216	158.5	17	5.2	11
1879	220	138.3	13	4.0	6
1880	206	134.6	11	3.5	15
1881	212	146.1	13	4.0	13
1882	201	156.2	23	7.2	6
1883	221	173.2	16	5.3	13
1884	186	173.2	23	7.0	11
1885	200	173.7	26	8.1	6
1886	247	203.7	20	5.5	6
1887	213	196.6	23	7.4	11
1888	203	206.7	17	5.7	18
1889	210	197.2	19	5.0	18
1890	231	206.5	21	6.1	12
1891	248	258.5	17	4.9	9
1892	202	215.3	20	5.2	10
1893	241	288.7	17	3.7	12
1894	258	300.0	19	2.8	15
1895	246	302.4	10	1.6	8
1896	318	442.9	5	0.5	14
1897	335	469.5	...	...	...
1898	382	512.6	...	...	...
1899 ⁴	501	693.2	...	...	...
1900 ⁴	253	361.4	...	...	...

1. Also referred to as "merchantmen," "merchant vessels," "traders," or simply "vessels."

2. Includes small numbers of sealers in some years.

3. Foreign naval or survey vessels.

4. January 1 to June 14, 1900.

Source: Data for 1824-1842 are from a register kept by S. Reynolds and published in The Friend, May 1, 1844, pp. 49-50. Data for 1843-1900 are official tabulations published annually in The Polynesian between January 12, 1845 and February 17, 1855, Custom House Statistics for 1855-1884, and Annual Report of the Collector General of Customs for 1885-1900.

TABLE 17.12 SHIP ARRIVALS AT THE PORT OF HONOLULU, 1901 TO 1976

Years Ended June 30	Overseas Vessels ¹		Interisland Vessels ²	
	Number	Gross Tonnage (1,000)	Number	Gross Tonnage (1,000)
1901	559	853	...	...
1902	487	831	...	...
1903	462	900	...	...
1904	411	861	...	...
1905	394	887	...	...
1906	...	...	...	...
1907	359	974	...	...
1908	340	993	...	...
1909	337	1,099	...	...
1910	373	1,239	...	...
1911	354	1,265	...	...
1912	370	1,312	...	...
1913	422	1,508	...	...
1914 ³	534	3,348	...	...
1915 ⁴	607	3,714	...	...
1916	616	3,746	...	...
1917	612	3,231	...	...
1918	618	3,120	...	...
1919	716	2,885	...	...
1920	839	4,530	...	...
1921	754	4,731	...	...
1922	671	4,699	...	...
1923	716	5,292	...	...
1924	737	5,479	...	...
1925	758	5,970	...	...
1926	759	6,199	...	...
1927	770	6,193	...	...
1928	851	7,053	1,066	1,054
1929	865	7,174	1,294	1,408
1930	903	7,607	1,365	1,638
1931	801	7,249	1,361	1,562
1932	750	7,099	1,421	1,641
1933	638	6,662	1,062	1,424
1934	674	6,896	1,233	1,547
1935	719	7,276	1,256	1,565
1936	721	7,371	1,514	1,670
1937	717	6,593	1,893	1,849
1938	795	7,178	1,726	1,621
1939	700	6,632	1,581	1,536
1940	872	7,436	2,622	1,917
1941	1,143	8,780	3,006	2,032
1942	1,013	6,753	...	...
1943	884	5,366	...	...
1944	1,318	8,273	...	...
1945	1,736	11,705	...	...

TABLE 17.12 (cont.)

Years Ended June 30	Oversea Vessels ¹		Interisland Vessels ²	
	Number	Gross Tonnage (1,000)	Number	Gross Tonnage (1,000)
1946	1,175	9,161	...	...
1947	893	6,598	...	...
1948	860	6,951	2,001	1,320
1949	990	8,352	2,297	1,350
1950	861	7,281	2,210	1,059
1951	941	8,254	1,986	958
1952	1,123	9,565	1,895	931
1953	1,132	9,824	2,007	903
1954	1,068	9,344	1,930	907
1955	996	8,847	2,059	982
1956	1,045	9,186	2,136	1,033
1957	1,304	11,499	2,088	999
1958	1,256	11,480	2,143	1,027
1959	1,243	11,406	2,319	1,097
1960	1,411	12,305	2,272	1,061
1961	1,518	12,699	2,460	1,143
1962	1,818	13,094	2,522	1,150
1963	1,799	12,487	2,550	1,119
1964	2,064	13,103	2,446	1,275
1965	1,945	12,992	2,551	1,125
1966	1,941	14,654	2,877	1,220
1967	1,684	13,821	2,652	1,422
1968	1,774	15,277	2,474	1,414
1969	1,903	15,954	2,961	2,458
1970 ⁵	1,933	16,053	3,321	2,168
1971 ⁵	1,879	15,630	3,356	2,339
1972	1,847	15,267	3,096	1,876
1973	1,801	14,373	3,602	2,186
1974	1,587	13,466	3,666	2,879
1975	1,602	13,026	3,440	2,412
1976	1,386	11,700	2,733	2,064

1. Data prior to 1914 exclude American transports, naval vessels, and vessels calling for bunker coal; coverage for 1914 and later years not specified, but apparently much broader than that for the earlier period. Data not available for 1906.

2. Data not available for 1901-1927 and 1942-1947.

3. Data for 1914 and later years apparently not comparable to figures for 1901-1913. Based on the earlier definition, Honolulu ship arrivals in 1914 numbered 399, with gross tonnage of 1,607,000.

4. Based on the 1901-1913 definitions, Honolulu ship arrivals in 1915 numbered 406, with gross tonnage of 1,552,000.

5. Tonnage estimated.

Source: Report of the Governor of Hawaii to the Secretary of the Interior for 1902-1915; Annual Report of the Board of Harbor Commissioners for 1915-1961; Hawaii State Department of Transportation, Harbors Division, Statistical Report ... 1962, Shipping Information for 1963-1968, and records.

TABLE 17.13 REVENUE PASSENGERS ON SHIPS, 1860 TO 1976

Transpacific Passengers ¹				Year	Inter-island Passengers ²	Transpacific Passengers ¹		
Year	Arrivals	Departures	Through			Year	Arrivals	Departures	Through
1860	685	663	...	1900 ⁴	...	7,890	3,248	...
1861	636	590	...	1901	...	...	...	...
1862	415	379	...	1902	...	...	...	...
1863 ³	257	380	...	1903	...	...	...	...
1864	...	...	...	1904	...	...	...	...
1865	...	...	...	1905	...	...	...	...
1866	905	681	...	1906	...	...	...	...
1867	824	748	...	1907	...	...	...	...
1868	839	676	...	1908	55,825	...	...	...
1869	1,001	722	...	1909	55,365	...	...	...
1870	1,448	1,047	1,134	1910	62,236	...	...	...
1871	2,272	1,399	1,461	1911	64,108	15,876	13,302	...
1872	1,032	989	1,357	1912	71,730	20,394	13,084	...
1873	733	775	495	1913	84,493	15,306	12,139	...
1874	754	779	1,589	1914	73,669	17,344	15,163	...
1875	850	654	1,707	1915	67,787	12,665	13,555	...
1876	2,891	837	2,326	1916	65,789	17,909	15,240	...
1877	2,020	802	1,249	1917	79,215	18,631	17,148	...
1878	4,239	1,027	2,006	1918	90,198	13,499	13,524	...
1879	7,663	1,418	1,736	1919	81,803	11,449	11,591	...
1880	5,593	1,928	1,903	1920	95,237	13,766	16,404	...
1881	6,699	2,397	2,881	1921	112,703	19,954	23,780	...
1882	5,475	2,598	4,932	1922	96,431	27,875	21,152	...
1883	10,987	3,535	3,865	1923	99,995	24,811	21,765	...
1884	5,739	2,930	2,832	1924	103,005	27,043	27,810	...
1885	7,140	3,588	4,327	1925	103,003	31,877	24,672	...
1886	5,374	3,747	4,161	1926	107,671	24,391	29,745	...
1887	5,161	4,258	5,222	1927	119,898	37,000	33,000	...
1888	7,065	4,922	3,466	1928	138,587	41,000	37,000	...
1889	5,637	4,332	2,200	1929	146,243	39,000	40,000	...
1890	7,087	3,923	3,965	1930	143,806	36,000	34,000	...
1891	9,972	5,007	4,984	1931	135,565	30,000	31,000	...
1892	7,253	6,087	3,130	1932	129,481	23,256	26,000	...
1893	7,701	5,786	8,249	1933	103,312	24,134	32,313	...
1894	8,114	5,477	6,121	1934	104,487	26,840	33,096	...
1895	8,090	4,636	...	1935	112,091	37,096	40,328	...
1896	13,984	6,857	...	1936	135,078	44,499	42,585	...
1897	11,379	6,504	...	1937	135,750	39,349	41,758	...
1898	17,229	7,313	...	1938	143,249	48,550	42,097	...
1899	32,725	9,063	...	1939	158,601	41,104	42,596	...

TABLE 17.13 (cont.)

Year	Inter-island Passengers ²	Transpacific Passengers ¹			Year	Inter-island Passengers ²	Transpacific Passengers ¹		
		Arrivals	Departures	Through			Arrivals	Departures	Through
1940	158,328	50,401	44,181	...	1959	...	53,723	46,314	...
1941	162,665	62,337	43,338	...	1960	...	43,862	37,041	...
1942	1,258	...	...	...	1961	...	35,700	32,402	...
1943	8,092	...	...	...	1962	...	36,781	30,144	...
1944	11,984	...	...	...	1963	...	35,136	27,624	...
1945	13,217	...	...	...	1964	...	30,738	25,439	...
1946	33,712	...	...	...	1965	...	29,868	24,122	...
1947	20,000	14,068	14,847	...	1966	...	29,612	24,899	...
1948	13,536	18,593	18,809	...	1967	...	28,830	24,046	...
1949	...	16,720	15,477	...	1968	...	26,603	22,496	...
1950	...	17,821	17,822	...	1969	...	24,089	21,339	44,621
1951	...	24,768	17,936	...	1970	...	13,267	13,699	...
1952	...	23,948	20,020	...	1971	...	8,943	8,024	...
1953	...	22,952	19,214	...	1972	...	10,725	8,820	...
1954	...	26,082	23,208	...	1973	...	9,742	7,585	...
1955	...	26,353	23,739	...	1974	...	5,756	5,975	...
1956	...	26,232	23,642	...	1975	71,807	5,795	5,284	...
1957	...	35,188	29,009	...	1976	196,366	5,829	5,987	...
1958	...	50,061	45,604	...					

1. For the Port of Honolulu. Calendar years 1860 to 1899, the 5 1/2-month period from January 1 to June 14, 1900, years ended June 30, 1911 to 1926, calendar years 1927 to 1931, the year ended June 30, 1932 for steerage passengers and December 31, 1932 for cabin passengers, and years ended June 30, 1933 and thereafter. Data not available before 1860 and for October 1863-1865, 1901-1910, and 1942-1946.

2. Years ended June 30, 1908 to 1938; calendar years 1939 forward. Not available before 1908 or for 1948-1974 (although interisland passengers arriving in Honolulu are known to have numbered 12,537 in 1861 and 11,232 in 1862). Regular interisland passenger service was discontinued (except for limited accommodations aboard freighters) in 1949 and reestablished June 1975.

3. January 1 to September 30.

4. January 1 to June 14.

Source: Hawaii State Department of Planning and Economic Development, Passenger Statistics of Hawaii (Statistical Report 75, August 25, 1970); Hawaii State Department of Transportation, Harbors Division, records.

TABLE 17.14 OVERSEAS AND INTERISLAND CARGO TONNAGE, 1933 TO 1975
(In actual tons of 2,000 lb. from 1933 to 1950 and revenue tons of 2,000 lb. thereafter.)

Year ¹	Overseas Cargo Tons ²			Interisland Cargo Tons ³		
	Total	In	Out	Total	In	Out
1933	2,454,461	1,310,754	1,143,707	NA	NA	NA
1934	2,373,780	1,400,115	973,665	NA	NA	NA
1935	2,470,949	1,371,583	1,099,366	322,642	187,042	135,600
1936	2,725,925	1,557,141	1,168,784	318,960	179,875	139,085
1937	2,907,949	1,721,283	1,186,666	615,940	428,908	187,032
1938	3,368,511	1,979,286	1,389,225	644,141	394,103	250,038
1939	3,128,571	1,830,393	1,298,178	594,132	374,605	219,527
1940	3,550,158	2,184,932	1,365,226	643,752	417,651	226,101
1941	4,539,781	2,917,547	1,622,234	992,699	616,748	375,951
1942-1946	NA	NA	NA	NA	NA	NA
1947	3,727,437	2,390,873	1,336,564	821,843	464,644	357,199
1948	4,056,119	2,505,027	1,551,092	702,222	415,058	287,164
1949	3,420,461	2,084,951	1,335,510	855,379	526,611	328,768
1950 ⁴	4,565,950	2,519,852	2,046,098	1,206,036	616,679	589,357
1951	5,123,511	3,100,005	2,023,506	1,145,042	573,459	571,583
1952	5,461,039	3,182,013	2,279,026	1,314,021	658,909	655,112
1953	5,607,475	3,330,326	2,277,149	1,306,556	653,558	652,998
1954	5,412,476	3,184,509	2,227,967	1,259,449	628,481	630,968
1955	5,401,631	3,178,019	2,223,612	1,285,583	642,872	642,711
1956	6,073,257	3,568,751	2,504,506	1,600,664	803,187	797,477
1957	6,367,392	3,736,080	2,631,312	1,765,563	882,707	882,856
1958	5,683,273	3,693,516	1,989,757	1,811,529	906,790	904,739
1959	6,099,305	3,677,501	2,421,804	1,879,964	942,743	937,221
1960	5,575,224	3,705,214	1,870,010	1,988,623	1,006,222	982,401
1961	4,703,644	2,720,695	1,982,949	2,168,883	1,040,586	1,128,297
1962	5,069,625	2,844,526	2,225,099	2,534,454	1,249,410	1,285,044
1963	5,079,475	2,935,012	2,144,463	2,564,264	1,271,689	1,292,575
1964	5,587,016	3,203,510	2,383,506	2,697,873	1,351,662	1,346,211
1965	5,785,111	3,408,059	2,377,052	3,213,134	1,512,810	1,700,324
1966	6,850,718	4,050,678	2,800,040	3,380,431	1,686,898	1,693,533
1967	7,136,017	4,334,536	2,801,481	3,536,997	1,767,764	1,769,233
1968	9,185,880	6,498,986	2,686,894	3,689,409	1,844,704	1,844,705
1969	9,440,891	7,185,809	2,255,082	3,941,074	1,969,987	1,971,087
1970	9,610,764	7,464,651	2,146,113	4,788,130	2,394,065	2,394,065
1971	9,442,634	7,097,445	2,345,189	4,190,708	2,091,490	2,099,218
1972	10,024,122	7,631,789	2,392,333	5,851,128	2,800,702	3,050,426
1973	11,287,536	8,203,106	3,084,430	4,679,121	2,300,634	2,378,487
1974	11,156,346	8,581,226	2,575,120	3,780,896	1,904,501	1,876,395
1975	11,758,995	8,644,344	3,114,651	5,067,630	2,495,317	2,572,313

TABLE 17.14 (cont.)

1. Years ended June 30, 1933 to 1959; calendar years 1960 and thereafter.
 2. Coverage varies from year to year. Data include territorial and state piers on all islands for all years (except Kaunakakai, 1935-1937); private piers in Honolulu Harbor beginning in 1935 and elsewhere beginning in 1950; and U.S. government piers in Honolulu Harbor, 1950-1958.
 3. Coverage varies. Data include territorial and state piers on all islands for all years (except Kaunakakai, 1935-1937); private piers in Honolulu Harbor beginning in 1947 and elsewhere beginning in 1950; and U.S. government piers in Honolulu Harbor, 1950-1958.
 4. Totals include U.S. government piers in Honolulu Harbor and private piers in other harbors, not previously included. Totals for classes shown for 1947-1949 are as follows: overseas cargo in, 2,450,081; overseas cargo out, 1,695,539; interisland cargo in, 581,289; and interisland cargo out, 353,275.
- Source: Annual Report of the Board of Harbor Commissioners for 1934 and 1950-1959; Hawaii State Department of Transportation, Harbors Division, estimates based on U.S. Department of the Army, Corps of Engineers, Waterborne Commerce of the United States (annual).

TABLE 17.15 FREIGHT AND PASSENGER TRAFFIC FOR SPECIFIED HARBORS, 1908 TO 1975

Year	Passengers ¹			Freight (1,000 short tons) ²			
	Hilo Harbor	Honolulu Harbor ³	Kahului Harbor	Barbers Point Harbor	Hilo Harbor	Honolulu Harbor	Kahului Harbor
1908	...	...	...	...	184.0	920.2	...
1909	...	...	...	...	223.0	1,028.7	...
1910	...	...	...	...	252.8	1,211.0	...
1911	...	...	...	...	308.4	1,164.7	...
1912	...	...	...	...	323.2	1,653.0	...
1913	...	...	...	...	434.1	1,462.0	...
1914	...	...	11,961	...	365.3	1,339.0	213.7
1915	21,598	100,537	9,844	...	428.4	1,680.3	255.0
1916	27,625	103,420	9,007	...	314.7	1,753.7	247.2
1917	38,559	123,762	10,843	...	368.0	1,697.0	243.4
1918	31,854	112,520	12,183	...	348.1	1,625.7	232.8
1919	37,760	134,329	12,734	...	389.0	1,889.9	242.9
1920	41,524	149,862	17,860	...	316.2	2,039.0	228.3
1921	43,821	167,559	20,201	...	287.4	1,709.3	177.6
1922	45,594	158,540	22,039	...	256.7	1,792.0	229.3
1923	49,010	169,461	16,874	...	289.8	1,869.4	240.8
1924	47,636	177,736	22,736	...	319.4	1,895.1	304.4
1925	46,302	195,926	24,626	...	344.4	1,981.1	337.5
1926	45,262	187,458	23,091	...	377.6	2,227.9	348.8
1927	49,854	202,932	24,648	...	388.1	2,082.7	373.9
1928	54,156	215,893	25,776	...	439.3	2,100.6	370.4
1929	55,895	223,976	28,514	...	445.5	1,976.1	399.9
1930	43,989	207,436	31,183	...	406.7	1,926.5	442.2
1931	41,314	191,554	30,183	...	354.6	2,009.4	385.0
1932	32,193	158,951	26,548	...	406.0	1,672.7	360.7
1933	28,798	142,187	21,951	...	392.9	1,785.4	375.4
1934	34,841	162,572	25,018	...	428.0	1,986.6	381.0
1935	35,042	166,196	27,146	...	416.8	2,113.0	396.3
1936	38,891	187,564	31,166	...	442.7	2,254.2	456.5
1937	42,761	218,459	34,299	...	509.2	2,365.5	477.3
1938	35,073	193,519	30,902	...	551.8	2,443.9	413.3
1939	47,780	227,547	35,562	...	534.2	2,662.0	448.0
1940	46,604	278,260	37,122	...	528.3	3,353.8	495.7
1941	48,105	276,017	39,433	...	561.4	4,328.3	522.4
1942	8,573	51,700	7,166	...	461.5	2,116.2	468.4
1943	4,468	27,253	482	...	650.8	2,194.3	502.6
1944	5,337	44,970	2,592	...	1,290.5	6,506.5	709.2

TABLE 17.5 (cont.)

Year	Passengers ¹			Freight (1,000 short tons) ²			
	Hilo Harbor	Honolulu Harbor ³	Kahului Harbor	Barbers Point Harbor	Hilo Harbor	Honolulu Harbor	Kahului Harbor
1945	11,145	48,132	3,966	...	714.8	4,808.1	535.6
1946	17,732	215,530	10,161	...	480.3	3,229.5	442.3
1947	4,623	83,295	6,386	...	596.7	2,745.1	468.6
1948	5,416	51,678	2,827	...	454.5	2,371.4	386.6
1949	1,274	46,649	170	...	476.8	2,382.2	399.6
1950	525	50,660	26	...	739.9	2,812.0	630.6
1951	979	37,722	28	...	647.6	2,770.5	590.4
1952	1,766	37,844	39	...	684.1	3,104.8	543.0
1953	3,563	54,821	770	...	763.7	3,318.0	640.7
1954	1,417	59,092	31	...	751.2	3,031.1	619.0
1955	281	72,874	81	...	850.7	3,650.5	685.6
1956	655	73,398	41	...	909.2	3,784.2	701.9
1957	576	134,494	25	...	855.9	4,014.2	625.8
1958	785	145,954	374	...	647.9	4,125.7	536.6
1959	725	123,921	304	...	905.9	4,296.9	676.4
1960	4,047	112,298	614	...	807.8	5,041.3	638.0
1961	1,356	116,847	309	686.5	733.4	4,263.3	694.3
1962	1,157	108,750	17	469.3	835.2	4,295.2	714.6
1963	74	90,937	449	1,782.5	728.2	4,421.5	624.5
1964	1,492	213,004	13	2,248.4	874.5	4,755.7	787.3
1965	70	139,031	78	2,416.1	775.0	5,480.0	741.2
1966	4,000	160,565	1,086	2,469.7	835.0	6,180.8	895.4
1967	5,194	363,488	16	2,363.8	882.5	6,640.2	875.5
1968	9,880	535,287	1,930	2,472.5	991.1	6,828.9	957.2
1969	9,288	604,482	125	2,918.8	990.5	7,057.9	868.5
1970	4,457	690,906	--	2,561.6	1,141.2	8,078.1	1,083.4
1971	2,148	518,603	--	2,677.5	1,064.4	7,390.0	1,067.9
1972	658	796,694	--	3,520.4	1,108.1	7,960.4	1,297.8
1973	--	989,100	--	3,944.9	1,041.6	8,188.5	1,042.8
1974	9,600	987,475	9,600	4,360.2	928.6	7,556.9	982.1
1975	13,613	1,073,125	11,296	5,185.7	1,053.9	7,935.2	1,109.5

1. Total arrivals and departures, including local, interisland, and transpacific travel. Not available before 1914 (for Kahului) or 1915 (for Hilo and Honolulu).

2. Excludes cargo in transit, shown separately in the source for Honolulu, 1926 to 1941.

3. Includes excursion travel between Honolulu Harbor or Kewalo Basin and Pearl Harbor; for a breakdown of these data, annually from 1969 to 1975, see The State of Hawaii Data Book 1976, table 257.

Source: Report of the Chief of Engineers, U.S. Army for 1920 (part 3, pp. 4046, 4050, and 4051), 1921 (part 2, pp. 1372, 1378, and 1381), 1927 (part 2, pp. 913, 917, and 920), 1936 (part 2, pp. 1109, 1114, and 1116), and 1945 (part 2, pp. 1253, 1256, and 1258); U.S. Army, Corps of Engineers, Waterborne Commerce of the United States, part 4, for 1953, 1958, 1964, and 1970-1975.

TABLE 17.16 AIRPORTS, PILOTS, CIVIL AIRCRAFT, AND AIRCRAFT OPERATIONS, 1922 TO 1976

Year	Airports, June 30 ¹		Active Civil Aircraft, Dec. 31 ³			Aircraft Operations ⁴				General Lyman Field, Hilo ⁵
	State	Military	Active Pilots, Dec. 31 ²	Air Carrier	General Aviation	Honolulu International Airport			Military	
						Total	Air Carrier ⁶	General Aviation ⁷		
1922	--	2	...	...	...	...	...	...	...	...
1928	5	6	...	...	...	...	...	...	...	...
1930	6	6	...	...	...	...	...	...	...	...
1935	8	...	...	...	...	...	...	...	...	...
1940	7	...	...	...	...	...	...	...	...	...
1947	...	...	...	...	...	...	...	...	...	...
1948	14	...	...	...	...	145,168	41,518	90,614	13,036	...
1949	15	...	...	...	...	192,170	46,944	124,636	20,590	...
1950	17	...	...	...	...	155,710	45,238	103,710	6,762	...
1951	16	...	...	...	...	174,846	50,738	103,224	20,884	38,718
1952	16	...	...	...	...	240,392	70,136	127,200	43,056	...
1953	15	...	...	...	...	185,002	73,932	74,940	36,130	...
1954	12	...	...	...	...	199,288	66,016	52,266	81,006	...
1955	12	...	...	...	...	266,581	53,474	37,304	175,803	40,022
1956	12	...	...	...	...	195,591	42,402	36,230	116,959	46,667
1957	13	...	...	...	...	209,769	74,155	23,477	112,137	34,308
1958	13	...	...	...	...	273,757	93,925	26,118	153,714	27,866
1959	13	...	...	...	...	275,376	91,291	37,817	146,268	...
1960	13	6	...	...	...	262,663	85,963	37,027	139,673	34,548
1961	...	...	482	18	81	254,750	85,597	44,326	124,827	29,863
1962	...	...	560	22	91	257,685	76,815	62,257	118,613	35,201
1963	...	...	631	21	90	266,561	80,565	64,764	121,232	32,349
1964	...	...	679	22	87	258,869	85,202	62,203	111,464	40,539
1965	13	6	778	24	77	268,611	89,565	69,766	109,280	44,559
1966	14	...	960	20	88	288,288	95,385	93,689	99,214	46,714
1967	14	...	1,148	19	107	287,199	94,096	107,112	85,989	45,953
1968	14	...	1,146	25	112	305,577	107,199	119,267	79,111	46,958
		...	1,217	24	136	340,059	123,313	136,922	79,824	
		...	1,340	23	146					
		...	1,647	28	145					
		...	1,484	21	175					
		...	1,744	22	188					

TABLE 17.16 (cont.)

Year	Airports, June 30 ¹		Active Civil Air- craft, Dec. 31 ³		Aircraft Operations ⁴				General Lymann Field, Hilo ⁵	
	State	Military	Active Pilots, ² Dec. 31	Air Carrier	General Aviation	Total	Air Carrier ⁶	Honolulu International Airport General Aviation ⁷		Military
1969	14	...	1,976	20	206	339,645	127,787	140,948	70,910	46,339
1970	14	6	2,218	20	241	300,629	122,202	111,225	67,202	52,183
1971	14	6	2,409	17	249	294,874	113,087	121,915	59,872	56,167
1972	14	6	2,526	...	...	297,861	112,403	127,893	57,565	50,333
1973	14	6	2,786	291	308	309,144	114,208	140,095	54,841	48,138
1974	14	6	2,956	16	341	305,724	111,813	143,736	50,175	47,715
1975	16	6	2,902	17	341	319,776	108,446	160,073	51,257	51,145
1976	16	6	...	...	...	320,565	108,404	174,566	37,595	52,679

1. Airports under government control. Excludes private airports and all heliports. As of July 3, 1922, July 7, 1928, and June 30, 1930 and later years. The first military airport, Luke Field, was established April 29, 1919; the first territorial airport, John Rodgers (now Honolulu International), was dedicated March 21, 1927.

2. Data for 1961-1968 refer to active pilot certificates held. Data for 1969, 1971, and 1973-1975 refer to the Pacific Region, which includes Hawaii, American Samoa, Canton, Wake, and Guam.

3. U.S. active civil aircraft, 1954-1964 and 1970-1974; eligible aircraft registered with FAA, 1965-1969. Data for 1969 refer to the Pacific region (defined in preceding footnote).

4. An aircraft operation is an aircraft arrival at or departure from an airport with FAA airport traffic control service.

5. Data for 1954-1957 refer to fiscal years ended June 30.

6. Data for 1947-1955 are combined totals for scheduled and nonscheduled air carriers; data for 1956 and later years refer simply to "air carriers." Many operations classified under nonscheduled air carriers prior to July 1, 1954 were included with general aviation from that time forward. For the fiscal year ended June 30, 1954, nonscheduled air carrier operations numbered 27,208 under the old definition and 3,156 under the new definition; general aviation operations numbered 35,800 under the old definition and 59,850 under the new definition.

TABLE 17.16 (cont.)

7. Air taxis included with general aviation, 1956 forward; treatment in earlier years unspecified. For effect of definitional change of July 1, 1954, see preceding footnote.

8. One airport in joint use is listed under both territorial and military airports.
Source: William J. Horvat, Above the Pacific (1966), pp. 34 and 43; Annual Report, Territorial Aeronautical Commission for 1927 (p. 5), 1928 (pp. 5-7), and 1930 (p. 23); Report ... by the Superintendent of Public Works for 1935 (p. 14) and 1940 (p. 42); Hawaii Aeronautics Commission, Annual Report for 1948-1960; Federal Aviation Administration, FAA Statistical Handbook of Aviation for 1957-1975 and records; Hawaii State Department of Transportation, Airports Division, records.

TABLE 17.17 REVENUE PASSENGERS ON AIRLINES, 1929 TO 1976
(For all airports. Includes nonrevenue passengers beginning in 1970.)

Calendar Year	Inter-island Passengers ¹	Transpacific Passengers ²			Calendar Year	Inter-island Passengers ¹	Transpacific Passengers ²		
		Arrivals	Departures	Through			Arrivals	Departures	Through
1929	854	...	...	...	1953	561,500	78,999	82,813	33,344
1930	10,356	...	...	...	1954	565,466	89,093	93,517	43,076
1931	9,283	...	...	...	1955	619,486	114,104	117,319	59,128
1932	6,879	...	...	...	1956	640,367	138,866	142,000	74,736
1933	6,684	...	...	...	1957	674,208	161,776	165,981	75,556
1934	10,352	...	...	...	1958	635,659	164,592	168,724	79,884
1935	13,355	...	...	...	1959	819,548	224,449	220,682	90,127
1936	18,074	...	...	...	1960	955,610	367,513	373,672	44,404
1937	21,692	...	...	...	1961	939,336	422,657	443,686	59,729
1938	28,611	...	232	...	1962	979,756	508,025	501,499	74,552
1939	21,861	...	520	...	1963	1,144,265	595,350	593,917	106,473
1940	28,624	...	639	...	1964	1,340,996	706,821	694,711	114,727
1941	48,855	...	1,153	...	1965	1,538,392	833,415	828,967	131,873
1942	82,397	...	...	...	1966	1,754,970	1,000,687	973,158	151,634
1943	107,945	...	...	...	1967	2,117,557	1,285,210	1,252,700	162,119
1944	110,242	...	...	...	1968	2,347,949	1,358,335	1,307,447	183,864
1945	170,437	...	...	...	1969	2,724,622	1,766,720	1,769,087	270,340
1946	272,513	29,749	...	...	1970	2,992,777	2,190,809	2,158,577	893,890
1947	412,228	99,056	...	...	1971	3,380,031	2,296,119	2,304,570	729,237
1948	393,938	111,940	...	...	1972	4,093,338	2,540,472	2,550,199	733,362
1949	389,227	44,111	49,472	23,069	1973	4,809,097	2,866,003	2,913,446	870,378
1950	438,938	44,815	48,188	25,735	1974	5,174,914	3,009,769	2,964,992	885,122
1951	490,490	50,473	55,759	30,771	1975	5,321,616	3,181,580	3,134,774	956,576
1952	545,532	67,952	66,908	33,908	1976	5,873,138	3,496,645	3,432,908	816,915

TABLE 17.17 (cont.)

1. Includes air taxis. Scheduled interisland service began in 1929.
2. Data for 1938-1948 are combined totals for in, out, and through passengers. Treatment of through passengers apparently changed after 1959 and again after 1969. Scheduled transpacific service began in Honolulu in 1936 and Hilo in 1967.

Source: Hawaii State Department of Planning and Economic Development, Passenger Statistics of Hawaii (Statistical Report 75, August 25, 1970), as corrected; Hawaii State Department of Transportation, Airports Division, records.

TABLE 17.18 AIR CARGO AND AIRMAIL, 1947 TO 1976
(In thousands of pounds.)

Year ¹	Overseas Air Cargo ²			Overseas Airmail ²			Interisland ³		
	Outgoing	Incoming	Through	Outgoing	Incoming	Through	Air Cargo, Incoming	Airmail, Incoming	
1947	NA	NA	NA	NA	NA	NA	23,883	433	
1948 ⁴		3,329			2,110		23,469	513	
1949 ⁵	997	1,577	1,775	1,253	1,249	881	20,770	663	
1950 ⁵	1,144	1,935	1,389	1,214	1,230	1,121	19,532	863	
1951	835	879	2,596	887	981	1,393	24,421	709	
1952	778	839	2,121	1,084	1,009	942	24,924	682	
1953	821	934	1,834	1,196	1,080	1,105	24,526	719	
1954	808	908	1,968	1,243	1,190	1,685	23,262	736	
1955	857	1,417	3,178	1,603	1,590	4,143	24,143	748	
1956	1,122	1,532	4,666	1,697	1,881	3,879	22,867	788	
1957	1,453	2,143	10,081	1,811	2,152	3,394	21,597	850	
1958	1,544	2,480	5,453	2,017	2,382	3,258	23,365	857	
1959	1,787	4,055	7,710	2,191	2,871	4,563	22,385	936	
1960	9,898	12,092	NA	7,955	8,702	NA	25,333	1,036	
1961	10,902	14,028	6,170	12,992	15,767	1,060	26,207	1,279	
1962	16,497	20,705	8,099	15,202	16,954	962	29,427	1,429	
1963	14,840	17,082	4,996	15,388	17,193	723	32,634	1,698	
1964 ⁶	19,611	22,826	9,218	14,824	16,812	46	40,298	2,062	
1965	31,732	40,985	11,948	26,208	27,700	230	39,565	4,897	
1966	43,490	57,907	13,877	64,356	67,036	128	38,767	11,736	
1967	65,156	80,198	11,515	117,969	121,386	78	41,978	12,039	
1968	66,960	83,986	21,075	117,929	121,096	2,534	38,215	12,236	
1969	42,391	77,760	23,666	80,405	81,051	1,335	44,150	12,534	
1970 ⁷	37,553	54,285	NA	21,362	18,109	NA	52,139	14,141	
1971	67,131	116,591	NA	17,915	24,883	NA	51,389	14,332	

TABLE 17.18 (cont.)

Year ¹	Overseas Air Cargo ²			Overseas Airmail ²			Interisland ³		
	Outgoing	Incoming	Through	Outgoing	Incoming	Through	Air Cargo, Incoming	Airmail, Incoming	
1972 ⁸	55,908	108,178	NA	16,665	22,739	NA	59,900	14,774	
1973	57,494	87,834	NA	16,123	21,001	NA	69,710	16,453	
1974	79,054	96,393	NA	16,185	21,528	NA	79,576	16,594	
1975	95,287	112,338	NA	36,934		NA	81,515	17,830	
1976	118,478	136,017	NA	39,407		NA	86,818	19,024	

1. Calendar 1947; fiscal years ended June 30, 1948 to 1960; and calendar years 1961 and later.

2. For traffic at Honolulu International Airport (all years) and General Lyman Field, Hilo (beginning in 1967). Comparability of these data varies significantly from year to year as a result of fluctuations in completeness of reporting, inclusion of through traffic in outgoing and incoming totals, and other reasons. Major disruptions in classification procedures or coverage appear to have occurred in 1960 and, for airmail data, after 1968.

3. All airports. Cargo totals include air freight and air express.

4. Overseas cargo and mail data are combined totals for outgoing, incoming, and through traffic.

5. Data reflect shipping strike of May 1, 1949-October 24, 1949.

6. Data reflect the airlifting of all interisland third- and fourth-class mail beginning in October 1965.

7. Data reflect the shipping strike of July 1, 1971-October 6, 1971.

8. Data reflect the shipping strikes of January 17-February 19 and October 25-December 7, 1972.

Source: Hawaii Aeronautics Commission, Annual Report for 1948-1960; Hawaii State Department of Transportation, Airports Division, tabular releases and records.

TABLE 17.19 CHARACTERISTICS OF INTRA-HAWAII CERTIFICATED ROUTE AIRLINES,
1929 TO 1975
(Includes Hawaiian Airlines, Inc., beginning October 6, 1929, and
Aloha Airlines, Inc., beginning April 18, 1949.)

Year	Aircraft Revenue Departures ¹ (1,000)	Aircraft Revenue Miles ¹ (1,000)	Average Airborne Speed ¹ (mi./hr.)	Average Available Seats per Aircraft ¹	Revenue Passengers ¹	
					Origina- tions ³ (1,000)	Load Factor (percent)
1929	...	...	...	...	2	...
1930	...	...	...	...	10	...
1931	...	...	...	...	2	...
1932	...	...	...	...	2	11.1
1933	...	...	...	...	7	25.8
1934	...	...	...	...	10	25.8
1935	...	...	...	...	15	35.3
1936	...	...	...	...	18	46.0
1937	...	...	...	...	22	37.2
1938	...	550	...	12.2	29	63.1
1939	...	411	...	13.5	22	56.8
1940	...	444	...	14.1	29	65.5
1941	...	660	...	15.0	49	66.9
1942	...	672	...	22.2	82	88.6
1943	...	910	...	24.0	108	93.6
1944	...	950	...	24.0	110	93.9
1945	...	1,208	...	24.0	160	93.7
1946	...	1,985	...	23.6	249	84.8
1947	...	2,678	...	24.0	307	75.7
1948	21.4	3,199	...	23.9	344	68.5
1949	24.4	3,367	152	24.6	343	60.7
1950	28.2	3,720	152	24.8	404	60.2
1951	39.3	4,414	151	25.2	457	57.0
1952	45.3	5,367	150	25.3	515	54.7
1953	42.6	4,914	161	30.7	553	53.4
1954	41.6	4,689	161	32.5	558	54.0
1955	41.2	4,606	161	32.5	591	58.0
1956	42.0	4,649	161	34.8	625	57.0
1957	42.4	4,744	161	35.9	590	57.8
1958	40.1	4,415	161	36.4	573	57.8
1959	46.3	5,255	169	39.3	755	59.2
1960	49.2	5,614	177	42.8	857	58.7
1961	46.2	5,231	184	43.4	837	62.1
1962	47.7	5,461	183	44.2	877	60.7
1963	50.0	5,718	187	46.9	973	60.1
1964	52.5	5,930	194	50.3	1,119	60.3
1965	58.4	6,661	194	52.1	1,286	61.0
1966	62.0	7,221	214	59.2	1,487	58.6
1967	64.6	7,665	237	66.0	1,776	59.1
1968	69.4	8,131	257	75.8	1,961	51.9
1969	76.0	8,697	281	93.7	2,442	42.3
1970	72.4	8,147	287	101.4	2,643	46.2

TABLE 17.19 (cont.)

Year	Aircraft Revenue Departures ¹ (1,000)	Aircraft Revenue Miles ¹ (1,000)	Average Airborne Speed ¹ (mi/hr.)	Average Available Seats per Aircraft ¹	Revenue Passengers ¹	
					Origina- tions ³ (1,000)	Load Factor (percent)
1971	64.8	7,276	296	107.6	3,000	55.2
1972	68.6	8,115	309	112.7	3,676	59.1
1973	73.8	8,965	323	114.2	4,373	63.3
1974	74.5	9,192	327	114.4	4,675	65.4
1975	75.0	9,154	325	115.8	4,767	65.3

TABLE 17.19 (cont.)

Year	Revenue Ton-Miles (1,000)		Number of Employees	Operating Revenues (\$1,000)	Operating Profit or Loss (\$1,000)	Average Passenger Revenues per Rev. Passenger- Mile ¹ (cents)	Average Freight Revenues Per Rev. ² Ton-Mile (dollars)
	Freight Plus Express	Mail					
1929	...	...	...	...	...	...	...
1930	...	...	...	...	...	...	...
1931	...	...	...	...	...	...	...
1932	...	...	...	...	...	...	...
1933	...	...	...	...	...	...	...
1934	...	...	...	...	...	...	...
1935	...	...	...	...	...	...	...
1936	...	...	...	...	...	...	...
1937	...	...	...	...	...	...	...
1938	9	3	...	594	49	12.4	1.89
1939	8	2	...	421	30	11.4	1.75
1940	9	2	...	500	55	10.5	1.78
1941	14	3	...	713	96	9.6	1.71
1942	166	25	151	1,353	590	9.3	1.28
1943	479	25	219	1,613	429	8.1	0.71
1944	562	23	244	1,729	320	8.1	0.69
1945	496	25	244	2,316	715	7.9	0.69
1946	495	31	555	2,895	353	6.8	0.56
1947	838	38	524	3,354	187	6.4	0.49
1948	723	46	477	4,044	214	7.2	0.50
1949	711	62	580	3,985	- 46	7.0	0.52
1950	622	55	591	4,340	- 108	6.9	0.52
1951	958	48	681	5,221	49	6.8	0.44
1952	1,317	50	742	6,247	274	6.5	0.45
1953	1,506	57	699	6,726	- 31	6.6	0.46
1954	1,658	58	685	6,790	- 290	7.2	0.44
1955	1,651	59	771	7,115	- 221	7.3	0.46
1956	1,482	65	749	7,430	122	7.2	0.53
1957	1,555	66	836	8,360	279	7.8	0.51
1958	1,591	68	821	9,393	136	8.6	0.49
1959	1,776	104	1,085	11,431	166	8.6	0.51
1960	2,996	431	1,270	15,217	- 251	8.8	0.53
1961	2,155	97	1,131	14,085	629	9.3	0.53
1962	2,101	109	1,144	13,780	551	9.2	0.55
1963	2,154	115	1,208	15,499	809	9.1	0.55
1964	2,472	125	1,260	17,898	1,375	9.0	0.57
1965	2,432	335	1,452	20,439	1,911	8.8	0.57
1966	2,454	865	1,603	23,318	1,173	8.7	0.56
1967	2,823	925	1,797	26,287	- 241	8.9	0.55
1968	2,273	894	1,891	29,746	- 707	9.1	0.69
1969	2,745	920	2,233	35,753	-1,654	10.1	0.71
1970	3,314	1,038	1,943	44,391	469	11.3	0.70

TABLE 17.19 (cont.)

Year	Revenue Ton-Miles (1,000)		Number of Employees	Operating Revenues (\$1,000)	Operating Profit or Loss (\$1,000)	Average Passenger Revenues per Rev. Passenger- Mile ¹ (cents)	Average Freight Revenues per Rev. ² Ton-Mile ² (dollars)
	Freight Plus Express	Mail					
1971	3,658	1,025	1,879	49,046	1,233	11.3	0.66
1972	4,441	1,060	1,988	60,501	4,353	11.2	0.58
1973	5,176	1,181	2,206	75,435	6,855	11.3	0.58
1974	5,687	1,182	2,209	87,496	6,967	12.2	0.72
1975	5,874	1,234	2,299	93,888	1,506	13.1	0.85

1. Scheduled service only.

2. Scheduled service only. Includes express revenues prior to 1946.

3. Passenger enplanements for 1969 and later years. Originations in 1969 numbered 2,132,000. Includes revenue passengers before 1938.

Source: Civil Aeronautics Board, Handbook of Airline Statistics (biennial), and records.

TABLE 17.20 AIR FARES AND SCHEDULED FLIGHT TIMES BETWEEN HONOLULU AND SAN FRANCISCO, BY PAN AMERICAN WORLD AIRWAYS, 1936 TO 1977

Class and Date of Fare Introduction ²	One Way		Round Trip		Aircraft	Flight Time ¹	
	Fare	Tax ³	Fare	Tax ³			
First class							
October 12, 1936	360.00	--	712.00	--	M-130	20:00	
March 8, 1939	278.00	--	556.00	--	B-314	17:30	
Aug. 1, 1940	278.00	--	500.00	--	B-314	17:30	
Oct. 10, 1941	278.00	13.90	500.00	25.00	B-314	17:30	
Nov. 1, 1942	278.00	27.80	500.00	50.00	B-314	17:30	
Apr. 1, 1944	278.00	41.70	500.00	75.00	B-314	17:30	
Apr. 1, 1946	195.00	29.25	350.00	52.50	DC-4	11:45	
May 1, 1947	135.00	20.25	243.00	36.45	DC-4	11:45	
Nov. 1947	150.00	22.50	270.00	40.50	DC-4	11:45	
March 1949	160.00	24.00	288.00	43.20	B-377	9:25	
Nov. 1, 1952	168.00	25.20	302.40	45.36	B-377	9:25	
Feb. 1954	168.00	25.20	319.00	47.85	B-377	9:25	
Apr. 1, 1954	168.00	16.80	319.00	31.90	B-377	9:25	
Oct. 1, 1956	168.00	0.10	319.00	0.19	B-377	9:25	
Apr. 10, 1958	178.00	0.11	338.00	0.20	DC-7C	8:25	
Nov. 16, 1962	178.00	0.05	338.00	0.10	B-707	4:55	
Oct. 1, 1964	150.00	0.05	285.00	0.09	B-707	4:55	
June 1, 1970	165.00	0.05	330.00	0.10	B-707	4:55	
July 1, 1970	165.00	3.53	330.00	7.06	B-707	4:55	
Oct. 5, 1970	165.00	3.53	330.00	7.06	B-707	4:55	
May 15, 1971	190.00	3.61	380.00	7.22	B-747	4:55	
July 25, 1972	190.00	3.08	380.00	6.16	B-747	5:02	
May 12, 1973	190.00	3.67	380.00	7.34	B-747	5:02	
June 1, 1974	201.00	3.67	402.00	7.34	B-747	4:58	
Jan. 1, 1977	205.00	3.08	410.00	6.16	B-747	4:58	
Economy							
Dec. 3, 1952	125.00	18.75	250.00	37.50	B-377	9:25	
Apr. 1, 1954	125.00	12.50	250.00	25.00	B-377	9:25	
Oct. 1, 1956	125.00	0.08	250.00	0.15	B-377	9:25	
Apr. 10, 1958	133.00	0.08	266.00	0.16	DC-7C	8:25	
Nov. 16, 1962	133.00	0.04	266.00	0.08	B-707	4:55	
June 1, 1964	110.00	0.03	220.00	0.07	B-707	4:55	
Oct. 1, 1969:	WD	94.00	0.03	188.00	0.06	B-707	4:55
	WE	110.00	0.03	220.00	0.07	B-707	4:55
July 1, 1970:	WD	94.00	3.30	188.00	6.60	B-707	4:55
	WE	110.00	3.35	220.00	6.70	B-707	4:55
Oct. 5, 1970:	WD	94.00	3.30	188.00	6.60	B-707	4:55
	WE	110.00	3.35	220.00	6.70	B-707	4:55
May 15, 1971:	WD	108.00	3.35	216.00	6.70	B-747	4:55
	WE	123.00	3.39	246.00	6.78	B-747	4:55
July 25, 1972:	WD	107.00	3.04	214.00	6.08	B-747	5:02
	WE	122.00	3.04	244.00	6.08	B-747	5:02

TABLE 17.20 (cont.)

Class and Date of Fare Introduction ²	One Way		Round Trip		Aircraft	Flight Time ¹	
	Fare	Tax ³	Fare	Tax ³			
Economy (cont.)							
May 12, 1973:	WD	107.00	3.63	214.00	7.26	B-747	5:02
	WE	122.00	3.63	244.00	7.26	B-747	5:02
Sept. 1, 1973:	WD	116.00	3.63	232.00	7.26	B-747	5:02
	WE	131.00	3.64	262.00	7.28	B-747	5:02
June 1, 1974:	WD	123.00	3.64	146.00	7.28	B-747	4:58
	WE	139.00	3.64	278.00	7.28	B-747	4:58
Jan. 1, 1977:	WD	126.00	3.05	252.00	6.10	B-747	4:58
	WE	142.00	3.06	284.00	6.12	B-747	4:58
Thrift							
Nov. 1, 1963		100.00	0.03	200.00	0.06	B-707	4:55
Oct. 1, 1969:	WD	85.00	0.03	170.00	0.05	B-707	4:55
	WE	100.00	0.03	200.00	0.06	B-707	4:55
July 1, 1970:	WD	85.00	3.28	170.00	6.56	B-707	4:55
	WE	100.00	3.32	200.00	6.64	B-707	4:55
Oct. 5, 1970:	WD	85.00	3.28	170.00	6.56	B-707	4:55
	WE	100.00	3.32	200.00	6.64	B-707	4:55
May 15, 1971:	WD	98.00	3.32	196.00	6.64	B-747	4:55
	WE	113.00	3.36	226.00	6.72	B-747	4:55
July 25, 1972:	WD	100.00	3.04	200.00	6.08	B-747	5:02
	WE	115.00	3.04	230.00	6.08	B-747	5:02
May 12, 1973:	WD	100.00	3.63	200.00	7.26	B-747	5:02
	WE	115.00	3.63	230.00	7.26	B-747	5:02
Sept. 1, 1973:	WD	109.00	3.63	218.00	7.26	B-747	5:02
	WE	124.00	3.63	248.00	7.26	B-747	5:02
June 1, 1974:	WD	116.00	3.63	232.00	7.26	B-747	4:58
	WE	131.00	3.64	262.00	7.28	B-747	4:58
Jan. 1, 1977:	WD	119.00	3.04	238.00	6.08	B-747	4:58
	WE	134.00	3.05	268.00	6.10	B-747	4:58

1. Averaged scheduled flight time, eastbound and westbound.
 2. WD, Monday through Thursday; WE, Friday through Sunday.
 3. Includes security surcharge (59¢) effective May 12, 1973.
- Note: Source follows table 17.21.

TABLE 17.21 AIR FARES AND SCHEDULED FLIGHT TIMES BETWEEN HONOLULU AND OTHER AIRPORTS, BY HAWAIIAN AIRLINES, 1929 TO 1977

Date of Fare Introduction	Regular One-Way Fare (dollars) ¹				Aircraft ²	Average Flight Time, Honolulu-Hilo (minutes)
	Honolulu to Kauai or Maui		Honolulu to Hilo			
	Fare ³	Tax ⁴	Fare ³	Tax ⁴		
November 11, 1929	20.00	--	30.00	--	S-38	100
July 31, 1939	15.00	--	23.00	--	S-43	85
January 11, 1941	13.50	--	21.00	--	S-43	85
October 10, 1941	13.50	0.68	21.00	1.05	S-43	85
November 1, 1942	13.50	1.35	21.00	2.10	DC-3	80
February 1, 1943	12.00	1.20	18.00	1.80	DC-3	80
April 1, 1944	12.00	1.80	18.00	2.70	DC-3	80
October 15, 1945	10.00	1.50	15.00	2.25	DC-3	80
July 10, 1946	8.00	1.20	13.50	2.03	DC-3	80
February 15, 1948	9.50	1.43	15.00	2.25	DC-3	80
July 1, 1949	8.50	1.28	13.50	2.03	DC-3	80
February 17, 1954	9.50	1.43	15.00	2.25	CV-340	62
April 1, 1954	9.50	0.95	15.00	1.50	CV-340	62
April 1, 1957	10.50	1.05	16.50	1.65	CV-340	62
April 1, 1958	11.20	1.12	17.60	1.76	CV-340	62
September 12, 1960	12.55	1.26	19.09	1.91	CV-340	62
November 16, 1962	12.57	0.63	19.14	0.96	CV-340	62
March 1, 1968	13.00	0.65	20.00	1.00	DC-9-30	42
March 1, 1969	15.00	0.75	22.00	1.10	DC-9-30	42
November 1, 1969	17.00	0.85	24.00	1.20	DC-9-30	42
July 1, 1970	17.59	1.41	24.07	1.93	DC-9-30	42
May 12, 1973	17.59	2.05	24.07	2.57	DC-9-30	41
January 15, 1974	18.52	2.12	25.00	2.64	DC-9-30	41
January 1, 1975	19.44	1.94	25.93	2.45	DC-9-30	41
February 1, 1976	21.30	1.70	27.78	2.22	DC-9-50	40

1. A round trip discount was available from April 17, 1933 to October 15, 1945; it was initially set at 25 percent but on July 31, 1939 it was reduced to 10 percent. A 50 percent family plan discount has been available since July 18, 1950. Special rates are also in effect for early bird and starlighter flights and for senior citizen, youth, and military stand-by passengers.

2. Aircraft used by Hawaiian Airlines, with date of introduction, have included: Sikorsky-38 (Nov. 1929), Sikorsky-43 (1936), Douglas DC-3 (Nov. 1941), Convair CV-340 (Nov. 1952), Douglas DC-6 (June 1953), Viscount (Aug. 1963), Convair CV-640 (Dec. 1965), Douglas DC-9-10 (March 1966), Nihon YS-11 (Dec. 1966), Douglas DC-9-30 (Nov. 1967), and Douglas DC-9-50 (Sept. 1975).

3. Beginning February 1, 1976, includes security surcharge (previously reported with tax).

4. Federal tax was 5 percent effective October 10, 1941; raised to 10 percent effective November 1, 1942; raised to 15 percent effective April 1, 1944; lowered to 10 percent effective April 1, 1954; lowered to 5 percent effective November 16, 1962; and raised to 8 percent effective July 1, 1970. Also includes security surcharge, May 12, 1973 to January 31, 1976.

TABLE 17.21 (cont.)

Source of tables 17.20 and 17.21: Hawaii State Department of Planning and Economic Development, Chronology of Airline Fares and Flight Times, 1929-1974 (Statistical Report 103, June 18, 1974), and carrier schedules and records. Correct to March 18, 1977.

TABLES IN SECTION 18

- 18.1 Telephone service, 1880 to 1976
- 18.2 Number of telegraph messages carried between Hawaii and the mainland United States, 1936 to 1975
- 18.3 Radio and television broadcast stations, 1923 to 1977
- 18.4 Postal service, 1850 to 1976
- 18.5 Daily newspapers, by language and city, 1885 to 1975
- 18.6 English-language daily newspaper circulation, 1893 to 1976
- 18.7 Postage, telephone, and telegraph rates and newspaper prices, 1860 to 1976

SECTION 18

Communications

This section presents statistics on post office and postal receipts, telephones and telephone calls, telegraph messages, radio and television broadcasting stations, daily newspapers and their circulation, the rates charged for postage, telephone calls and telegraph messages, and newspaper prices. Related statistics appear in section 15 (housing units with telephone, radio, or television) and section 16 (printing and publishing).

Postal statistics first became available in the middle of the nineteenth century. The Hawaiian Post Office was established by a decree of the Privy Council on December 22, 1850, and not long thereafter, on October 1, 1851, the government issued its first postage stamps printed from type. Local letters were free until 1878; interisland mail, to 1859. Statistics on the number of post offices in operation, postal receipts, and the volume of mail handled appeared in Report of the Minister of the Interior, 1852-1862 and 1884-1890, Report of the Minister of Finance, 1860-1895, and Report of the Postmaster General, 1882-1899. Information on rates of postage during the nineteenth century is detailed in Henry A. Mayer, et al., Hawaii, Its Stamps and Postal History (New York: The Philatelic Foundation, 1948).

On June 14, 1900, postal service in Hawaii became the responsibility of the U.S. Post Office; from that time forward, islanders used U.S. postage stamps and (for surface letter mail at least) paid regular U.S. postage rates. Regular airmail service was inaugurated among the islands on October 8, 1934 and between Hawaii and the mainland on November 22, 1935. The post office routinely airlifted first-class mail to and from the mainland beginning in 1959. Statistics on postal service and rates during the twentieth century have been published in Annual Report of the Postmaster General, 1900 forward; Statistical Abstract of the United States, 1923 forward; the U.S. Post Office Department's United States Domestic Postage Rates, 1789 to 1956; and Gerald Cullinan's The Post Office Department (1968).

Hawaiian newspaper history can be traced back to the 1830s, but circulation statistics were not collected (except perhaps privately) until 1912. The earliest printed work in the islands was an eight-page Hawaiian spelling book published by the missionaries on January 7, 1822. The first newspapers, both in the Hawaiian language, were Ka Lama Hawaii, first issued at Lahainaluna on February 14, 1834, and Ke Kumu Hawaii, printed in Honolulu beginning in

October 1834. The pioneering English-language newspaper was the Sandwich Island Gazette and Journal of Commerce, a Honolulu weekly issued from July 10, 1836 to July 1839. The earliest daily newspaper was the Daily Herald, published briefly in 1866. The Daily Marine Bulletin, first compiled after September 1870, became the Daily Bulletin on February 1, 1882, and a full-fledged four-page, six-column daily newspaper April 24, 1882. A week later, on May 1, 1882, it was joined by the Pacific Commercial Advertiser (now the Honolulu Advertiser), which had begun as a weekly July 2, 1856. The Advertiser added a Sunday edition, the first in Hawaii, on January 4, 1903. The Honolulu Star-Bulletin was created by merger in July 1912. In recent years there have been three English-language dailies (the morning Honolulu Advertiser, afternoon Honolulu Star-Bulletin, and afternoon Hawaii Tribune-Herald, published in Hilo), two Japanese or Japanese-English dailies (Hawaii Hochi and Hawaii Times), and two Chinese dailies (New China Daily Press and United Chinese Press). Numerous other newspapers, daily and weekly, in English, Hawaiian, or other languages, have flourished for various periods of time and then disappeared. An annotated list of all known island newspapers, Newspapers Published in Hawaii, was prepared in 1953 by the Hawaiian Historical Society and issued in mimeographed form. Circulation totals based on October 1 statements to the U.S. Post Office are available for the Advertiser and Star-Bulletin back to 1912. Average paid circulation data compiled by the Audit Bureau of Circulations have covered the two Honolulu English-language dailies since 1933 and the Hawaii Tribune-Herald since 1939.

Telephone statistics, unlike those for newspapers, have been compiled almost since such service was first made available in the islands. A private line was built on Maui in 1878, and service was first offered commercially on Maui in 1879, Oahu and Kauai in 1880, and Hawaii in 1882. On Oahu, two companies--Hawaiian Bell Telephone Company, founded in 1880, and Mutual Telephone Company, established in 1883--competed until their merger in 1895. Mutual Telephone gradually absorbed the neighbor island companies, achieving statewide coverage in 1929. Interisland radio-telephone service was introduced November 2, 1931; transpacific radio-telephone service, December 23, 1931; and Hawaii-mainland service by undersea telephone cable, in 1957. Statistics on telephone usage were published in Report of the Governor of Hawaii beginning in 1912, Annual Report of the Public Utilities Commission for 1925-1932, various statistical compendia of the Chamber of Commerce back to 1922, and the annual reports of the Mutual (now Hawaiian) Telephone Company. Variant totals are

shown in these publications for the years from 1912 to 1931, particularly for the neighbor islands before 1928; these differences result from different reporting dates, inclusion or exclusion of private line stations and service stations, and inclusion of small neighbor island telephone companies not part of the Mutual system.

Data on telegraph messages carried between Hawaii and the mainland United States cover only the period since 1936, thus missing the first thirty-three years of such service. A private telegraph line was installed in Honolulu as early as 1872, but regular interisland service (by wireless) was not successfully initiated until 1901. A telegraph cable connecting Honolulu with San Francisco was opened for service January 2, 1903. Wireless telegraph service to the mainland was introduced September 3, 1912. Cable service to the mainland was terminated November 17, 1951; since that time, only radio service has been available. Statistics on telegraph messages carried between Hawaii and the mainland, both by radio and cable, have been maintained since 1936 by the Federal Communications Commission.

Commercial broadcasting was introduced to Hawaii on May 11, 1922, when two Honolulu radio stations, KGU and KDYX, raced to be first on the air. A third station, KFHS in Lihue, was licensed in June 1923. Commercial television reached the islands late in 1952, with the first broadcasts of a test pattern (by KONA-TV) on November 17 and regular programs (by KGMB-TV) on December 1. The first frequency modulation (FM) stations were KVOK, an educational station licensed September 21, 1953, and KAIM-FM, a commercial station licensed November 3, 1953. Educational television was pioneered in Hawaii by KHET, which went on the air in April 1966. Cable television began in April 1961. Statistics on the number of radio and television stations licensed or on the air have been compiled by the U.S. Department of Commerce (until 1927), Federal Radio Commission (1927-1934), and Federal Communications Commission (1934 forward). These data have been published in Statistical Abstract of the United States since 1950.

Statistics on communications for other states and the nation as a whole appear in Historical Statistics of the United States, Colonial Times to 1970, chapter R, and various editions of Statistical Abstract of the United States.

TABLE 18.1 TELEPHONE SERVICE, 1880 TO 1976

Year	Telephones in Service, December 31, Oahu ¹	Telephones in Service, December 31 ¹		
		Year	State Total	Oahu	Other Islands
1880 ²	47	...	1,800	...
1881	119	...	2,070	...
1882 ³	179	...	2,105	...
1883 ⁴	347	...	2,164	...
1884	381	...	2,508	...
1885	666	...	2,657	...
1886	840	...	3,512	...
1887 ⁵	825	...	3,870	...
1888 ⁵	829	5,000	...	...
1889 ⁶	817	5,800	...	...
1890	931	6,527	...	...
1891	1,086	6,965	5,910	1,055
1892	1,124	7,775	6,534	1,241
1893	1,118	7,928	6,618	1,310
1894 ⁷	1,080	9,279	7,603	1,676
1895 ⁷	1,152	10,761	...	...
1896	1,258	11,090	...	...
1897	1,271	14,805	11,383	3,422
1898	1,340	16,651	13,326	3,325
1899	1,459	17,222	13,559	3,663
1900	1,393	18,332	14,471	3,861
1901	1,586	19,076	15,141	3,935
1902	1,607	20,867	16,833	4,034
1903	1,629	22,666	17,895	4,771
1904	1,652	23,605	18,596	5,009

TABLE 18.1 (cont.)

Year	Telephones in Service, Dec. 31 ¹			Local Calls		Interisland Calls ¹¹		Transpacific Calls ¹²	
	State Total	Oahu	Other Islands	Completed (1,000)	Paid	Completed	Paid, In and Out	Hawaii Originated	
1930	24,319	19,169	5,150	...	3,090	...	--	...	...
1931	24,983	19,456	5,527	...	15,328	...	173	...	...
1932	23,390	18,015	5,375	...	14,597	...	965	...	...
1933	22,337	17,175	5,162	...	15,039	...	1,040	...	...
1934	23,074	17,733	5,341	...	16,748	...	1,103	...	...
1935	24,664	19,137	5,527	...	21,303	...	1,332	...	...
1936	26,693	20,884	5,809	...	29,305	...	2,179	...	...
1937	29,519	23,207	6,312	...	31,413	...	3,795	...	...
1938	32,205	25,496	6,709	...	36,701	...	4,150	...	...
1939	35,107	28,079	7,028	...	43,661	...	5,175	...	...
1940	39,179	31,799	7,380	...	59,622	...	9,867	...	...
1941	45,501	37,596	7,905	106,464	48,106	...	20,109	...	...
1942	51,264	42,322	8,942	112,632	58,086	...	55,852	...	...
1943	53,387	43,826	9,561	118,464	62,968	...	62,363	...	...
1944	55,271	45,112	10,159	126,156	87,347	...	65,158	...	...
1945	54,734	44,432	10,302	125,436	153,766	...	93,602	...	...
1946	61,373	50,331	11,042	136,128	179,990	...	89,273	...	...
1947	70,564	57,459	13,105	163,344	203,522	...	84,097	...	...
1948	78,847	63,780	15,067	171,540	230,187	...	83,650	...	...
1949	89,204	71,703	17,501	183,948	247,071	...	82,793	...	50,471
1950	99,310	79,968	19,342	202,344	253,958	...	92,481	...	56,790
1951	109,329	88,321	21,008	236,388	247,980	...	122,777	...	78,875
1952	119,146	95,917	23,229	246,931	244,593	...	134,484	...	84,437
1953	125,077	100,265	24,812	255,745	258,606	...	138,302	...	86,720
1954 ¹³	132,822	106,613	26,209	270,209	285,328	...	150,047	...	95,243
1955	143,063	114,678	28,385	290,528	309,147	...	179,274	...	112,831
1956	154,212	123,888	30,324	314,278	339,734	...	205,949	...	127,384
1957	166,385	133,766	32,619	334,018	352,181	...	236,209	...	145,868
1958	176,750	143,189	33,561	353,990	441,676	...	326,669	...	197,089
1959	191,373	156,291	35,082	383,017	...	...	433,793	...	253,690

TABLE 18.1 (cont.)

Year	Telephones in Service, Dec. 31 ¹			Local Calls Completed (1,000)	Interisland Calls ¹¹		Transpacific Calls ¹²	
	State Total	Oahu	Other Islands		Paid	Completed	Paid, In and Out	Hawaii Originated
1960	208,411	171,793	36,618	413,908	512,404	538,317	516,527	303,334
1961	221,599	183,401	38,198	422,729	519,789	545,777	569,122	335,104
1962	233,680	193,570	40,110	434,132	573,789	605,138	702,428	403,051
1963	247,629	205,342	42,287	449,933	651,787	669,781	750,161	421,900
1964	265,793	220,939	44,854	470,097	794,060	808,729	926,424	523,803
1965	283,689	236,006	47,683	506,198	948,585	969,531	1,336,557	757,352
1966	302,506	251,505	51,001	539,632	1,129,492	1,153,375	1,687,105	957,163
1967	323,849	268,190	55,659	562,522	1,332,551	1,354,805	2,144,049	1,271,406
1968	352,196	291,317	60,879	585,071	1,624,206	1,649,734	2,594,151	1,558,008
1969	381,982	314,915	67,067	611,919	1,963,219	1,994,026	3,267,601	1,948,391
1970	414,165	339,952	74,213	631,543	2,288,320	2,317,727	3,753,449	2,257,208
1971 ¹⁴	445,995	365,733	80,262	667,542	2,569,758	2,607,521	4,476,130	2,517,860
1972	498,593	412,443	86,150	702,346	3,072,319	3,131,881	5,427,667	3,055,018
1973 ¹⁵	523,699	430,612	93,087	1,016,950	3,754,413	3,804,616	6,813,550	3,794,848
1974	544,718	444,359	100,359	1,078,658	4,494,314	4,564,049	8,619,719	4,775,288
1975	567,685	460,602	107,083	1,046,907	5,156,241	5,352,232	10,703,400	5,907,991
1976	596,952	480,937	116,015	1,138,003	5,850,827	6,139,528	13,621,200	7,448,194

1. Data refer to Hawaiian Bell Company for 1880-1884, and combined total for Hawaiian Bell Company and Mutual Telephone Company for 1885-1894, and Mutual (or Hawaiian) Telephone Company thereafter. Variant totals (published in the Report of the Governor of Hawaii to the Secretary of the Interior for 1912-1926, Annual Report of the Public Utilities Commission for 1925-1932, and the Chamber of Commerce of Honolulu, Business Statistics, 1922-1934) exist for 1912-1931, and differ markedly from those reported here for the neighbor islands prior to 1928; these differences result from different reporting dates, inclusion or exclusion of private line stations and service stations, and inclusion of small neighbor island telephone companies not part of the Mutual system.

2. Hawaiian Bell Telephone and Telegraph Company (on Oahu) and Kauai Telephone Company founded in 1880.
3. Hilo and Hawaii Telephone and Telegraph Company founded in 1882.
4. Mutual Telephone Company founded on Oahu in 1883.

TABLE 18.1 (cont.)

5. Kohala Telephone Company founded in 1888.
6. Hamakua and South Kohala Telephone Company and Maui Telephone Company founded in 1889. Organized service had begun on Maui in 1879.
7. Mutual Telephone Company absorbed Hawaiian Bell Telephone Company, effective January 1, 1895. Kona-Kau Telephone and Telegraph Company also founded in 1895.
8. Kona-Kau Telephone and Telegraph Company, Hamakua and South Kohala Telephone Company, and Hawaii Telephone and Telegraph Company purchased by Mutual in 1913.
9. Kohala Telephone Company absorbed by Mutual and Maui Telephone Company purchased by Mutual in 1919.
10. Kauai Telephone Company absorbed by Mutual in 1929.
11. Interisland radio telephone service was established December 23, 1931. Data on completed calls are not available before 1945. Paid calls exclude uncollectables.
12. Transpacific radio telephone service was established between Hawaii and the mainland United States November 2, 1931, and was extended to Japan in 1938. Data on outgoing (Hawaii-originated) calls are not available before 1949. Paid calls include those paid in Hawaii and elsewhere.
13. Mutual Telephone Company renamed Hawaiian Telephone Company in 1954.
14. Defense Administrative Telephone System (DATS) taken over by Hawaiian Telephone Company in 1971. The DATS system accounted for 4,423 telephones in service (all on Oahu) as of December 31, 1971.
15. The sharp increase in completed local calls is attributable in part to a change in the method of estimation.

Source: Hawaiian Telephone Company, records.

TABLE 18.2 NUMBER OF TELEGRAPH MESSAGES CARRIED BETWEEN HAWAII AND THE MAINLAND UNITED STATES, 1936 TO 1975

Year	All Telegraphic Messages ¹			Commercial Pacific Cable Company Only ²		
	To Hawaii	From Hawaii	Combined	To Hawaii	From Hawaii	Combined
1936	129,283	132,173	261,456	24,475	28,257	52,732
1937	139,983	137,110	277,093	16,877	26,894	43,771
1938	139,765	133,116	272,881	16,925	26,925	43,850
1939	145,075	134,987	280,062	24,284	32,272	56,556
1940	165,271	171,266	336,537	31,374	43,403	74,777
1941	219,571	257,722	477,293	41,359	65,993	107,352
1942	258,785	506,898	765,683	81,728	108,446	190,174
1943	271,931	470,590	742,521	81,806	104,426	186,232
1944	229,952	333,110	563,062	59,674	78,921	138,595
1945	274,638	439,118	713,756	57,292	107,034	164,326
1946	270,680	375,191	645,871	54,839	72,439	127,278
1947	262,670	303,089	565,759	53,276	49,827	103,103
1948	209,119	221,402	430,521	35,397	35,634	71,031
1949	170,572	178,239	348,811	28,686	24,739	53,425
1950	172,882	165,102	337,984	28,207	22,391	50,598
1951	184,122	184,806	368,928	...	...	...
1952	183,521	184,838	368,359	...	...	...
1953	190,045	185,274	375,319	...	...	...
1954	188,289	175,950	364,239	...	...	...
1955	199,592	182,133	381,725	...	...	...
1956	205,630	189,166	394,796	...	...	...
1957	220,922	203,886	424,808	...	...	...
1958	210,403	189,650	400,053	...	...	...
1959	249,961	222,359	472,320	...	...	...
1960	263,000	236,331	499,331	...	...	...
1961	260,487	232,123	492,610	...	...	...
1962	270,578	241,312	511,890	...	...	...
1963	275,177	239,605	514,782	...	...	...
1964	297,222	262,204	559,426	...	...	...
1965	297,509	263,868	561,377	...	...	...
1966	314,806	274,580	589,386	...	...	...
1967	313,353	266,343	579,696	...	...	...
1968	312,098	267,897	579,995	...	...	...
1969	315,916	275,122	591,038	...	...	...
1970	300,739	266,811	567,550	...	...	...
1971	217,588	201,600	419,188	...	...	...
1972	203,382	189,214	392,596	...	...	...
1973	187,130	198,693	385,823	...	...	...
1974	197,077	185,204	382,281	...	...	...
1975	180,151	166,700	346,851	...	...	...

TABLE 18.2 (cont.)

1. Radio or cable. Includes messages from mainland to Hawaii originated elsewhere than mainland, and messages from Hawaii to mainland originated elsewhere than Hawaii. Radio telegraph service between Hawaii and the mainland was initiated in 1912 and suspended from 1917 to 1920.

2. Cable only. Cable service between Hawaii and the mainland was inaugurated in 1903 and terminated November 17, 1951. Data for 1937-1939 and 1941-1944 are estimates by the Federal Communications Commission, Common Carrier Bureau, Economic Studies Division. Data for 1951 and prior to 1936 are unavailable.

Source: Federal Communications Commission, records.

TABLE 18.3 RADIO AND TELEVISION BROADCAST STATIONS, 1923 TO 1977
 (Stations licensed or holding construction permits, 1923-1957;
 stations on the air, 1958 and later years.)

Year ¹	Commercial AM Broadcast Stations ²	Year ¹	Commercial Broadcast Stations ²			Educational Broadcast Stations ³	
			AM	FM	TV ⁴	FM	TV ⁴
1923	2	1951	NA	--	--	--	--
1924	3	1952	12	--	--	--	--
1925	2	1953	12	--	2	--	--
1926	1	1954	NA	NA	NA	1	--
1927	1	1955	13	1	3	1	--
1928	2	1956	13	1	6	2	--
1929	2	1957	14	1	6	2	--
1930	1						
1931	2	1958	15	1	7	2	--
1932	2	1959	15	1	7	2	--
1933	2	1960	17	1	7	2	--
1934	2	1961	18	1	8	1	--
1935	2	1962	20	1	9	1	--
1936	2	1963	20	1	10	1	--
1937	3	1964	23	2	10	1	--
1938	3	1965	23	2	10	--	--
1939	3	1966	24	2	10	--	--
1940	3	1967	25	2	10	--	2
1941	4	1968	25	3	10	--	2
1942	4	1969	25	4	10	--	2
1943	4	1970	25	4	10	1	2
1944	4	1971	25	4	10	1	2
1945	4	1972	25	5	10	1	2
1946	4	1973	24	5	10	1	2
1947	5	1974	25	7	10	1	2
1948	9	1975	26	5	10	1	2
1949	9	1976	26	6	10	1	2
1950	12	1977	25	7	10	1	2

1. As of January 1 for all years except 1948 (June 30), 1949 (June 30), and 1950 (June 7).

2. Commercial AM broadcasting was initiated in Hawaii in 1922; TV, in 1952; and FM, in 1953.

3. Educational FM broadcasting was initiated in Hawaii in 1953; TV, in 1966.

4. Includes satellite stations but excludes relay stations.

Source: Federal Communications Commission, records; FCC data cited in Statistical Abstract of the United States, 1950-1970.

TABLE 18.4 POSTAL SERVICE, 1850 TO 1976

Year ¹	Number of Post Offices ²	Gross Postal Receipts ³ (\$1,000)	Year ¹	Number of Post Offices ²	Gross Postal Receipts ³ (\$1,000)
1850-51 ⁴	...	0.5	1896	...	77
1851-52	...	1.4	1897	...	74
1852 ⁵	9	2.6	1898	...	89
1853	...	3.8	1899	72	119
1854	...	6.6	1900	93	...
1855	...	7.3	1901	90	103
1856 ⁶	...	3.0	1902	90	108
1856-57 ⁷	...	12.3	1903	91	118
1858	...	...	1904	92	121
1858-60 ⁸	27	3.7	1905	89	123
1860-62 ⁸	32	7.9	1906	90	...
1862-64 ⁸	...	2.9	1907	93	...
1864-66 ⁸	...	6.9	1908	91	...
1866-68 ⁸	...	9.8	1909	90	...
1868-70 ⁸	...	11.5	1910	93	...
1870-72 ⁸	...	17.8	1911	93	...
1872-73	...	10.0	1912	93	...
1873-74	...	11.0	1913	93	...
1874-75	...	8.8	1914	94	...
1875-76	...	12.2	1915	93	...
1876-77	...	11.7	1916	94	268
1877-78	...	11.0	1917	92	299
1878-79	...	13.0	1918	91	350
1879-80	...	17.9	1919	90	378
1880-81	...	18.6	1920	91	352
1881-82	42	23.1	1921	89	450
1882-83	44	60.0	1922	90	461
1883-84	55		1923	94	477
1884-85	...		1924	93	533
1885-86	55	66.9	1925	93	611
1886-87	...	43.1	1926	93	634
1887-88	54	41.8	1927	94	645
1888-89	...	47.1	1928	92	710
1889-90	54	60.5	1929	92	745
1890-91	...	60.3	1930	93	774
1891-92	68	58.8	1931	94	780
1892-93	...	52.1	1932	96	779
1893-94	72	126.0	1933	97	838
1894 ⁵	...	45.4	1934	98	775
1895	...	60.7	1935	94	834

TABLE 18.4 (cont.)

Year ¹	Number of Post Offices ²	Gross Postal Receipts ³ (\$1,000)	Year ¹	Number of Post Offices ²	Gross Postal Receipts ³ (\$1,000)
1936	93	948	1958	88	...
1937	93	1,158	1959	85	...
1938	94	1,261	1960	83	7,732
1939	94	1,264	1961	82	8,434
1940	94	1,480	1962	82	11,041
1941	95	2,134	1963	80	13,037
1942	94	2,771	1964	80	...
1943	92	4,298	1965	80	13,692
1944	91	9,728	1966	80	14,984
1945	91	22,726	1967	80	15,881
1946	90	14,042	1968	80	17,617
1947	91	4,806	1969	80	20,178
1948	92	4,747	1970	80	20,840
1949	95	4,034	1971	80	21,976
1950	97	3,955	1972	78	23,434
1951	96	4,086	1973	77	27,100
1952	98	4,800	1974	76	29,663
1953	100	5,008	1975	76	33,549
1954	101	5,676	1976	76	37,433
1955	101	5,603			
1956	101	6,037			
1957	99	6,018			

1. Four-month period ended March 31, 1851, 12-month period ended March 31, 1852, 9-month period ended December 31, 1852, calendar years 1853 to 1855, 6-month period ended June 30, 1856, 18-month period ended December 31, 1857, 24-month periods ended March 31, 1860 to 1872, 12-month periods ended March 31, 1873 to 1894, 9-month period ended December 31, 1894, calendar years 1895 to 1899, 12-month periods ended June 30, 1900 to 1955, calendar years 1956 and 1957, and 12-month periods ended June 30, 1958 and thereafter.

2. As of end of period, except 1883 (March 1) and 1956 and 1957 (June 30). Data for 1900 and later years include all 1st-, 2d-, 3d-, and 4th-class post offices but exclude branches and stations.

3. Data for 1850-1857 include receipts from legislative appropriations as well as from stamp sales, post office box rentals, etc.

4. Four-month period.

5. Nine-month period.

6. Six-month period.

7. Eighteen-month period.

8. Twenty-four-month period.

Source: Report of the Minister of the Interior for 1851-1862 and 1882-1890; Report of the Minister of Finance for 1858-1880 and 1892-1895; Report of the Postmaster General for 1880-1884, 1886-1888, 1890-1894, and 1896-1899; Annual Report of the Postmaster General for 1907-1920, 1932, and 1939-1970; Statistical Abstract of the United States for 1923-1973; U.S. Postal Service, records.

TABLE 18.5 DAILY NEWSPAPERS, BY LANGUAGE AND CITY, 1885 TO 1975

Year ¹	All Daily Newspapers	Language					City		
		Chinese	English	Hawaiian ²	Japanese ³	Other	Hilo	Honolulu	Other
1885	4	--	3	1	--	--	--	4	--
1890	5	--	2	3	--	--	--	5	--
1895	7	--	4	2	1	--	--	7	--
1900	8	--	5	2	1	--	--	8	--
1905	11	1	4	1	5	--	--	11	--
1910	7	--	3	--	4	--	1	6	--
1915	8	--	3	--	5	--	3	5	--
1920	11	--	4	--	7	--	5	6	--
1925	7	--	3	--	4	--	2	5	--
1930	6	--	3	--	3	--	2	4	--
1935	8	--	4	--	4	--	4	4	--
1940	7	--	3	--	4	--	3	4	--
1945	8	3	3	--	2	--	1	7	--
1950	7	2	3	--	2	--	1	6	--
1955	7	2	3	--	2	--	1	6	--
1960	7	2	3	--	2	--	1	6	--
1965	7	2	3	--	2	--	1	6	--
1970	7	2	3	--	2	--	1	6	--
1975	7	2	3	--	2	--	1	6	--

1. As of July 1 when dates of publication or surveys are known. Exact dates are unspecified in many sources.

2. Includes daily newspapers printed in both Hawaiian and English.

3. Includes daily newspapers printed in both Japanese and English.

Source: Thos. G. Thrum, comp., Hawaiian Almanac and Annual for 1886 (p. 83), 1891 (p. 169), 1896 (p. 174), 1901 (pp. 205-206), 1906 (p. 218), 1911 (pp. 198-199), 1916 (pp. 195-196), 1921 (pp. 163-164), 1926 (p. 148), 1931 (p. 145), and 1936 (p. 130); McKenney's Hawaiian Directory [1884-1885], pp. 80-81; Directory of the Kingdom of Hawaii [1890], p. 88; Husted's Directory of Honolulu and the Territory of Hawaii for 1894-1895 (pp. 69-70), 1900-1901 (pp. 78-80), 1905-1906 (pp. 70-72), and 1910 (pp. 74-76); Polk-Husted Directory Co.'s Directory of Honolulu and the Territory of Hawaii for 1915 (pp. 71-73), 1920 (pp. 72-74), 1925 (pp. 69-70),

TABLE 18.5 (cont.)

1930-1931 (pp. 17-18), 1935-1936 (p. 743), and 1940-1941 (p. 964); Hawaiian Historical Society, Newspapers Published in Hawaii (1953); Esther K. Mookini, The Hawaiian Newspapers (1974); Chamber of Commerce of Honolulu, Hawaii Facts and Figures for 1942-1945 (p. 25), 1949 (p. 39), 1953 (p. 49), and 1959 (p. 16); Directory of Hawaii Publications (1951), and Directory of Advertising Media and Services in Hawaii 1964; Hawaii Media, March 1975, pp. 44-55; Dr. Charles Hunter, index to Hawaii newspapers, filed in Hawaiian Collection, Sinclair Library, University of Hawaii.

TABLE 18.6 ENGLISH-LANGUAGE DAILY NEWSPAPER CIRCULATION, 1893 TO 1976

Year	Honolulu Advertiser ¹	Honolulu Star-Bulletin ²	Year	Honolulu Advertiser ¹	Honolulu Star-Bulletin ²	Year	Honolulu Advertiser ¹	Honolulu Star-Bulletin ²
1893	1,321	...	1918	5,487	7,453	1926	10,805	16,396
			1919	4,781	7,003	1927	11,849	17,771
1912	3,210	4,262	1920	5,793	8,509	1928	11,630	18,994
1913	3,973	4,086	1921	7,862	10,574	1929	12,623	19,025
1914	NA	4,507	1922	8,424	12,034	1930	12,308	20,618
1915	4,900	4,606	1923	10,668	13,681	1931	12,995	22,079
1916	5,222	5,270	1924	10,923	14,419	1932	15,417	24,111
1917	5,814	6,303	1925	12,432	16,444	1933	13,935	23,404

Year	Honolulu Advertiser ³	Honolulu Star-Bulletin ⁴	Hawaii Tribune-Herald ⁵	Year	Honolulu Advertiser ³	Honolulu Star-Bulletin ⁴	Hawaii Tribune-Herald ⁵
1933	13,135	20,973	NA	1956	45,611	91,532	10,110
1934	12,508	21,646	NA	1957	47,107	94,732	9,682
1935	13,026	24,141	NA	1958	46,347	97,680	9,755
1936	14,501	25,624	NA	1959	51,424	102,929	9,895
1937	16,473	27,986	NA	1960	64,287	104,901	9,884
1938	19,094	30,560	NA	1961	70,097	104,212	10,421
1939	19,235	31,975	3,529	1962	62,239	100,858	10,679
1940	25,418	38,188	4,674	1963	59,391	102,195	10,826
1941	30,989	47,066	5,110	1964	62,337	105,099	11,006
1942	56,795	74,069	9,263	1965	64,435	107,976	11,136
1943	84,203	92,194	10,398	1966	66,499	109,865	11,447
1944	136,819	143,470	10,349	1967	67,550	112,182	10,944
1945	140,414	156,041	9,166	1968	70,135	115,688	11,645
1946	60,095	85,474	8,910	1969	71,835	119,148	12,473
1947	52,857	77,328	9,357	1970	74,318	123,765	13,125
1948	49,261	79,567	9,517	1971	74,441	124,601	13,851
1949	48,083	76,414	9,623	1972	72,723	126,341	14,250
1950	44,965	77,696	9,848	1973	74,799	129,561	15,669
1951	48,972	76,715	9,542	1974	76,196	121,163	15,724
1952	47,427	80,968	9,702	1975	71,937	113,541	15,843
1953	46,889	83,827	9,683	1976	75,260	117,514	16,386
1954	46,663	85,961	9,858				
1955	50,814	91,355	10,222				

TABLE 18.6 (cont.)

1. Figure for 1893 is January average; data for 1912-1933 are from Post Office statements, as of October 1.
 2. From Post Office statements, as of October 1.
 3. Average paid circulation for six-month periods ended September 30, from Audit Bureau of Circulations reports. Excludes Sunday editions.
 4. Average paid circulation for six-month periods ended September 30, from Audit Bureau of Circulations reports. Excludes Saturday editions, 1934-1944 and 1955-1959, and Sunday editions for all years published.
 5. Average paid circulation for fourth quarter, 1939-1972, and six-month periods ended September 30, 1973 forward, from Audit Bureau of Circulations reports. Excludes Sunday editions.
- Source: Hawaii Newspaper Agency, Inc., records; Hawaii Tribune-Herald, records; Honolulu Advertiser, February 24, 1976, Sec. II, p. 14.

TABLE 18.7 POSTAGE, TELEPHONE, AND TELEGRAPH RATES AND NEWSPAPER PRICES,
1860 TO 1976
(Dollars)

Year (July 1)	Postage Rates for Letters ¹			Telegraph Rates ²		
	Local	Inter- island (surface)	To Mainland U.S. Surface Air	Cable	Radio	
1860	0.00	0.02	8 ...	...	...
1865	0.00	0.02	0.10	...	...
1870	0.00	0.02	0.06	...	...
1875	0.00	0.02	0.06	...	...
1880	0.01	0.02	0.06	...	...
1885	0.01	0.02	0.05	...	...
1890	0.01	0.02	0.05	...	...
1895	0.01	0.02	0.05	...	...
1900	0.02	0.02	0.02	...	...
1905	0.02	0.02	0.02	...	0.35	
1910	0.02	0.02	0.02	...	0.35	
1915	0.02	0.02	0.02	...	0.35	
1920	0.02	0.02	0.02	...	0.25	
1925	0.02	0.02	0.02	...	0.25	
1930 ⁹	0.02	0.02	0.02	...	0.20	
1935 ¹⁰	0.02	0.03	0.03	0.25	0.20	
1940	0.02	0.03	0.03	0.20	0.12	
1945	0.03	0.03	0.03	0.15	0.12	
1950	0.03	0.03	0.03	0.06	0.25	
1955	0.03	0.03	0.03	0.06	...	
1960	0.04	0.04	0.04	0.07	...	
1965	0.05	0.05	0.05	0.08	...	
1970	0.06	0.06	0.06	0.10	...	
1971	0.08	0.08	0.08	0.11	...	
1972	0.08	0.08	0.08	0.11	...	
1973	0.08	0.08	0.08	0.11	...	
1974	0.10	0.10	0.10	0.13	...	
1975	0.10	0.10	0.10	0.13	...	
1976	0.13	0.13	0.13	0.13	...	

TABLE 18.7 (cont.)

Year (July 1)	Telephone Rates (Honolulu) ³				Newspaper Prices ⁴	
	Local Call, Pay Phone ⁵	To Hilo ⁶	To San Francisco ⁶	Monthly Charge ⁷	Daily	Sunday
1860	...	...	...	...	...	...
1865	...	...	...	...	...	...
1870	...	...	...	...	...	...
1875	...	...	...	...	...	...
1880	...	...	...	6.00	...	...
1885	...	...	...	6.00	0.05	...
1890	...	...	...	2.00	0.05	...
1895	...	...	...	2.00	0.05	...
1900	...	...	...	2.50	0.05	...
1905	...	...	...	2.50	0.05	0.05
1910	...	...	...	3.50	0.05	0.05
1915	...	...	...	3.50	0.05	0.05
1920	...	...	...	3.25	0.05	0.05
1925 ⁹	...	...	...	4.00	0.05	0.10
1930 ⁹	...	3.00	21.00	4.00	0.05	0.10
1935 ¹⁰	0.05	3.00	21.00	3.75	0.05	0.10
1940	0.05	2.00	9.00	3.75	0.05	0.10
1945	0.05	2.50	11.25	4.31	0.05	0.10
1950	0.05	2.50	9.38	4.75	0.05	0.15
1955	0.10	1.93	8.25	7.26	0.05	0.15
1960	0.10	1.93	6.60	8.42	0.10	0.15
1965	0.10	1.32	6.05	8.42	0.10	0.20
1970	0.10	0.99	4.29	9.90	0.10	0.25
1971	0.10	0.99	4.29	9.90	0.15	0.35
1972	0.10	0.99	4.29	10.12	0.15	0.35
1973	0.10	0.97	4.25	10.63	0.15	0.35
1974	0.10	0.97	3.40	10.53	0.20	0.45
1975	0.10	0.96	3.37	10.17	0.20	0.50
1976	0.10	0.95	3.34	10.07	0.20	0.50

1. Rates for surface mail prior to June 14, 1900 and for airmail prior to October 1, 1946 are per half-ounce; all other rates are per ounce. The Honolulu Post Office was established December 22, 1850, and regular trans-pacific airmail service was initiated in November 1935.

2. Per full-rate word (noncoded language). Cable service between Hawaii and the mainland commenced January 2, 1903 and ceased operations November 17, 1951. Radio telegraph service between Hawaii and the mainland was inaugurated September 3, 1912.

3. Including tax. Telephone service commenced on Maui in 1879, Oahu and Kauai in 1880, and Hawaii in 1882.

4. Street sales price per copy for the Honolulu Advertiser (daily beginning in 1882, Sundays from 1903 to 1962), the Honolulu Star-Bulletin (daily beginning in 1912, Sundays from 1959 to 1962), and Sunday Star-Bulletin and Advertiser (beginning in 1962). The first newspaper in Hawaii appeared in 1834; the first full-scale dailies, in 1882.

5. Pay telephone service was announced July 10, 1935.

TABLE 18.7 (cont.)

6. Station-to-station operator-handled daytime calls, first three minutes. Interisland radiotelephone service was introduced November 2, 1931; transpacific radiotelephone service, December 23, 1931; and transpacific service by submarine telephone cable, in 1957. Long-distance rates for direct dialing, first available January 16, 1972, are considerably lower than rates for operator-handled calls.

7. For an individual residential line (RI) in Honolulu. Data for 1880-1890 are for Bell Telephone Company, which merged with Mutual (now Hawaiian) Telephone Company in 1895.

8. Rate varied with distance; for distances under 3,000 miles it was 10 cents per half-ounce.

9. Long-distance (Hilo and San Francisco) telephone rates refer to rates at introduction of service late in 1931.

10. Airmail rate to mainland refers to rate at introduction of service on November 22, 1935. Pay telephone rate refers to charge at introduction of service late in 1935.

Source: Postal rates from Civil Code, 1859, sec. 406; Henry A. Meyer et al., Hawaii, Its Stamps and Postal History (1948), pp. 75, 84, and 400-402; S.L.H. 1870, chap. XXXIV; S.L.H. 1872, pp. 41-43; S.L.H. 1878, chap. XVIII; Compiled Laws, 1884, art. VI, sec. 2; Hawaiian Almanac and Annual for 1890 (p. 13) and 1895 (p. 151); U.S. Post Office Department, United States Domestic Postage Rates, 1789 to 1956, pp. 22 and 89; and U.S. Postal Service, records. Telegraph rates from Federal Communications Commission, records. Telephone rates from Hawaiian Telephone Company, records. Newspaper prices from newspaper mastheads.

TABLES IN SECTION 19

- 19.1 Electric utility service, 1927 to 1976
- 19.2 Electric utility service by Hawaiian Electric Company, Inc., for Oahu, 1901 to 1976
- 19.3 Gas utility service, 1950 to 1976
- 19.4 Gas utility service by Gasco, Inc., for Oahu, 1905 to 1976
- 19.5 Liquid-fuel tax base, 1932 to 1976

SECTION 19

Energy

This section contains statistics on the production and use of electricity, gas, and liquid fuel. Section 5 presents data on fuel and utility price indexes; section 7, on consumer expenditures for fuel, light, and refrigeration; section 15, on housing units with electric lighting; section 17, on highway fuel consumption; and section 20, on gasoline service stations.

The earliest use of modern sources of energy for light, refrigeration, and power in Hawaii occurred in the 1850s. According to Thomas G. Thrum, the first steam engine in the islands was one imported for Koloa Plantation on August 3, 1853. Another engine, intended for Weston's Iron Works and Flour Mill, Honolulu, arrived the same year. The first shipment of ice, several tons brought from San Francisco, was landed June 22, 1852. The legislature chartered a Honolulu Gas Company in 1859, but the venture collapsed after the resident manager skipped town. Gas lights were introduced in Honolulu on September 2, 1859.

Electricity came into general use toward the end of the century. Electric lights were publicly demonstrated July 21, 1886, and soon afterwards were installed in Iolani Palace. Permanent electric street lighting was put into operation March 23, 1888, under the supervision of a "Superintendent of Government Electric Lights" in the Interior Department. Two years later Thrum's Annual reported that "the incandescent system for the lighting of stores and residences has been recently added, and is gradually being adopted." Hawaiian Electric Company, incorporated in 1891, within a few years began providing lights for private buildings in competition with the government system. Hilo Electric Light Company was incorporated in 1894.

Domestic gas became available in 1905, when Honolulu Gas Company, Limited, (now Gasco, Inc.) commenced operations.

New modes of transportation, developed after annexation, greatly expanded the demand for gasoline, diesel oil, and other liquid fuels. Hawaii saw its first automobile in 1899, its first airplane in 1910, and the coming of commercial jet aircraft service in 1959. A refinery, the first in the islands, was put into operation at Barbers Point, Oahu, in 1960.

Statistics on electric and gas utilities were first compiled shortly after the turn of the century. Data for Hawaiian Electric Company go back to 1901; for Honolulu Gas Company, to 1905. These organizations were the

only utilities of their type then serving Oahu, a status they still retain; consequently, statistics for the Oahu operations of these utilities generally reflect the overall trend of electricity and gas usage for the island. Other organizations initially served the neighbor islands, but over the years many of these smaller utilities either went out of business or merged. Unfortunately, little effort was made to compile territorywide data on utility operations prior to the 1920s, and records for most of these firms were probably lost.

Comprehensive reporting on electric and gas utilities was initiated by the Public Utilities Commission in 1924. This commission, created by the legislature in 1913, at first exercised only limited powers and published relatively few statistics. From 1925 to 1932, annual reports of the commission carried detailed tabulations on utility companies under its jurisdiction, eventually achieving all-island coverage. After 1932, annual reports were published only sporadically, and those that were issued often lacked the statistical detail of the earlier reports. The commission continued to maintain many of these series in unpublished form, however, and has from time to time released limited-distribution compilations of these data. In recent years, much of the information compiled by this agency (now the Public Utilities Division of the Department of Regulatory Agencies) has appeared in The State of Hawaii Data Book, published annually by the Department of Planning and Economic Development. Additional detail can be found in two annual publications of the Federal Power Commission, Statistics of Privately Owned Electric Utilities in the United States and Typical Electric Bills, as well as in the annual reports of individual utilities.

Not all of these statistics permit precise long-term comparisons. The Hawaiian Electric Company, for example, did not compile data on net kilowatt-hour input and total electricity sold until 1918 (net input equals net generated plus purchased power); before that time, only the gross amount generated was available. In regard to gas utilities, sales prior to World War II were usually measured in cubic feet rather than therms, the current unit of measurement. Unfortunately, no exact conversion is possible. There is moreover some uncertainty with respect to the inclusion or exclusion of bottled gas in certain years.

Statistics on the consumption of liquid fuels were first systematically compiled in 1932, as a consequence of the enactment of the Hawaii Fuel Tax Law. This law was put into effect April 1, 1932 and was subsequently amended on several occasions. One such change occurred as of July 1, 1936; before that

time, fuel sold in gasoline service stations, post exchanges, commissaries, and other outlets on military bases was exempt from the tax, but thereafter such fuel, when not for the exclusive use of the U.S. government, was taxed. Published tabulations showed separate totals, in gallons, for gasoline, diesel oil and liquefied petroleum gas (separately for amounts used for highway and nonhighway purposes), aviation fuel (beginning in 1937), and small boat fuel (1953). Inasmuch as these data pertained to the liquid-fuel tax base, and not total consumption, they excluded federal usage; moreover, they referred to the month in which sales were reported and thus tended to lag a month or so behind actual use of the fuel. Annual totals were initially published in Report of the Treasurer and later in Annual Report of the Tax Commissioner and an annual tabular release from the Department of Taxation, "Tax Base for Certain Taxes."

Nationwide statistics on energy and power can be found in Historical Statistics of the United States, Colonial Times to 1970, chapter S, and annual editions of Statistical Abstract of the United States.

TABLE 19.1 ELECTRIC UTILITY SERVICE, 1927 TO 1976
 (Statewide totals for all electric utility companies reporting to the Public Utilities Division.
 For Oahu data, see table 19.2.)

Year	Electricity Sold (1,000 kwh)		Electricity Sold (1,000 kwh)		Electricity Sold (1,000 kwh)		Electricity Sold (1,000 kwh)		Year	Electricity Sold (1,000 kwh)
	Year	Year	Year	Year	Year	Year	Year			
1927	70,463	...	149,791	1941	321,003	1945	633,322			
1928	86,176	...	179,554	1942	399,704	1946	487,867			
1929	92,131	119,462	207,557	1943	465,122	1947	516,940			
1930	86,699	119,992	240,040	1944	531,681	1948	560,255			
1931	100,927	131,239								

Year	Number of Customers, Dec. 31		Electricity Sold (1,000 kwh)		Average Annual Use (kwh)		Average Rate (dollars per kwh)		Installed Capacity, Dec. 31 (kw)
	Resident- total	Other	Total	Resident- total	Resident- total	Other	Resident- total	Other	
1949	...	...	582,465	...	2,354	...	...	...	252,955
1950	85,069	21,018	599,309	203,284	2,390	396,025	.029406	.020066	284,706
1951	92,710	26,025	669,069	233,399	2,518	435,670	.029184	.020469	285,700
1952	96,774	21,424	753,913	265,495	2,743	488,418	.028645	.019888	285,688
1953	102,013	22,024	815,387	290,599	2,849	524,788	.029502	.020858	290,288
1954	108,280	22,827	862,282	329,718	3,045	532,564	.029404	.021571	299,663
1955	112,555	23,208	962,306	374,700	3,329	587,606	.029659	.021949	294,043
1956	116,175	23,439	1,041,943	411,449	3,542	630,494	.030748	.022977	344,043
1957	120,249	23,542	1,155,372	450,893	3,750	704,479	.031732	.023679	349,438
1958	123,070	23,823	1,253,844	481,907	3,916	771,937	.031167	.023089	469,343
1959	127,336	24,602	1,422,145	519,222	4,078	902,923	.030240	.021664	469,343
1960	132,440	25,138	1,602,197	580,849	4,386	1,021,348	.029723	.021559	527,708
1961	136,788	25,664	1,766,031	624,730	4,567	1,141,301	.029057	.021015	543,737
1962	140,661	26,440	1,966,105	678,628	4,825	1,287,477	.028886	.020722	

TABLE 19.1 (cont.)

Year	Number of Customers, Dec. 31		Electricity Sold (1,000 kwh)		Average Annual Use (kwh)		Average Rate (dollars per kwh)		Installed Capacity, Dec. 31 (kw)
	Residential	Other	Total	Residential	Other	Residential	Other		
1963	144,638	27,194	2,077,570	730,317	1,347,254	5,049	49,542	.028389	628,312
1964	149,547	28,137	2,284,275	786,118	1,498,157	5,257	53,245	.027949	716,312
1965	154,822	28,901	2,445,024	853,086	1,591,939	5,510	55,082	.027569	731,395
1966	160,784	29,492	2,639,866	912,616	1,727,250	5,676	58,567	.019949	830,644
1967	166,256	30,161	2,832,468	989,785	1,842,684	5,953	61,109	.020037	829,157
1968	171,346	30,821	3,109,256	1,083,233	2,026,023	6,322	65,735	.020022	894,532
1969	178,569	31,761	3,426,052	1,174,502	2,251,550	6,577	70,890	.019647	896,271
1970	186,282	32,721	3,758,094	1,270,732	2,487,362	6,822	76,017	.020113	1,007,021
1971	193,043	33,471	4,167,127	1,375,308	2,791,819	7,124	83,410	.021493	1,016,350
1972	201,903	34,406	4,562,568	1,493,840	3,068,728	7,399	89,192	.02172	1,135,055
1973	210,740	35,515	4,867,850	1,581,855	3,285,995	7,506	92,524	.02367	1,266,600
1974	219,633	36,268	5,113,906	1,635,978	3,477,928	7,449	95,895	.02704	1,419,892
1975	226,836	36,980	5,334,755	1,676,438	3,658,317	7,391	98,927	.03794	1,454,359
1976	232,070	37,965	5,615,209	1,750,618	3,864,592	7,543	101,794	.03934	1,454,359

Source: Hawaii State Department of Regulatory Agencies, Public Utilities Division, Historical Data, Gas and Electric Utilities, State of Hawaii, 1959 to 1968, p. 4, and records.

TABLE 19.2 ELECTRIC UTILITY SERVICE BY HAWAIIAN ELECTRIC COMPANY, INC., FOR OAHU, 1901 TO 1976

Year	Number of Customers, December 31		Net Input ¹ (1,000 kwh)	Power Sold (1,000 kwh)	Average Annual Residential Use kwh)	Average Residential Rate (dollars per kwh)	Installed Capacity, Dec. 31 ² (kw)
	Total	Residential Only					
1901	...	...	1,690	...	...	...	...
1902	...	...	1,977	...	...	...	...
1903	...	...	1,971	...	...	...	...
1904	...	...	1,920	...	...	...	...
1905	...	...	1,928	...	...	...	...
1906	...	...	1,985	...	...	...	...
1907	...	...	2,293	...	...	...	600
1908	...	...	2,608	...	...	...	750
1909	...	...	3,391	...	...	...	750
1910	...	...	3,926	...	...	...	750
1911	...	...	4,446	...	...	...	2,250
1912	4,795	...	4,982	...	...	...	2,250
1913	5,891	...	6,379	...	...	...	2,250
1914	6,142	...	6,831	...	...	...	4,750
1915	7,031	...	8,396	...	...	...	4,750
1916	8,476	...	9,886	...	...	...	4,750
1917	9,917	...	11,476	...	...	...	4,750
1918	10,823	...	12,217	11,232	...	...	4,750
1919	12,688	...	15,640	14,401	...	...	4,750
1920	14,800	...	20,121	18,028	301	...	14,750
1921	17,250	...	29,722	24,826	...	...	24,750
1922	19,741	...	38,840	32,838	383	0.07557	24,750
1923	22,429	...	54,247	46,880	374	0.07630	24,000
1924	24,816	...	61,727	53,572	...	...	24,000
1925	26,808	...	66,783	58,500	360	0.07700	32,500
1926	28,425	...	73,624	65,176	370	0.07600	32,500
1927	30,976	...	75,522	67,218	411	0.07300	32,500
1928	33,376	...	90,861	81,813	464	0.06900	32,500
1929	35,772	...	97,942	86,736	509	0.06600	32,500
1930	37,654	...	92,915	81,045	568	0.06300	50,000
1931	40,650	...	105,573	93,482	618	0.06100	50,000
1932 ³	39,065	...	104,133	91,025	694	0.05600	50,000
1933	38,350	...	110,773	97,857	720	0.05506	60,000
1934	39,759	30,480	117,913	105,225	765	0.05142	60,000
1935	40,377	31,021	116,560	104,076	822	0.04806	60,000
1936	42,031	32,764	125,836	112,506	891	0.04546	60,000
1937	43,657	34,469	144,738	129,650	978	0.04254	60,000
1938	45,995	36,414	174,887	158,640	1,050	0.04037	67,500

TABLE 19.2 (cont.)

Year	Number of Customers, December 31		Net Input ¹ (1,000 kwh)	Power Sold (1,000 kwh)	Average Annual Residen- tial Use (kwh)	Average Residen- tial rate (dollars per kwh)	Installed Capacity, Dec. 31 ² (kw)
	Total	Residen- tial Only					
1939	48,326	38,630	201,188	184,846	1,123	0.03934	67,500
1940	51,182	41,465	232,751	213,189	1,244	0.03419	82,500
1941	54,727	44,672	316,322	291,826	1,412	0.03292	82,500
1942	54,459	44,892	402,231	371,543	1,392	0.03260	82,500
1943	54,896	44,944	458,186	423,885	1,568	0.03162	82,500
1944	56,458	46,213	523,576	475,067	1,647	0.03082	117,500
1945	57,678	47,299	608,682	571,734	1,789	0.03062	117,500
1946	60,016	48,958	472,471	439,515	1,932	0.02899	137,500
1947	64,645	52,581	501,394	460,256	2,125	0.02885	157,500
1948	68,996	55,792	540,579	494,405	2,360	0.02779	157,500
1949	73,913	60,053	557,579	507,419	2,552	0.02704	157,500
1950	76,259	61,956	575,649	522,325	2,688	0.02662	197,500
1951	80,307	65,683	631,645	575,222	2,866	0.02621	197,500
1952	83,708	68,882	705,141	647,315	3,076	0.02558	197,500
1953	86,593	71,587	764,105	699,439	3,242	0.02688	197,500
1954	90,576	75,274	795,127	729,583	3,500	0.02648	237,500
1955	94,915	79,348	880,860	814,091	3,787	0.02708	237,500
1956	99,134	83,309	953,694	885,046	3,982	0.02854	237,500
1957	102,909	86,928	1,048,461	970,746	4,224	0.02932	287,500
1958	106,455	90,185	1,136,279	1,054,934	4,392	0.02886	287,500
1959	111,378	94,287	1,304,572	1,204,880	4,574	0.02774	385,050
1960	117,227	99,377	1,468,461	1,370,880	4,920	0.02722	385,050
1961	121,668	103,376	1,626,950	1,518,184	5,085	0.02659	439,450
1962	125,866	107,008	1,798,338	1,693,763	5,349	0.02645	439,450
1963	130,228	110,729	1,923,930	1,799,824	5,588	0.02607	520,750
1964	135,352	115,000	2,102,472	1,972,110	5,803	0.02578	602,050
1965	140,904	119,883	2,238,936	2,107,709	6,058	0.02548	602,050
1966	146,465	124,929	2,431,363	2,282,968	6,234	0.02522	684,250
1967	151,554	129,591	2,645,853	2,480,323	6,510	0.02493	684,250
1968	156,386	133,884	2,914,104	2,727,627	6,915	0.02465	725,850
1969	162,439	139,271	3,201,353	3,004,187	7,222	0.02442	725,850
1970	168,531	144,854	3,494,059	3,275,673	7,478	0.02438	811,700
1971	174,300	150,285	3,844,325	3,600,728	7,776	0.02555	811,700
1972	180,794	156,249	4,175,342	3,942,679	8,108	0.02584	902,600
1973	187,321	162,180	4,407,460	4,189,397	8,191	0.02812	1,005,200
1974	194,043	168,525	4,641,204	4,393,616	8,110	0.03063	1,140,180
1975	198,598	172,839	4,793,015	4,555,118	7,999	0.04313	1,140,180
1976	201,974	175,581	5,038,487	4,761,592	8,082	0.04385	1,140,180

1. Data before 1918 refer to gross generated. Beginning in 1936, data include purchased power.

2. Maximum generator nameplate.

3. Decrease in number of customers due to introduction of single meter service (AC) replacing "A" and "C" meters.

Source: Hawaiian Electric Company, records.

TABLE 19.3 GAS UTILITY SERVICE, 1950 TO 1976
 (Statewide totals as reported by the Public Utilities Division; for Oahu data, see table 19.4.
 Excludes sales of bottled gas.)

Calendar Year	Customers, Dec. 31		Gas Sold (1,000 therms)		Average Annual Use (therms)		Average Rate (dollars per therm)	
	Residential	Nonresidential	Total	Residential	Nonresidential	Residential	Nonresidential	
1950	32,392	2,935	11,453	8,755	2,698	270	0.2348	0.1744
1951	34,842	3,191	12,197	9,365	2,832	269	0.2630	0.1914
1952	35,377	3,044	12,708	9,352	3,356	264	0.3008	0.1908
1953	35,248	2,999	12,992	9,432	3,560	268	0.3095	0.1954
1954	35,063	3,039	12,821	9,110	3,711	260	0.3405	0.2125
1955	35,513	3,055	13,517	9,661	3,856	272	0.3393	0.2146
1956	35,513	2,992	13,912	9,802	4,110	276	0.3492	0.2232
1957	35,527	2,935	14,132	9,874	4,258	278	0.3765	0.2500
1958	35,527	2,820	14,520	10,015	4,505	282	0.3674	0.2398
1959	35,826	2,657	14,869	10,018	4,851	280	0.3538	0.2246
1960	35,536	2,555	15,881	10,299	5,582	290	0.3619	0.2280
1961	35,857	2,227	16,790	10,502	6,289	293	0.3685	0.2263
1962	35,463	2,050	18,197	10,839	7,358	306	0.3679	0.2262
1963	35,034	1,874	18,914	10,775	8,139	308	0.3666	0.2238
1964	34,994	1,515	19,697	10,919	8,778	312	0.3639	0.2202
1965	34,775	1,428	20,397	11,016	9,381	317	0.3634	0.2186
1966	34,956	1,355	21,019	11,171	9,848	320	0.3626	0.2185
1967	35,000	1,382	22,547	11,348	11,198	324	0.3618	0.2179
1968	34,955	1,300	23,570	11,331	12,240	324	0.3618	0.2169
1969	34,829	1,305	25,649	11,848	13,801	340	0.3588	0.2156
1970	32,163	3,979	27,831	10,891	16,940	339	0.3619	0.2227
1971	32,072	4,081	30,445	9,279	21,167	289	0.3699	0.2308
1972	31,806	4,277	33,322	9,321	24,000	293	0.3684	0.2268
1973	31,142	4,639	34,540	8,931	25,609	287	0.3752	0.2312
1974	30,620	4,608	34,363	8,096	26,267	264	0.6836	0.5227
1975	30,236	4,449	35,594	8,230	27,364	272	0.8172	0.6358
1976	29,873	4,391	35,568	8,121	27,447	272	0.8277	0.6337

TABLE 19.3 (cont.)

1. Because of reclassification of some commercial accounts, data on residential and nonresidential customers, sales and use for 1970 and later years are not directly comparable to earlier data.

Source: Hawaii State Department of Regulatory Agencies, Public Utilities Division, Historical Data, Gas and Electric Utilities, State of Hawaii, 1959 to 1968, and records.

TABLE 19.4 GAS UTILITY SERVICE BY GASCO, INC., FOR OAHU, 1905 TO 1976

Calendar Year	Customers ¹	Gas Sold ² (million cubic feet)	Calendar Year	Gas Sold ²		
				Customers ¹	Million cubic feet	1,000 therms
1905 ³	240	...	1929	13,534	410	...
1906-1909	...	...	1930	14,144	432	...
1910	1,928	47	1931	14,589	466	...
1911-1914	...	...	1932	14,940	472	...
1915	4,551	119	1933	14,923	444	...
1916	5,011	136	1934	15,420	429	...
1917	5,383	132	1935	16,185	454	...
1918	5,649	138	1936	17,408	505	...
1919	6,049	158	1937	19,636	583	...
1920	6,762	197	1938	21,125	664	...
1921	...	225	1939	22,875	730	3,758
1922	8,350	244	1940	24,265	855	4,405
1923	9,230	271	1941	27,172	1,097	5,650
1924	9,942	294	1942	29,109	1,297	6,679
1925	10,824	320	1943	30,171	1,551	7,987
1926	11,445	319	1944	31,478	1,812	9,331
1927	12,168	343	1945	32,799	1,953	10,058
1928	12,787	384	1946	33,772	2,041	10,509

Calendar Year	Customers ¹		Total Gas Sold ²		Residential Gas Sold ²		Average Annual Residential Usage ² (therms)
	Total	Residential	Million Cubic Feet	1,000 Therms	Million Cubic Feet	1,000 Therms	
1947	33,491	30,427	2,221	11,370	1,657	...	...
1948	34,386	31,369	2,302	11,833	1,732	...	...
1949	34,804	31,906	2,271	11,696	1,728	...	...
1950	35,327	32,392	2,224	11,453	1,700	...	...
1951	35,869	32,946	2,295	11,820	1,767	...	...
1952	36,355	33,556	...	12,303	...	9,074	270
1953	36,248	33,471	...	12,622	...	9,177	274
1954	36,136	33,314	...	12,445	...	8,848	266
1955	36,527	33,678	...	13,101	...	9,368	278
1956	36,497	33,703	...	13,468	...	9,494	282
1957	36,460	33,721	...	13,698	...	9,563	284
1958	36,366	33,734	...	14,094	...	9,701	288
1959	36,458	33,989	...	14,399	...	9,679	285

TABLE 19.4 (cont.)

Calendar Year	Customers ¹		Gas Sold ² (1,000 therms)		Average Annual Residential Usage ² (therms)
	Total	Residential	Total	Residential	
1960	36,152	33,773	15,354	9,951	295
1961	35,942	33,724	16,210	9,981	296
1962	35,327	33,281	17,548	10,272	309
1963	34,761	32,892	18,249	10,192	310
1964	34,329	32,817	19,011	10,316	314
1965	34,040	32,615	19,711	10,409	319
1966	34,168	32,819	20,297	10,544	321
1967	34,237	32,862	21,708	10,701	326
1968	34,079	32,787	22,668	10,666	325
1969	33,908	32,611	24,659	11,102	340
1970	33,851	29,880	26,696	10,026	336
1971	33,691	29,621	29,082	8,290	280
1972	33,479	29,256	31,643	8,258	282
1973	33,142	28,813	32,610	8,041	279
1974	32,455	28,200	32,166	7,522	267
1975	31,856	27,778	32,885	7,600	274
1976	31,443	27,429	32,649	7,490	276

1. Exact date unspecified, 1905-1939; as of December 31, 1940 and later years. Data for 1922-1946 refer to meters in service rather than customers; however, it is unlikely that many customers prior to 1947 required a multiple meter installation, and for practical purposes the meter count serves as a reasonably close approximation of the number of customers. Data for residential customers, 1947-1970, may include a few commercial accounts.

2. Beginning in mid-1950s, includes LPG (liquefied petroleum gas) as well as manufactured gas.

3. Gasco, Inc., was incorporated (as Honolulu Gas Company, Ltd.) in 1904 and commenced service in 1905.

Source: "Three Young Men and a Franchise: The Story of the Honolulu Gas Co., Ltd.," The Hawaiian Annual for 1939, pp. 116-118; Chamber of Commerce of Honolulu, Business Statistics, 1922-1936, General Information About Honolulu, Hawaii, U.S.A. for 1928-1938, 1935-1939, 1936-1940, and 1938-1942, and Hawaii Facts and Figures for 1942-1945 and 1945-1946; Public Utilities Commission, Annual Report for 1925-1932, and records; Gasco, Inc., records.

TABLE 19.5 LIQUID-FUEL TAX BASE, 1932 TO 1976
(In thousands of gallons. Excludes fuel used by the federal government.)

Calendar Year ¹	Total	Gasoline	Diesel Oil and Liquefied Petroleum Gas			
			Nonhighway Use	Highway Use	Aviation Fuel	Small Boats
1932 ²	23,545	23,545	--	--	--	--
1933	34,368	30,557	3,811	--	--	--
1934	36,744	31,791	4,952	--	--	--
1935	38,008	32,772	5,236	--	--	--
1936 ³	43,516	37,466	6,050	--	--	--
1937	48,491	41,294	6,938	--	259	--
1938	50,859	43,649	6,857	--	353	--
1939	53,279	45,634	7,367	--	279	--
1940	59,369	50,923	8,062	--	383	--
1941	67,198	57,695	8,818	--	685	--
1942	43,917	34,422	6,688	220	2,587	--
1943	38,626	30,580	7,038	378	630	--
1944	48,354	37,335	9,948	466	605	--
1945	56,583	44,517	10,849	508	708	--
1946	77,212	60,639	12,482	327	3,765	--
1947	103,437	72,411	20,229	889	9,908	--
1948	118,905	80,782	25,010	1,053	12,061	--
1949	124,448	83,400	26,213	1,333	13,502	--
1950	134,891	87,286	26,710	1,310	19,586	--
1951	161,693	96,236	31,494	1,252	32,711	--
1952 ⁴	168,575	101,605	31,179	1,546	34,245	--
1953 ⁴	167,090	104,511	26,083	1,632	33,700	1,164
1954 ⁴	154,676	104,657	21,633	1,775	23,481	3,130
1955 ⁴	163,784	110,213	20,000	2,010	27,018	4,544
1956 ⁴	178,307	114,835	21,872	2,093	35,843	3,664
1957 ⁴	185,277	118,512	21,359	2,579	38,993	3,835
1958 ⁴	186,508	118,939	19,758	3,002	41,031	3,778
1959	208,925	127,845	26,228	3,683	49,454	1,715
1960	250,499	138,219	28,134	3,898	78,890	1,358
1961	278,428	143,621	31,894	3,783	97,500	1,629
1962	299,317	148,934	32,009	4,128	112,752	1,495
1963	317,948	152,347	34,888	4,241	124,880	1,592
1964	357,859	160,786	38,945	4,693	151,911	1,525
1965	395,595	169,670	38,954	5,312	180,052	1,607
1966	481,361	177,627	40,453	5,628	256,175	1,479
1967	572,354	188,717	40,026	5,651	336,359	1,600
1968	619,803	197,663	41,994	6,819	371,686	1,642
1969	743,255	223,088	49,821	7,944	460,753	1,650
1970	754,632	235,178	58,943	8,303	450,474	1,733

TABLE 19.5 (cont.)

Calendar Year ¹	Total	Gasoline	Diesel Oil and Liquefied Petroleum Gas			
			Nonhighway Use	Highway Use	Aviation Fuel	Small Boats
1971	809,628	250,191	58,449	9,432	489,767	1,790
1972	827,825	261,452	66,394	10,225	487,743	2,011
1973	882,932	281,122	76,517	11,612	511,502	2,178
1974	824,653	270,267	77,217	12,328	463,728	1,112
1975	839,289	284,552	76,943	14,090	462,384	1,319
1976	850,261	295,704	81,741	14,616	456,819	1,381

1. Calendar year in which reported. Fuel sold in December is reported the following month; these data accordingly refer to a "fuel consumption year" ended November 30.

2. The Hawaii Fuel Tax Law was enacted by the 1932 territorial legislature (L. 1932, 1st, c. 19, s. 14) and was put into effect April 1, 1932; totals for 1932 accordingly cover only the last nine months of the year. The act has been amended several times; see H.R.S., ch. 243.

3. Prior to July 1, 1936, fuel sold in gasoline service stations, post exchanges, commissaries, and other outlets on military bases was exempt from the tax; beginning on that date, such fuel, when not for exclusive use of the U.S. government, was included in the tax base.

4. Because of an accounting error, one large supplier misreported non-highway diesel oil as fuel for small boats from 1953 to 1958.

Source: Report of the Treasurer for 1936 (p. 26) and 1942 (p. 32); Annual Report of the Tax Commissioner for 1941-1947 (p. 24) and 1954 (p. 39); Department of the Tax Commissioner, "Tax Collections, Base and Distribution, Liquid Fuel Taxes" for 1956 and 1957, and records; Hawaii State Department of Taxation, "Tax Base for Certain Taxes" (annual release, 1959-1976).

TABLES IN SECTION 20

- 20.1 General excise tax base for trade and service activities, 1936 to 1976
- 20.2 Retail trade, 1939 to 1972
- 20.3 Retail sales in major retail centers on Oahu, 1948 to 1972
- 20.4 Shopping centers, 1948 to 1976
- 20.5 Consumption of imported spirits and wines, 1847 to 1899
- 20.6 Liquor and tobacco tax bases, 1940 to 1976
- 20.7 Wholesale trade, 1939 to 1972
- 20.8 Selected services, 1939 to 1972
- 20.9 Hotel units, occupancy rates, employment, and payroll, 1927 to 1976
- 20.10 Feature motion pictures filmed partly or wholly in Hawaii, 1905 to 1976

SECTION 20

Distribution and Services

This section contains statistics on retail trade, wholesale trade, shopping centers, liquor and tobacco consumption, hotels, and various service activities--personal, business, automotive, repair, and amusement and recreation. Related series appear in section 4 (on employment, wages, and hours), section 5 (prices), section 6 (income by source), section 7 (family expenditures), section 11 (visitor expenditures), section 12 (land use), and section 17 (passenger car sales).

Relatively few statistics on distribution and services were compiled for Hawaii prior to 1939. The earliest seems to be C. S. Stewart's contemporary note stating that Honolulu in 1823 had only four mercantile establishments, and that "the whole trade of the four probably amounts to one hundred thousand dollars a year--sandal wood principally, and specie, being the returns for imported manufactures." Newspaper accounts and similar sources occasionally contained informal counts of the number of stores, restaurants, or hotels in Honolulu, but such data were too sporadic and lacking in comparability for any kind of trend analysis. The business licenses issued by the minister of the interior might have provided a fruitful source of data, but published tabulations were generally limited to the total value of fees collected. Another potentially useful source, the city directories which began to appear during the last third of the nineteenth century, has never been subjected to systematic analysis covering a wide range of activities. Statistics on retail sales and service receipts, payrolls, operating expenditures, and inventories are totally lacking, not only for the earlier years but also well into the twentieth century. Only employment appears to have received serious attention during these decades.

Statistics on employment in various trade and service activities have been collected in official censuses since 1872, when 728 "merchants" were counted in the kingdom. The 1884 census provided considerably greater detail, with many specific retail and service jobs included in its 139 occupational categories. The only such classifications in 1890 and 1896 were "merchants and traders" and "clerks and salesmen," but in 1900 the number of occupational groups once again expanded to include a wide range of retailing, wholesaling, and service categories. As late as 1930 no clear distinction was made between occupation and industry in census tabulations; beginning in 1940, however,

occupation and industry were shown separately, with detailed breakdowns for wholesale and retail trade and various types of services. In recent censuses, these employment statistics have been cross-tabulated by a wide range of demographic, social, and economic characteristics.

The first census of business (as distinguished from the population censuses described above) was conducted in Hawaii by the U.S. Bureau of the Census early in 1940, covering calendar 1939. Retailing, wholesaling, and hotels and other selected services were included. The published results of this census contained extensive tabulations, by kind of business and geographic area, on the number of establishments, annual sales or receipts, and the number of proprietors and employees.

Similar censuses of business were taken by the Bureau of the Census for 1948, 1954, 1958, 1963, 1967, and 1972. Statistics on payrolls were first collected in 1948, together with data on operating expenses and end-of-year inventories for wholesale establishments. The 1948 census was also the first to include a special tabulation of data by census tracts, paid for by the Chamber of Commerce of Honolulu; a similar breakdown of 1963 data was later undertaken with University of Hawaii funds. The 1954 business census reported separate statistics for the Honolulu central business district, and provided comparable data for 1948. In 1958 this program was expanded to include all major retail centers. All seven business censuses taken to date have been published by the Bureau of the Census in preliminary reports, final bulletins, and bound volumes. Except for data excerpted by the Honolulu Redevelopment Agency (in Redevelopment and Housing Research for January 1957), however, the special tabulations of 1948 and 1963 census tract data remain unpublished.

Annual statistics on "employing units," employment, and payrolls by kind of business are available from both the U.S. Bureau of the Census and Hawaii State Department of Labor and Industrial Relations. Issued by the Bureau of the Census on an irregular schedule from 1946 to 1962 and annually since 1964, County Business Patterns presents first-quarter data by county in considerable kind-of-business detail. An annual publication of the Department of Labor and Industrial Relations, Employment and Payrolls in Hawaii, contains monthly employment totals and quarterly data on employers and payrolls. Both publications are based on taxable payroll data for workers covered by employment security or old age and survivors insurance legislation.

Still another source of statistics on trade and service activity is the

general excise tax base, covering business income reported to the Hawaii State Department of Taxation, and published by that agency in a series of monthly and annual reports extending back to 1936. Data are shown separately for retailing, wholesaling, "services" (primarily business and professional), theater (including amusement and broadcasting), and, since 1970, hotel rentals. Tabulations of excise tax base data refer to the month in which reported; income received in December, for example, is included with data for the following year. County breakdowns for tax base data are misleading, because businesses operating on more than one island report their entire income from their home island, usually Oahu. Comparison of general excise tax base data with corresponding totals on sales or receipts in the censuses of business has, moreover, revealed a surprising lack of correlation.

Statistics on shopping centers go back to 1948. One source, already described, is the bulletin on major retail centers from the census of business; these reports contain considerable detail, not only for "planned" centers but also for the Honolulu central business district and Waikiki. The second source is a special analysis of data on integrated or "planned" shopping centers, prepared by the Department of Business Research of the Bank of Hawaii from information in a comprehensive listing issued from time to time by the Chamber of Commerce of Hawaii. This tabulation shows annual data on the number of stores and their gross leasable area, separately for Oahu and the neighbor islands.

Statistics on the consumption of tobacco and alcoholic beverages are often reported separately from other retail sales, in part because of differential tax treatment and also because of their implications for health and welfare. From 1847 to 1899, gallonage data on imported wines and spirits were compiled by the Hawaiian government as a by-product of its collection of custom duties. In 1939, after a four-decade statistical gap, the territory enacted an ad valorem tax on liquor and tobacco sold in the islands. The tax was initially based on retail values, but it was later switched to wholesale values. The total tax base for each product is published in monthly and annual reports by the Department of Taxation.

Statistics on hotels are a relatively recent development. As noted earlier, limited information has been compiled in the census of selected service industries since 1939; coverage appears to have varied from census to census, however, and comparability with corresponding values from alternate sources is questionable. Statistics on hotel employment and payrolls, based on employer reports

for workers covered by the Hawaii Employment Security Law, likewise go back to 1939; quarterly and annual tabulations for the state and each island appear in Employment and Payrolls in Hawaii, an annual publication of the Hawaii State Department of Labor and Industrial Relations. Except for these two sources, hotel data prior to World War II are limited to scattered room counts of dubious comparability.

The regular collection of hotel inventory and occupancy data was belatedly initiated in the early 1950s. Comprehensive surveys of the number of hotel units on each island were conducted by the accounting firm of Harris, Kerr, Forster and Company, first in 1952 for the Hawaii Visitors Bureau and again in 1959-1960 for the State Planning Office. During the mid-1950s, these hotel unit inventories were updated annually and extended back to 1946 by John Child and Company for the HVB Research Committee. This series was subsequently taken over by the HVB Research Department, which in recent years has published a Visitor Plant Inventory three times annually, for February, June, and October. The HVB Research Department also arranged to include the Hawaii Hotel Association's monthly survey of Waikiki hotel occupancy rates, initiated in 1954, in its monthly and annual research reports. Beginning in 1962, these data were supplemented with neighbor island hotel occupancy rates, as surveyed by HVB. Both the Waikiki and neighbor island surveys have been beset by technical problems, and some major areas--notably Oahu outside Waikiki--are still uncovered.

Statistics on distribution and services for the nation as a whole are presented in Historical Statistics of the United States, Colonial Times to 1970, chapter T, and in annual editions of Statistical Abstract of the United States.

TABLE 20.1 GENERAL EXCISE TAX BASE FOR TRADE AND SERVICE ACTIVITIES, 1936 TO 1976
(Thousands of dollars)

Year Reported ¹	Retailing	Services ²	Theater, Amusement, Broadcasting, etc.	Wholesaling ²	Hotel Rentals ⁴
1936	105,714	15,310	3,115	...	...
1937	122,696	18,407	3,514	...	...
1938	125,203	16,797	4,110	...	...
1939	128,556	16,674	4,327	75,113	...
1940	144,795	20,566	5,038	91,707	...
1941	190,256	25,630	7,106	127,854	...
1942	255,482	33,488	7,394	144,371	...
1943	333,567	41,411	12,310	178,119	...
1944	386,426	50,595	17,184	219,780	...
1945	427,387	56,425	15,425	219,110	...
1946	416,313	61,140	14,033	226,290	...
1947	472,242	72,351	14,389	277,462	...
1948	495,048	72,812	13,278	242,359	...
1949	499,044	68,361	12,857	209,846	...
1950	480,472	69,271	13,293	219,924	...
1951	539,005	75,635	13,275	251,417	...
1952	521,189	80,622	14,308	242,511	...
1953	541,294	83,323	13,452	251,119	...
1954	540,742	93,235	13,235	249,472	...
1955	588,987	108,527	16,686	264,297	...
1956	612,109	108,380	18,786	268,478	...
1957	666,468	128,548	24,159	277,651	...
1958	664,973	135,730	19,305	282,734	...
1959	756,003	165,402	21,174	320,194	...
1960	846,729	188,752	21,940	354,598	...
1961	859,563	203,354	21,911	359,725	...
1962	920,956	228,420	22,654	386,135	...
1963	928,895	231,777	22,919	396,462	...
1964	998,510	240,909	25,095	435,707	...
1965	1,097,826	260,693	27,681	482,563	...
1966	1,184,736	276,833	29,425	547,031	...
1967	1,271,932	305,691	30,924	570,678	...
1968	1,423,835	358,852	36,203	651,512	...
1969	1,670,288	451,814	39,220	747,204	...
1970	1,895,089	504,191	43,588	854,660	176,923
1971	2,030,170	523,824	48,503	918,425	198,539
1972	2,213,704	578,260	53,108	1,002,214	227,058
1973	2,560,799	697,419	60,079	1,220,818	264,519
1974	2,959,201	783,771	66,557	1,374,819	319,109
1975	3,382,804	919,912	74,561	1,527,057	365,919
1976	3,724,488	978,091	82,134	1,721,874	433,300

TABLE 20.1 (cont.)

1. Calendar year in which reported, including "prior years" reports. Income received in December is reported the following January; hence these annual totals generally refer to an "income year" ended November 30.
 2. Includes both business and professional services but excludes hotels, theater, amusement, broadcasting, and intermediary services.
 3. Not reported separately before 1939.
 4. Not reported separately before 1970.
- Source: Report of the Tax Commissioner for 1940, 1941-1947, and 1954; Hawaii State Department of Taxation, "General Excise and Use Tax Base" (annual tabular release) for 1955 and later years.

TABLE 20.2 RETAIL TRADE, 1939 TO 1972

Kind of Business and Year ¹	All Establishments				Establishments with Payroll			
	Number	Sales (\$1,000)	Proprietors ²	Number	Sales (\$1,000)	Payroll, Entire Year (\$1,000)	Paid Employees ³	
All retail trade								
1939	4,256	120,681	3,675	NA	NA	NA	14,326	
1948	4,881	382,680	4,835	NA	NA	43,753	19,673	
1948 (1954 def.)	4,698	373,925	NA	3,156	339,827	NA	NA	
1954	4,807	426,115	5,104	3,019	394,577	48,055	21,578	
1958	4,760	521,877	4,795	3,130	491,231	61,144	25,263	
1958 (1963 def.)	4,760	516,177	NA	3,130	485,531	NA	NA	
1963	4,578	751,411	3,907	3,354	725,977	99,204	33,845	
1967	5,212	1,083,458	4,408	3,537	1,041,540	147,608	41,347	
1972 (1967 def.)	6,416	1,891,516	NA	4,515	1,846,414	272,679	60,150	
1972	6,392	1,864,985	3,526	4,491	1,819,883	270,112	59,887	
Lumber, bldg. mat., hardware ⁴								
1939	172	10,657	101	NA	NA	NA	1,430	
1948	48	3,077	45	NA	NA	368	157	
1948 (1954 def.)	46	3,074	NA	31	2,818	NA	NA	
1954	53	7,364	50	31	7,144	1,119	395	
1958	63	7,036	47	43	6,646	820	260	
1963	65	18,549	45	47	18,419	2,305	557	
1967	68	26,016	50	49	25,535	4,087	691	
1972 (1967 def.)	98	D	NA	77	D	D	D	
1972	126	34,572	52	81	33,692	5,199	756	

514 TABLE 20.2 (cont.)

Kind of Business and Year ¹	All Establishments			Establishments with Payroll			
	Number	Sales (\$1,000)	Proprietors ²	Number	Sales (\$1,000)	Payroll, Entire Year (\$1,000)	Paid Employees ³
General merchandise⁵							
1939	721	28,406	573	NA	NA	NA	2,721
1948	313	57,743	266	NA	NA	6,888	3,153
1948 (1954 def.)	308	57,723	NA	229	55,846	NA	NA
1954	364	56,964	360	226	53,806	7,160	3,301
1958	355	62,733	347	173	59,171	8,205	3,248
1963	274	114,385	214	196	112,549	14,923	4,978
1967	279	187,258	225	187	184,086	26,155	7,540
1972 (1967 def.)	369	343,608	NA	247	340,503	48,822	10,345
1972	261	334,702	124	194	332,101	47,524	9,977
Food stores⁶							
1939	1,325	23,046	1,243	NA	NA	NA	1,936
1948	1,583	121,998	1,607	NA	NA	7,756	3,426
1948 (1954 def.)	1,518	113,402	NA	768	92,891	NA	NA
1954	1,031	113,328	1,168	585	102,782	6,146	3,005
1958	1,030	155,354	1,114	604	145,414	9,688	4,208
1963	858	191,776	800	558	181,988	15,218	5,207
1967	852	254,536	793	521	242,122	20,388	5,756
1972	774	414,771	487	569	404,552	38,625	7,817

TABLE 20.2 (cont.)

Kind of Business and Year ¹	All Establishments			Establishments with Payroll			
	Number	Sales (\$1,000)	Proprietors ²	Number	Sales (\$1,000)	Payroll, Entire Year (\$1,000)	Paid Employees ³
Automotive dealers⁷							
1939	78	14,778	33	NA	NA	NA	1,316
1948	138	55,502	89	NA	NA	6,272	1,933
1948 (1954 def.)	135	55,497	NA	113	54,708	NA	NA
1954	135	73,391	81	121	73,045	8,037	2,407
1958	143	71,498	79	111	70,614	7,029	1,780
1963	151	122,681	72	125	122,263	12,565	2,352
1967	159	153,597	93	126	152,663	16,300	2,688
1972 (1967 def.)	247	D	NA	193	D	D	D
1972	246	269,794	72	192	268,298	30,545	3,602
Gasoline service stations⁸							
1939	297	8,719	253	NA	NA	NA	963
1948	284	18,045	305	NA	NA	2,004	1,076
1948 (1954 def.)	280	18,040	NA	216	16,293	NA	NA
1954	332	28,776	357	276	27,194	2,920	1,485
1958	351	38,012	371	299	36,490	3,763	1,784
1963	442	56,407	445	386	54,569	6,703	3,053
1967	457	72,987	437	394	69,445	8,437	3,225
1972	480	106,688	297	427	104,217	13,729	4,086

TABLE 20.2 (cont.)

Kind of Business and Year	All Establishments			Establishments with Payroll			
	Number	Sales (\$1,000)	Proprietors ²	Number	Sales (\$1,000)	Payroll, Entire Year (\$1,000)	Paid Employees ³
Apparel, accessory stores							
1939	363	6,578	312	NA	NA	NA	1,092
1948	448	24,340	403	NA	NA	3,602	1,602
1948 (1954 def.)	413	24,103	NA	312	22,974	NA	NA
1954	346	26,928	292	286	26,112	4,002	1,746
1958	365	34,054	280	311	33,256	4,898	2,096
1963	398	45,650	259	340	45,058	6,966	2,450
1967	403	67,321	230	354	66,473	10,433	2,930
1972	579	107,766	178	504	105,667	16,814	3,765
Furniture, home furnishings, equipment							
1939	59	1,684	52	NA	NA	NA	211
1948	283	21,014	268	NA	NA	2,916	1,176
1948 (1954 def.)	265	20,058	NA	203	18,957	NA	NA
1954	238	21,763	243	174	20,553	2,981	1,042
1954 (1958 def.)	271	23,299	NA	197	22,003	NA	NA
1958	265	26,509	227	189	25,293	3,872	1,214
1963	235	31,925	152	187	31,239	4,793	1,180
1967	274	40,650	197	189	38,576	5,581	1,170
1972	409	83,545	179	290	80,315	12,113	1,937

TABLE 20.2 (cont.)

Kind of Business and Year ¹	All Establishments			Establishments with Payroll			
	Number	Sales (\$1,000)	Proprietors ²	Number	Sales (\$1,000)	Payroll, Entire Year (\$1,000)	Paid Employees ³
Eating and drinking places							
1939	644	9,810	627	NA	NA	NA	2,752
1948	997	37,691	1,124	NA	NA	8,391	4,730
1948 (1954 def.)	965	37,542	NA	771	35,736	NA	NA
1954	995	44,690	1,211	805	42,572	10,221	5,832
1958	1,033	65,904	1,191	843	63,356	16,064	8,087
1958 (1963 def.)	1,033	60,204	NA	843	57,656	NA	NA
1963	1,082	89,997	990	938	88,049	24,585	10,600
1967	1,255	143,860	1,104	1,063	140,217	39,613	13,396
1972	1,418	261,375	671	1,255	258,337	74,450	21,634
Drug stores, proprietary stores							
1939	97	2,708	79	NA	NA	NA	336
1948	123	11,000	123	NA	NA	1,407	642
1948 (1954 def.)	122	10,999	NA	85	10,340	NA	NA
1954	121	12,668	107	83	12,074	1,807	783
1958	103	15,520	91	75	14,938	2,063	786
1963	110	26,827	60	92	26,329	3,437	1,127
1967	101	40,717	53	79	39,971	4,511	1,133
1972	107	90,117	23	96	89,491	8,982	1,641

TABLE 20.2 (cont.)

Kind of Business and Year ¹	All Establishments			Establishments with Payroll			Paid Employees ³
	Number	Sales (\$1,000)	Proprietors ²	Number	Sales (\$1,000)	Payroll, Entire Year (\$1,000)	
Other retail stores ¹²							
1939	500	14,296	402	NA	NA	NA	1,569
1948	664	32,270	605	NA	NA	4,149	1,778
1948 (1954 def.)	628	31,254	NA	415	27,083	NA	NA
1954	745	29,868	767	387	23,914	3,055	1,328
1954 (1958 def.)	712	28,332	NA	364	22,464	NA	NA
1958	748	35,470	746	432	30,044	3,685	1,524
1963	688	38,592	622	434	33,752	5,168	1,739
1967	1,065	78,943	925	520	67,517	9,699	2,258
1972 (1967 def.)	1,336	D	NA	795	D	D	D
1972	1,992	161,655	1,443	883	143,213	22,131	4,672
Nonstore retailers ¹³							
1948 (1954 def.)	18	2,233	NA	13	2,181	NA	NA
1954	447	10,375	468	45	5,381	607	254
1958	304	9,787	302	50	6,009	1,057	276
1963	275	14,622	248	51	11,762	2,541	602
1967	299	17,573	301	55	14,935	2,404	560
1972 (1967 def.)	599	21,585	NA	62	16,070	2,839	590

D = Withheld to avoid disclosure.

1. Store types included in some kind-of-business groups have varied significantly over time, thereby limiting comparability to a marked degree. Changes in definitions and coverage were particularly important between 1939 and 1948, and to a lesser extent between 1948 and 1954 and between 1967 and 1972. Unless otherwise specified, data refer to current definitions for the year given; for example, the stub entry "1948" refers to 1948 data based on the 1948 definition, while "1948 (1954 def.)" refers to 1948 data based on the 1954 definition. In a few cases, data given on the basis of later definitions may incorporate corrections in the originally published tabulations rather than, or in addition to, changes resulting from reclassification; the published census bulletins, unfortunately, fail to distinguish between the two types of revision.

TABLE 20.2 (cont.)

2. "Active proprietors of unincorporated businesses" through 1963; "proprietors" in 1967; and 1972 data estimated from separate totals on sole proprietorships and partnerships.
3. Workweek ended nearest November 15 through 1963, and week including March 12 for 1967 and 1972.
4. "Hardware, radio, electrical, paint, marine stores" in 1939; "lumber, building, hardware group" in 1948; "lumber, building materials, hardware, farm equipment dealers" in 1954-1963; "building materials, hardware, and farm equipment dealers" in 1967; and "building materials, hardware, garden supply, and mobile home dealers" in 1972. This category has undergone more definitional changes than any other between 1939 and 1972, with especially sizable changes after the 1939 and 1967 censuses. Appliance stores were included in this group in 1939 but under "furniture, home furnishings, and equipment" thereafter.
5. "General stores with food" and "general merchandise, dry goods, variety stores" in 1939; "general merchandise group" and "general stores" in 1948; and "general merchandise group stores" in 1954 and later years. Includes department stores: 2 in 1948, 4 in 1954, 7 in 1958, 13 in 1963, 15 in 1967, and 19 in 1972.
6. "Grocery and food stores," "dairy products, milk stores" and "confectionery, ice cream stores" in 1939; "food group" in 1948; and "food stores" in 1954 and later years.
7. "Automotive stores" in 1939 and "automotive group" in 1948 and 1954.
8. "Filling stations" in 1939.
9. "Wearing apparel stores" and "custom tailors" in 1939 and "apparel group" in 1948.
10. "Furniture and home furnishings stores" in 1939; "furniture, furnishings, appliance group" in 1948; and "furniture, home furnishings, appliance dealers" in 1954. Appliance stores, included in this group beginning in 1948, were grouped with hardware and paint stores in 1939.
11. "Drug stores" in 1939.
12. Includes liquor stores, antique stores, secondhand stores, book and stationery stores, sporting goods stores, jewelry stores, photographic supply stores, gift and souvenir shops, florists, and leather goods stores. Designated "miscellaneous retail stores" in 1967 and 1972. Important changes in the content of this group occurred after the 1939 and 1967 censuses.
13. Includes mail order houses, merchandising machine operators, and direct selling establishments. Not reported separately in 1939, 1948 (original reports) or 1972 (new definition).
 Source: Census of Business: 1939, Alaska, Hawaii and Puerto Rico; U.S. Census of Business: 1948, Hawaii, bu11. No. 1-RWS-51; U.S. Census of Business: 1954, bu11. R-1-52; U.S. Census of Business: 1958, BC58-RA52; U.S. Census of Business: 1963, BC63-RA13; U.S. Census of Business: 1967, BC67-RA13; U.S. Census of Retail Trade: 1972, RC72-A-12.

TABLE 20.3 RETAIL SALES IN MAJOR RETAIL CENTERS ON OAHU, 1948 TO 1972
(Thousands of dollars)

Geographic Area or Shopping Center ¹	1948 ²	1954 ²	1958	1963	1967 ²	1972
Oahu	275,477	323,872	415,471	605,832	899,741	1,489,602
Honolulu	240,278	274,422	346,094	494,540	734,546	1,144,892
Central business district ³	67,173	63,771	64,059	55,321	55,138	65,471
Ala Moana Center	...	...	...	65,538	122,051	218,844
Pawaaw ⁴	...	...	26,443	...	...	...
Waikiki ⁵	14,824	...	31,881	45,897	84,005	169,084
Kahala Mall	...	...	4,152	...	15,984	41,625
Dillingham Blvd.	...	...	...	...	23,896	20,094
Remainder of Oahu	35,199	49,450	69,377	111,292	165,195	344,710
Kailua Shopping Center	...	...	8,835	22,630	22,769	44,641
Wahiawa business district	...	...	...	10,509	18,883	...
Pearl Ridge Shopping Center	...	...	...	...	...	18,606
Waipahu and Westgate Shopping Centers	...	...	...	...	...	33,768

1. For exact boundaries, see source.

2. As later revised.

3. Bounded by Nuuanu Stream, Beretania St., Richards St., Halekauwila St., and Honolulu harbor.

4. South Beretania St., from Piikoi St. to Kalakaua Ave.; Kalakaua Ave. from South Beretania St. to South King St.

5. Bounded by Ala Wai Canal, Kapahulu Ave., and the ocean.

Source: Honolulu Redevelopment Agency, "Retail Trade and Substandard Housing in Honolulu Census Tracts," Redevelopment and Housing Research, No. 7, January 1957, pp. 21-28. U.S. Bureau of the Census, 1954 Census of Business, bull. CBD-47; 1958 Census of Business, BC58-CBD36; 1963 Census of Business, BC63-MRC-43; 1967 Census of Business, BC67-MRC-12; 1972 Census of Retail Trade, RC72-C-12.

TABLE 20.4 SHOPPING CENTERS, 1948 TO 1976

Year (as of Dec. 31)	Number of Stores			Gross Leasable Area (1,000 square feet)		
	State Total	Oahu	Other Islands	State Total	Oahu	Other Islands
1948	10	10	--	6	6	--
1949	10	10	--	6	6	--
1950	30	30	--	93	93	--
1951	66	30	36	214	93	121
1952	66	30	36	214	93	121
1953	82	46	36	289	168	121
1954	161	125	36	555	434	121
1955	215	152	63	704	513	191
1956	215	152	63	704	513	191
1957	215	152	63	704	513	191
1958	250	187	63	844	653	191
1959	382	319	63	1,666	1,475	191
1960	382	319	63	1,666	1,475	191
1961	406	319	87	1,746	1,475	271
1962	444	339	105	1,861	1,551	310
1963	497	392	105	2,104	1,794	310
1964	530	425	105	2,259	1,947	310
1965	592	455	137	2,509	2,134	375
1966	719	557	162	3,565	3,025	539
1967	742	580	162	3,771	3,232	539
1968	772	603	169	4,014	3,448	566
1969	786	617	169	4,043	3,477	566
1970	938	739	199	4,742	3,999	743
1971	970	743	227	4,987	4,201	786
1972	1,212	931	281	5,789	4,837	953
1973	1,622	1,166	456	6,710	5,243	1,467
1974	1,786	1,284	502	7,640	6,115	1,525
1975	2,033	1,446	587	8,287	6,620	1,667
1976 ¹	2,054	1,467	587	8,400	6,711	1,689

1. Preliminary.

Source: Bank of Hawaii, Department of Business Research, records.

TABLE 20.5 CONSUMPTION OF IMPORTED SPIRITS AND WINES, 1847 TO 1899

Year	Gallons	Year	Gallons	Year	Gallons
1847					
1847 ¹	3,271	1865	11,745	1883	61,272
1848 ¹	3,443	1866	12,833	1884	70,160
1849 ¹	5,717	1867	15,119	1885	80,115
1850 ²	8,251	1868	16,030	1886	100,703
1851	11,270	1869	17,016	1887	74,913
1852	14,148	1870	19,948	1888	68,247
1853	18,203	1871	18,817	1889	74,816
1854	17,537	1872	18,843	1890	88,884
1855	18,528	1873	21,212	1891	88,536
1856	14,779	1874	18,466	1892	86,441
1857	16,144	1875	21,131	1893	46,428
1858	14,637	1876	19,707	1894	41,136
1859	14,158	1877	24,223	1895	39,653
1860	14,295	1878	36,360	1896	44,168
1861	9,676	1879	43,166	1897	53,345
1862	8,940	1880	44,289	1898	63,253
1863	7,862	1881	46,085	1899	84,957
1864	10,237	1882	50,064		

1. Limited to spirits paying \$5 duty.

2. Excludes wines.

Source: Custom House Statistics for 1859; Thos. G. Thrum, comp., Hawaiian Almanac and Annual for 1880 (p. 13) and 1901 (p. 28).

TABLE 20.6 LIQUOR AND TOBACCO TAX BASES, 1940 TO 1976
(Thousands of dollars; for fiscal years ended June 30)

Fiscal Year	Retail Value ¹		Wholesale Value ²		Fiscal Year	Wholesale Value ²	
	Liquor	Tobacco	Liquor	Tobacco		Liquor	Tobacco
1940	6,252	3,794	...	...	1960	20,198	9,856
1941	9,746	4,689	...	...	1961	21,995	11,225
1942	11,383	6,029	...	...	1962	22,521	11,733
1943	13,424	6,992	...	...	1963	22,749	11,851
1944	24,248	6,962	...	...	1964	23,850	11,773
1945	29,257	6,885	...	...	1965	26,140	13,025
1946	33,158	...	...	5,661	1966	27,818	10,903
1947	23,747	...	...	6,050	1967	28,980	11,671
1948	20,335	...	...	7,088	1968	31,455	12,431
1949	21,235	...	...	8,040	1969	35,126	13,489
1950	...	...	14,442	6,806	1970	37,406	14,498
1951	...	...	15,944	7,333	1971	41,924	16,072
1952	...	...	16,119	7,466	1972	47,117	16,307
1953	...	...	16,500	7,624	1973	51,076	17,795
1954	...	...	16,565	7,374	1974	57,066	20,638
1955	...	...	17,199	8,107	1975	63,909	21,737
1956	...	...	17,507	8,422	1976	75,047	23,898
1957	...	...	18,104	8,327			
1958	...	...	17,872	8,913			
1959	...	...	18,777	9,115			

1. Ad valorem taxes on the retail value of liquor and tobacco products sold in Hawaii were instituted by the Territory of Hawaii as of July 1, 1939, and later were shifted to the wholesale value of these products. Neither liquor nor tobacco was taxed by the territory prior to 1939.

2. Ad valorem taxes on liquor and tobacco products sold in Hawaii, previously based on retail value, were levied on their wholesale value effective May 8, 1945 for tobacco and July 1, 1949 for liquor. Sales on military bases are exempt.

Source: Robert M. Kamins, The Tax System of Hawaii (University of Hawaii Press, 1952), pp. 49-52; Dept. of the Tax Commissioner, "Tax Base ... Specified Taxes" (table) for years ending June 30, 1956 and 1957; Dept. of Taxation, "Tax Base for Certain Taxes" (table) for fiscal years beginning in 1958; Dept. of Taxation, records (for 1953 and 1954).

TABLE 20.7 WHOLESALE TRADE, 1939 TO 1972

Type of Operation and Year ¹	Number of Establishments	Sales (\$1,000)	Inventories, End of Year, at Cost (\$1,000)	Operating Expenses ² (\$1,000)	Payroll (\$1,000)	Paid Employees ³
All types of operation						
1939	704	97,045	NA	NA	NA	4,374
1948	702	480,734	39,813	51,414	27,798	8,221
1948 (1954 def.)	578	470,175	39,374	50,496	27,532	8,127
1954	594	581,940	50,668	71,165	37,754	9,886
1958	793	618,155	NA	NA	36,392	8,842
1963	974	735,205	71,835	NA	56,953	10,781
1967	1,030	1,013,813	104,147	NA	76,054	12,442
1972 (1967 def.)	1,311	1,511,398	164,722	NA	119,676	14,249
1972	1,336	1,538,429	169,425	220,877	122,302	14,518
Merchant wholesalers⁴						
1939	510	66,934	NA	NA	NA	NA
1948	534	249,270	35,838	41,134	22,537	6,886
1948 (1954 def.)	441	241,314	35,355	40,219	22,189	6,749
1954	445	293,929	40,527	50,374	28,439	7,861
1958	596	331,350	NA	NA	NA	NA
1963	722	395,280	NA	NA	NA	NA
1967	754	537,555	NA	NA	NA	NA
1972 (1967 def.)	1,007	959,514	NA	NA	NA	NA
1972	1,067	1,001,772	138,582	176,237	95,660	12,025
Other operating types⁵						
1939	194	30,111	NA	NA	NA	NA
1948	168	231,464	3,975	10,280	5,261	1,335
1948 (1954 def.)	137	228,861	4,019	10,277	5,343	1,378
1954	149	288,011	10,141	20,791	9,315	2,025
1958	197	286,805	NA	NA	NA	NA
1963	252	339,925	NA	NA	NA	NA
1967	276	476,258	NA	NA	NA	NA
1972 (1967 def.)	304	551,884	NA	NA	NA	NA
1972	269	536,657	30,843	44,640	26,642	2,493

TABLE 20.7 (cont.)

1. Changes in coverage and definitions over time limit comparability from year to year. Such changes were particularly important after 1948 and 1967. Unless otherwise specified, data refer to current definitions for the year given.
 2. Including payroll. Entries for merchandise agents and brokers represent brokerage or commission received. Totals exclude petroleum and petroleum products.
 3. Workweek ended nearest November 15 through 1963, and week including March 12 for 1967 and 1972.
 4. "Service and limited-function wholesalers" in 1939.
 5. Includes manufacturers' sales branches and sales offices, and merchandise agents and brokers. Prior to 1972, also includes petroleum bulk stations and terminals, and assemblers of farm products.
- Source: U.S. Census of Business: 1939, Alaska, Hawaii and Puerto Rico; U.S. Census of Business: 1948, Hawaii, bull. No. 1-RWS-51; U.S. Census of Business: 1954, bull. W-1-52; U.S. Census of Business: 1958, BC58-WA52; U.S. Census of Business, 1963, BC63-WA13; U.S. Census of Business, 1967, BC67-WA13; U.S. Census of Wholesale Trade, 1972, WC72-A-12.

TABLE 20.8 SELECTED SERVICES, 1939 TO 1972

Kind of Business and Year ¹	All Establishments		Establishments with Payroll				Paid Employees ³
	Number	Receipts (\$1,000)	Proprietors ²	Number	Receipts (\$1,000)	Payroll (\$1,000)	
All selected services							
1939	2,566	16,912	2,403	NA	NA	NA	6,012
1939 (1948 def.)	2,186	15,340	2,026	NA	NA	NA	5,256
1948 ⁴	2,337	44,617	2,184	NA	NA	14,512	7,223
1948 (1954 def.) ⁴	2,174	D	NA	NA	NA	NA	NA
1954	2,595	64,726	2,449	1,251	59,010	19,808	8,735
1958	3,070	101,142	3,021	1,436	92,430	30,820	12,629
1963	3,431	163,094	3,087	1,837	153,272	49,340	15,364
1967 (revised)	4,057	310,290	2,784	1,947	294,018	96,904	22,825
1972 (1967 def.)	5,570	583,289	NA	2,559	554,329	180,350	36,377
1972	6,348	683,201	4,677	3,031	648,164	216,310	39,743
Hotels, motels, camps ⁵							
1939 ⁴	116	3,565	88	NA	NA	NA	1,190
1948	158	9,429	102	NA	NA	3,585	1,378
1948 (1954 def.) ⁴	152	9,426	NA	NA	NA	NA	NA
1954	92	15,621	62	72	15,513	5,466	2,036
1958	136	27,804	102	118	27,710	10,139	4,186
1963	178	48,807	117	152	48,667	14,770	4,686
1967	212	113,216	105	167	112,754	32,744	8,509
1972	224	241,832	106	192	241,279	75,945	15,324
Personal services ⁶							
1939	1,456	5,221	1,392	NA	NA	NA	2,263
1948	1,139	12,081	1,119	NA	NA	4,714	2,572
1948 (1954 def.)	1,040	D	NA	NA	NA	NA	NA
1954	1,284	15,110	1,271	534	12,670	5,358	2,688
1958	1,446	20,890	1,511	584	17,366	7,272	3,038
1963	1,435	30,035	1,419	681	26,473	11,266	3,646
1967	1,541	40,512	1,119	662	35,175	14,975	4,032
1972 (1967 def.)	1,693	54,724	NA	760	47,777	19,022	4,786
1972	1,675	53,390	1,418	745	46,490	18,623	4,730

TABLE 20.8 (cont.)

Kind of Business and Year ¹	All Establishments			Establishments with Payroll				
	Number	Receipts (\$1,000)	Proprietors ²	Number	Receipts (\$1,000)	Payroll (\$1,000)	Paid Employees ³	
Business services⁷								
1939	82	724	63	NA	NA	NA	205	
1948	95	2,398	79	NA	NA	923	385	
1948 (1954 def.)	92	D	NA	NA	NA	NA	NA	
1954	250	7,416	230	112	6,738	2,075	686	
1958	380	17,079	338	182	15,775	4,852	1,647	
1963	506	31,295	372	294	30,221	10,564	2,707	
1967 (revised)	895	75,982	593	375	71,724	30,211	5,336	
1972 (1967 def.)	1,736	117,492	NA	634	107,073	39,303	7,341	
1972	1,763	120,075	1,271	658	109,609	40,206	7,444	
Automobile repair, services, garages⁸								
1939	155	1,420	142	NA	NA	NA	510	
1948	395	8,237	429	NA	NA	1,687	751	
1948 (1954 def.)	385	D	NA	NA	NA	NA	NA	
1954	296	7,574	299	162	6,526	1,586	586	
1958	348	12,689	355	194	11,197	2,987	1,070	
1963	477	23,769	426	287	21,917	5,224	1,418	
1967	487	39,283	375	302	36,955	7,823	1,791	
1972	633	77,671	353	390	74,251	18,341	2,986	

TABLE 20.8 (cont.)

Kind of Business and Year ¹	All Establishments			Establishments with Payroll			
	Number	Receipts (\$1,000)	Proprietors ²	Number	Receipts (\$1,000)	Payroll (\$1,000)	Paid Employees ³
Miscellaneous repair services							
1939	153	549	152	NA	NA	NA	153
1948	205	2,121	223	NA	NA	466	209
1948 (1954 def.)	181	2,107	NA	NA	NA	NA	NA
1954	281	3,096	293	87	2,226	683	305
1958	290	5,062	298	80	3,668	937	298
1963	350	7,350	345	114	5,278	1,602	439
1967	384	9,731	298	120	7,299	2,380	440
1972 (1967 def.)	441	D	NA	D	D	D	D
1972	439	20,244	352	180	17,239	5,776	829
Amusement and recreation services, incl. motion pictures							
1939	281	5,115	243	NA	NA	NA	1,576
1948	345	10,351	232	NA	NA	3,137	1,928
1948 (1954 def.)	322	D	NA	NA	NA	NA	NA
1954	392	15,909	294	284	15,337	4,640	2,434
1958	470	17,618	417	278	16,714	4,633	2,390
1963	485	21,838	408	309	20,716	5,914	2,468
1967	538	31,566	294	321	30,111	8,771	2,717
1972 (1967 def.)	843	D	NA	401	D	D	D
1972	849	71,556	586	407	66,940	22,583	5,244
Other services							
1939	323	318	323	NA	NA	NA	115
1972 ¹⁰	765	98,433	591	459	92,356	34,836	3,186

TABLE 20.8 (cont.)

D = Withheld to avoid disclosure.

1. Changes in coverage and definitions over time limit comparability from year to year. Such changes were particularly important after 1939, 1948, and 1967. Unless otherwise specified, data refer to current definitions for the year given; for example, the stub entry "1948" refers to 1948 data based on the 1948 definition, while "1948 (1954 def.)" refers to 1948 data based on the 1954 definition.

2. "Active proprietors of unincorporated businesses" through 1963; "proprietors" in 1967; and 1972 data estimated from separate totals on sole proprietorships and partnerships.

3. Workweek ended nearest November 15 through 1963, and week including March 12 for 1967 and 1972.

4. Excludes two tourist courts in 1948 under both definitions.

5. "Hotels" in 1939 and 1948, "hotels, motels, tourist courts, and camps" in 1954-1967, and "hotels, motels, trailering parks, camps" in 1972.

6. Includes laundries, beauty and barber shops, photographic studios, funeral service, etc.

7. "Miscellaneous business services" in 1958-1967. Includes advertising; services to dwellings and other buildings; computer and data processing services; management, consulting, and public relations services; equipment rental and leasing, etc.

8. "Automotive repairs and services" in 1939. Includes automobile repair shops, automobile rental and leasing, automobile parking, etc.

9. "Custom industries," including carpenter shops, printing services, and wearing apparel contract work shops; not surveyed after 1939.

10. Dental laboratories (included under business services in 1939; not surveyed 1948-1967), legal services (not surveyed before 1972), and architectural, engineering, and land-surveying services (not surveyed before 1972).

Source: U.S. Census of Business: 1939, Alaska, Hawaii and Puerto Rico; U.S. Census of Business: 1948, Hawaii, bull. No. 1-RMS-51; U.S. Census of Business: 1954, Selected Services, area bull. S-1-52; U.S. Census of Business: 1958, BC58-SA52; U.S. Census of Business, 1963, Selected Services, BC63-SAL3; U.S. Census of Business 1967, Selected Services, BC67-SAL3; U.S. Census of Selected Service Industries, 1972, SC72-A-12.

TABLE 20.9 HOTEL UNITS, OCCUPANCY RATES, EMPLOYMENT, AND PAYROLL, 1927 TO 1976

Year	Number of Hotel Units ¹			Percent Occupied ²			Hotel Employment ²	Payroll (\$1,000)
	State Total	Oahu	Neighbor Islands	Waikiki	Neighbor Islands	Hotel Employment ²		
1927-36	2,729	2,230	499	....	....	....	....	....
1937	....	....	....	....	....	....	....	....
1938	2,607	2,093	514	....	....	....	....	....
1939	....	....	....	....	....	....	....	....
1940 ³	....	....	....	....	....	....	....	....
1941 ³	2,502	2,035	467	....	....	....	....	....
1942	....	....	....	....	....	....	....	....
1943	....	....	....	....	....	....	....	....
1944	....	....	....	....	....	....	....	....
1945	....	....	....	....	....	....	....	....
1946	1,572	1,006	566	....	....	....	....	....
1947	1,958	1,392	566	....	....	....	....	....
1948	1,958	1,392	566	....	....	....	....	....
1949	1,980	1,392	588	....	....	....	....	....
1950	2,003	1,415	588	....	....	....	....	....
1951	2,197	1,597	600	....	....	....	....	....
1952	2,412	1,788	624	....	....	....	....	....
1953	2,925	2,212	713	....	....	....	....	....
1954	3,101	2,372	729	....	....	....	....	....
1955	4,115	3,300	815	84.3	....	....	....	....
1956	4,327	3,500	827	81.5	....	....	....	....
1957	4,754	3,877	877	80.5	....	....	....	....
1958	5,494	4,454	1,040	84.6	....	....	....	....
				78.9	....	....	....	....

TABLE 20.9 (cont.)

Year	Number of Hotel Units ¹			Percent Occupied ²			Hotel Employment ²	Payroll (\$1,000)
	State Total	Oahu	Neighbor Islands	Waikiki	Neighbor Islands	Hotel Employment ²		
1959	6,802	5,657	1,145	88.3	...	3,669	10,944	
1960	9,522	8,118	1,404	75.3	...	4,235	13,364	
1961	10,193	8,720	1,473	70.1	...	4,666	14,227	
1962	10,915	9,098	1,817	74.2	65.5	4,629	15,158	
1963	11,403	9,203	2,200	77.4	66.0	5,621	19,070	
1964	12,903	10,031	2,872	74.5	68.0	5,834	21,080	
1965	14,827	11,083	3,744	82.1	68.2	6,308	23,438	
1966	16,820	12,520	4,300	83.7	67.1	7,316	28,173	
1967	18,235	13,004	5,231	90.0	72.8	8,944	34,927	
1968	21,243	15,138	6,105	89.2	75.2	10,783	46,730	
1969	25,822	18,209	7,613	81.3	69.3	12,546	58,212	
1970	30,323	21,217	9,106	74.1	64.8	13,613	66,924	
1971	35,349	24,612	10,737	58.9	63.5	15,550	78,222	
1972	35,653	24,441	11,212	70.0	66.4	17,619	93,915	
1973	37,319	24,969	12,350	81.5	70.2	18,857	107,525	
1974	39,558	25,352	14,206	82.0	69.4	19,139	115,599	
1975	40,691	25,699	14,992	78.3	68.3	19,885	128,659	
1976	44,093	27,099	16,994	82.6	68.4	...	...

1. Month unspecified, 1927-1959; December data for 1960-1965; September 1966; December 1967; November 1968; and October data for 1969 and later years.

2. Annual averages.

3. Hotel unit data refer to 1940-1941.

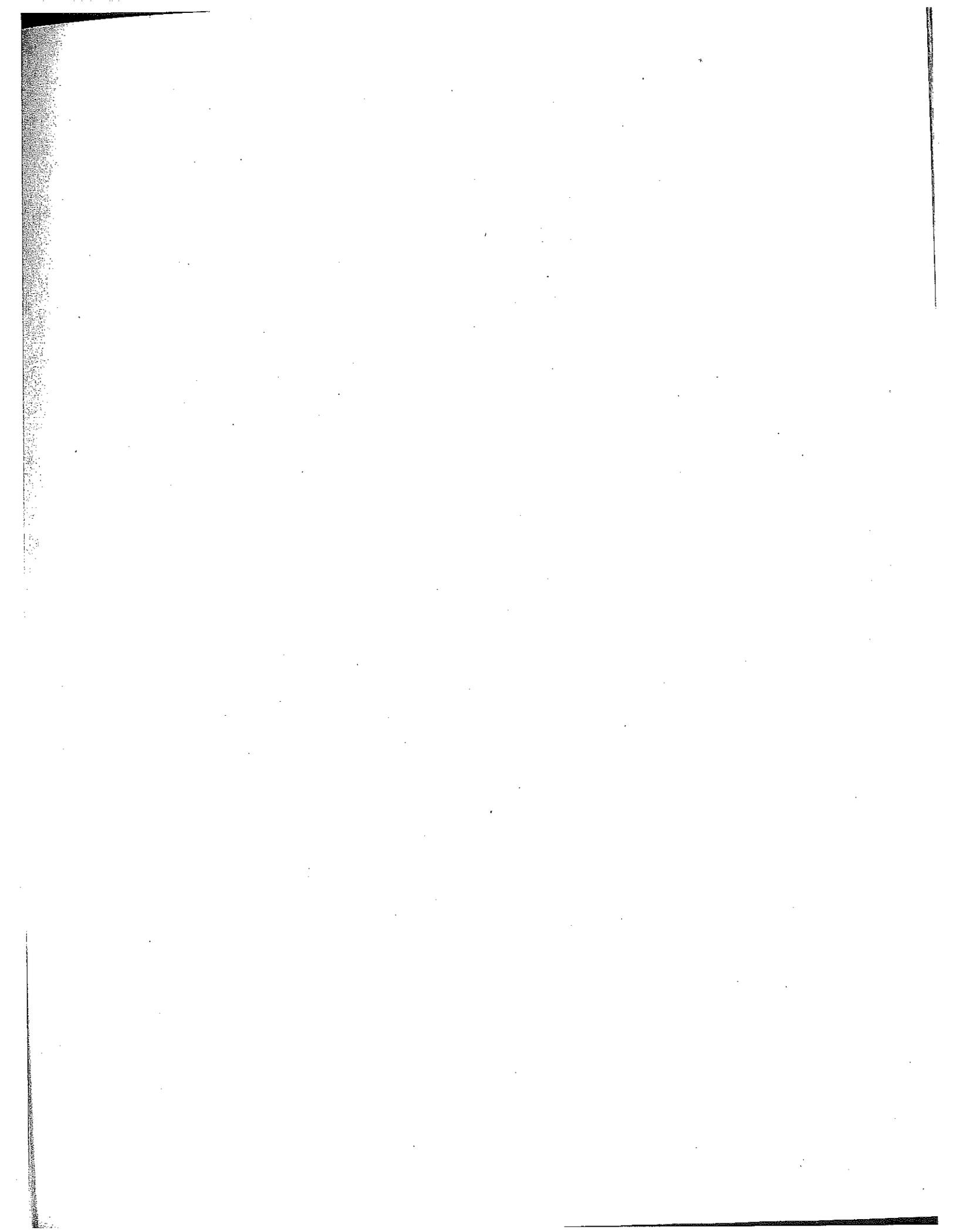
Source: Anson Chong, Economic Development of Hawaii and the Growth of Tourism Before 1945 (May 1963), pp. 98, 169, and 170; Hawaii Visitors Bureau, Annual Research Report (annual), Visitor Plant Inventory (periodic), and records; U.S. Office of Business Economics, Income of Hawaii (1953), pp. 19-20; Hawaii State Department of Labor and Industrial Relations, Employment and Payrolls in Hawaii (annual), and records.

TABLE 20.10 FEATURE MOTION PICTURES FILMED PARTLY OR WHOLLY IN HAWAII,
1905 TO 1976

Year Released	Total	Locally Produced	Produced by Mainland Companies	Produced by Foreign Companies
1905 to 1909 ¹	1	--	1	--
1910 to 1914	1	--	1	--
1915 to 1919	2	1	1	--
1920 to 1924	4	1	3	--
1925 to 1929	4	2	2	--
1930 to 1934	7	1	6	--
1935 to 1939	7	--	6	1
1940 to 1944	5	2	3	--
1945 to 1949	1	--	1	--
1950 to 1954	12	1	9	2
1955 to 1959	16	--	16	--
1960 to 1964	14	--	9	5
1965 to 1969	10	--	7	3
1970 to 1974	3	--	3	--
1975 and 1976	3	--	3	--

1. The earliest feature-length motion pictures filmed in Hawaii were a 1906 travelog by Thomas A. Edison, Inc., and a 1914 Vitagraph detective thriller, The Nation's Peril. Shorter travel films of Hawaii were made both by Edison's photographers and by Burton Holmes in 1898.

Source: Data for 1898-1943 from the following articles by Robert C. Schmitt: "Movies in Hawaii, 1897-1932," The Hawaiian Journal of History, vol. 1 (1967), pp. 73-82; "South Sea Movies, 1913-1943," Hawaii Historical Review (April 1968), pp. 433-452; and "Hawaiian Movie Chronology," Hawaiian Historical Society Newsletter, September 1972, insert. Data for 1944 and later years from the Hawaii State Department of Planning and Economic Development, "Here's List of Movies Filmed in the Islands," Hawai'i, Spring-Summer 1976, pp. 4-6 and 8, as revised.



TABLES IN SECTION 21

- 21.1 Imports and exports of domestic and foreign merchandise, 1834 to 1900
- 21.2 Imports by country of origin and exports by country of destination, 1834 to 1900
- 21.3 Interstate and foreign trade, 1901 to 1976
- 21.4 Merchandise shipments to the mainland United States, by origin and commodity, 1901 to 1947
- 21.5 Shipments of coffee, pineapple, and sugar to the mainland United States, 1901 to 1947
- 21.6 Principal exports, 1844 to 1900
- 21.7 Exports and transshipments of whaling products, 1851 to 1880
- 21.8 Balance of payments (excluding capital movements), 1950 to 1974
- 21.9 Balance of indebtedness, 1950 to 1971

SECTION 21

Foreign and Interstate Trade

This section presents statistics on merchandise shipments from Hawaii to other states and foreign countries, merchandise receipts from other states and foreign countries, and Hawaii's balance of payments with the mainland and the rest of the world. Related statistics appear in section 13 (on inshipments of selected foods), section 17 (ocean and air cargo), and section 20 (imported spirits and wines).

The earliest data on Hawaiian imports and exports were estimates for the port of Honolulu prepared by the firm of Peirce and Brewer for the years from 1834 to 1841. These estimates included the value of imports by country of origin and exports by commodity, exclusive of merchandise in transit and not landed. The compilers regarded their information as "carefully compiled, and ... no doubt near the truth; at least sufficiently so, to give a general idea of the Commerce of these Islands." Even so, perhaps half the imports were actually intended for reshipment to other parts of the Pacific. The 1834 and 1835 data were published in W. S. W. Ruschenberger's Narrative of a Voyage Round the World (1838); the data for 1836-1841, in The Polynesian (a Honolulu newspaper) on September 12, 1840 and September 4, 1841.

Official records of imports and exports were maintained beginning in 1843. The first annual tabulation by the collector general of customs, "Statement of Imports at the Port of Honolulu, Oahu, S. I., from January 1st, 1843, to December 31st, 1843," appeared in The Friend on February 1, 1844. Thereafter the annual statistics were carried in The Polynesian soon after the end of the calendar year, initially as "Commercial Statistics for the Port of Honolulu" and later as "Custom House Statistics." Identical tables were usually included in the biennial reports of the minister of finance and were also issued in broadside form.

The official tabulations of import and export statistics were considerably expanded during the 1870s and 1880s. Both quantities and values were reported for a wide variety of commodities and, beginning in 1884, exports were tabulated by country of destination as well as by commodity. After 1871 the broadside and newspaper reports were replaced by bound volumes, which steadily increased in thickness. These reports were titled Custom House Statistics through 1884 and Annual Report of the Collector General of Customs thereafter. The last such report issued by the Hawaiian government covered the period from January 1 to

June 14, 1900, when Hawaii formally became a United States territory.

Although most of these annual reports contained one or more tables recapitulating summary totals back to 1843, the year-to-year comparability of such historical series was decidedly variable. Published data for years prior to 1851 and for occasional later dates were apparently limited to the port of Honolulu. The estimated value of domestic goods furnished as supplies to ships in island ports was included with annual export totals through 1887 and excluded thereafter. Imports and exports of specie were tabulated as early as 1864 but were not included in the summary totals until the 1890s. Major changes sometimes occurred in specific figures between their initial publication and subsequent appearance in a table of historical data; the value of reexports in 1871, for example, rose from \$158,975 to \$1,158,975 in such a situation, but it remains unclear whether this change resulted from a correction or misprint. Unfortunately, these shifts in definition and coverage were neither noted nor allowed for in either the official recapitulations or in such important secondary sources as Thrum's Hawaiian Almanac and Annual.

Responsibility for the collection and publication of import and export statistics was assumed by the federal government in 1900. Statistics at first appeared in the U.S. Treasury Department's annual report on The Foreign Commerce and Navigation of the United States. From 1908 to 1913 the data were carried in Monthly Summary of Commerce and Finance, and from 1915 to 1943 in Monthly Summary of Foreign Commerce, both issued by the U.S. Bureau of Foreign and Domestic Commerce. The data for 1941 and later years were published by the Bureau of the Census under various titles. Annual statistics were also included in Statistical Abstract of the United States. Coverage after 1900 was generally comparable to that of the nineteenth century reports of the Hawaiian government, except for the temporary (1900-1902) omission of data on imports from the mainland United States. From 1902 to 1947, the federal publications routinely contained annual data on the quantity and value of merchandise moving between Hawaii and the mainland and between Hawaii and foreign countries.

This comprehensive coverage was drastically reduced in April 1948, when the U.S. Congress repealed the legal requirement for the filing of export declarations for shipments between Hawaii and the mainland. From that time forward, official tabulations were limited to imports from and exports to foreign countries. Even these limited statistics were lacking in the specificity previously associated with such data: they now merely reflected the customs district of importation or exportation, which was not necessarily the

point of destination or origin of the merchandise. The annual totals, whatever their shortcomings, were published by the U.S. Department of Commerce in Foreign Commerce and Navigation of the United States, 1946-1965 and an annual series, Highlights of Exports and Imports, report FT 990.

Since 1950, unofficial estimates of the value of commodities moving between Hawaii and the mainland have been published by the Bank of Hawaii Department of Business Research. These estimates, based on reports of major shippers and carriers and contained in the bank's regular midyear economic report, are limited to the total value of shipments and receipts, with no breakdown for specific commodities.

The Bank of Hawaii survey of commodity movements between Hawaii and the mainland is part of its annual analysis of the balance of payments for Hawaii, exclusive of capital movements. This study, published by the bank regularly since 1950 in its midyear review, attempts to estimate both earnings from overseas and expenditures to overseas. On the earnings side of the balance sheet, separate estimates are shown for commodity exports, federal expenditures, services performed, and the return on overseas investments. Expenditures are disaggregated into commodity imports, payments to the federal government, services performed, and the return on investments in Hawaii.

"A rough estimate" of Hawaii's balance of indebtedness for selected years from 1950 to 1971 was published by H. Robert Heller and Emily E. Heller in their 1973 study of The Economic and Social Impact of Foreign Investment in Hawaii. Using the Bank of Hawaii estimates of earnings on investments and national data on bond yields and dividend payments, the Hellers derived estimates of the value of out-of-state assets of Hawaii residents and the value of nonresidents' assets within the state.

In addition to the primary sources noted above, statistics on Hawaii's foreign and interstate trade have appeared in a number of analytic studies and statistical compilations. One such study is Hawaii, A Century of Economic Change, 1778-1876 by Theodore Morgan (1948). Another, which carries the record through 1947, is The Development of Trade in Hawaii: A Statistical Analysis and Evaluation of Basic Trends, an unpublished M.A. thesis submitted by Kathleen Wilson Pierson to the University of Hawaii in June 1948. Comprehensive tabulations on imports and exports were a regular feature of Thrum's Hawaiian Almanac and Annual, from its inception in 1875 to its absorption by All About Hawaii in 1940. Similar tabulations appeared in Report of the Governor to the Secretary of the Interior prior to World War II. Data for the years since 1961, obtained

from tapes provided by the Bureau of the Census, have been tabulated and published by the Hawaii International Services Agency of the Department of Planning and Economic Development.

For the United States as a whole, trend data on foreign trade and other international transactions have been summarized in Historical Statistics of the United States, Colonial Times to 1970, chapter U, and recent editions of Statistical Abstract of the United States.

TABLE 21.1 IMPORTS AND EXPORTS OF DOMESTIC AND FOREIGN MERCHANDISE, 1834 TO 1900

(In thousands of dollars. Variant figures exist for a number of these years, and changes in definitions and coverage, not always made explicit in the source, sometimes affect year-to-year comparability. Data are apparently limited to the port of Honolulu prior to 1851. Movements of specie are excluded for all years.)

Year	Merchandise Imports	Merchandise Exports					Supplies Furnished to Shipping ¹
		Total	Domestic Products			Foreign Products ²	
			Total	Sugar and Molasses	Other Products		
1834-35 ³	575	344	244	--	244	100	140
1836	413	...	48	--	48	...	25
1837	350	...	35	1	33	...	45
1838	207	...	31	10	21	...	35
1839 ⁴	378	...	44	9	35	...	50
1840 ⁵	218	...	59	25	33	...	16
1841 ⁵	455	...	29	4	25	...	69
1842	...	...	...	...	...	...	...
1843	223	158	91	59	33	67	...
1844	350	109	49	26	23	60	60
1845	581	98	31	20	11	67	203
1846	598	190	47	20	26	143	574
1847	738	354	68	34	34	286	141
1848	606	519	67	30	37	452	...
1849	730	161	90	43	47	71	95
1850	1,035	443	400	...	...	43	136
1851	1,824	579	198	...	...	381	112
1852	760	511	130	...	...	381	128
1853	1,322	346	155	...	...	191	127
1854	1,591	432	121	...	...	311	153
1855	1,383	412	114	...	...	298	161
1856	1,152	360	155	...	...	205	224
1857	1,130	470	248	...	...	222	176
1858	1,090	564	307	...	...	257	223
1859	1,556	740	437	...	...	303	192
1860	1,224	677	350	...	...	327	131
1861	761	587	404	...	...	183	73
1862	998	785	533	...	...	252	54
1863	1,175	960	678	...	...	281	66
1864	1,712	1,519	970	...	...	549	143
1865	1,946	1,717	1,430	...	...	287	91
1866	1,994	1,855	1,427	...	...	429	109
1867	1,957	1,591	1,236	...	...	356	118
1868	1,936	1,788	1,340	...	...	448	110
1869	2,040	2,262	1,639	...	...	623	104
1870	1,930	2,034	1,403	...	...	631	111
1871	1,626	1,816	1,657	...	...	159	76
1872	1,748	1,550	1,346	...	...	205	57

TABLE 21.1 (cont.)

Year	Merchandise Exports						Supplies Furnished to Shipping ¹
	Merchandise Imports	Domestic Products				Foreign ² Products	
		Total	Total	Sugar and Molasses	Other Products		
1873	1,438	2,064	1,661	...	...	403	64
1874	1,311	1,773	1,555	...	...	217	67
1875	1,682	2,028	1,774	1,229	546	254	61
1876	1,812	2,181	1,995	1,292	703	186	60
1877	2,554	2,578	2,364	1,800	564	214	99
1878	3,046	3,462	3,248	2,714	534	214	86
1879	3,743	3,704	3,588	3,119	468	116	78
1880	3,673	4,876	4,796	4,352	444	79	93
1881	4,548	6,737	6,671	5,427	1,244	66	118
1882	4,975	8,219	8,086	6,354	1,732	133	80
1883	5,624	8,022	7,925	7,148	777	97	112
1884	4,638	8,095	7,978	7,345	632	117	90
1885	3,831	9,069	8,959	8,363	596	111	90
1886	4,878	10,457	10,340	9,790	551	117	109
1887	4,944	9,529	9,435	8,705	730	94	178
1888	4,541	11,708	11,631	10,825	807	76	196
1889	5,439	13,874	13,810	13,095	715	64	166
1890	6,962	13,143	13,023	12,167	856	120	140
1891	7,439	10,259	10,107	9,555	552	151	137
1892	4,028	8,060	7,960	7,282	678	100	122
1893	4,363	10,818	10,743	10,207	536	75	144
1894	5,104	9,141	9,053	8,480	574	87	538
1895	5,340	8,474	8,358	7,979	379	116	...
1896	6,064	15,515	15,436	14,933	503	79	...
1897	7,683	16,022	15,934	15,393	540	88	...
1898	10,369	17,208	17,106	16,616	490	103	...
1899 ⁶	16,070	22,471	22,325	21,899	426	146	...
1900 ⁶	10,231	14,114	14,044	13,919	125	69	...

1. Estimated value of domestic goods furnished as supplies to merchantmen, whalers, and national vessels; treated as an export item in the source documents prior to 1895.

2. Incomplete for 1843, 1844, 1845, 1849, and 1850.

3. Two-year period.

4. January 1-August 17, 1840.

5. August 18, 1840-August 17, 1841.

6. January 1-June 14, 1900.

Source: W. S. W. Ruschenberger, Narrative of a Voyage Round the World, vol. II (1838), pp. 380-381; The Polynesian, Sept. 12, 1840 and Sept. 4, 1841; The Friend, Feb. 1, 1844 and July 1, 1844; The Polynesian, Jan. 18, 1845, Mar. 7, 1846, Jan. 30, 1847, Jan. 8, 1848, Jan. 20, 1849, Jan. 19, 1850, Feb. 1, 1851, Feb. 7, 1852, Jan. 29, 1853, Feb. 4, 1854, Feb. 17, 1855, and Feb. 16, 1856; Custom House Statistics for 1856-1871 (broadsides) and 1872-1884 (bound reports); Annual Report of the Collector General of Customs for 1885-1900; Thos. G. Thrum, comp., Hawaiian Almanac and Annual for 1903, p. 26.

TABLE 21.2 IMPORTS BY COUNTRY OF ORIGIN AND EXPORTS BY COUNTRY OF DESTINATION, 1834 TO 1900
 (Thousands of dollars. Variant figures exist for a number of these years, and changes in definitions and coverage, not always made explicit in the source, sometimes affect year-to-year comparability. Data are apparently limited to the port of Honolulu prior to 1851. Specie is included in imports beginning in 1892 and in exports beginning in 1898. The estimated value of domestic goods furnished as supplies to ships in island ports, treated as exports in some tabulations, is excluded from these data.)

Year	Merchandise Imports				Merchandise Exports		
	Total	From United States ¹	From Other Countries	Country Not Reported	Total	To United States ¹	To Other Countries
1834-35 ²	575	424	151	...	344	...	...
1836	413	246	167	...	...	...	...
1837	350	228	123	...	...	...	...
1838	207	140	67	...	...	...	...
1839	378	262	116	...	...	...	...
1840 ³	218	138	80	...	...	...	...
1841 ⁴	455	248	207	...	...	...	...
1842	...	...	...	...	...	...	...
1843	223	...	...	...	158	...	...
1844	350	139	212	--	109	...	...
1845	581	305	242	34	98	...	...
1846	598	366	233	--	190	...	...
1847	738	349	362	28	354	...	...
1848	606	240	366	--	519	...	...
1849	730	383	346	--	161	...	...
1850	1,035	589	446	--	443	...	...
1851	1,814	847	905	62	579	...	...
1852	760	419	296	45	511	...	...
1853	1,322	1,088	208	26	346	...	...
1854	1,591	1,024	461	106	432	...	...
1855	1,383	800	467	117	412	...	...
1856	1,152	575	494	83	360	...	...
1857	1,130	668	383	79	470	...	...
1858	1,090	675	338	77	564	...	...
1859	1,556	864	562	129	740	...	...
1860	1,224	713	348	163	677	...	...
1861	761	410	236	115	587	...	...
1862	998	458	421	120	785	...	...
1863	1,175	505	567	104	960	...	...
1864	1,712	771	737	204	1,519	...	...
1865	1,946	867	854	225	1,717	...	...
1866	1,994	1,116	717	161	1,855	...	...
1867	1,957	1,063	752	143	1,591	...	...
1868	1,936	1,133	680	123	1,788	...	...
1869	2,040	1,108	672	259	2,262	...	...
1870	1,930	1,054	644	232	2,034	...	...

TABLE 21.2 (cont.)

Year	Merchandise Imports			Merchandise Exports			
	Total	From United States ¹	From Other Countries	Country Not Reported	Total	To United States ¹	To Other Countries
1871	1,626	1,022	479	125	1,816	...	...
1872	1,748	906	678	165	1,555	...	...
1873	1,438	787	538	113	2,064	...	...
1874	1,311	771	407	132	1,773	...	...
1875	1,682	947	539	197	2,028	...	...
1876	1,812	1,115	443	254	2,181	...	...
1877	2,554	1,763	663	129	2,578	...	...
1878	3,046	2,054	880	113	3,462	...	...
1879	3,743	2,306	1,287	150	3,704	...	...
1880	3,673	2,628	875	170	4,876	...	...
1881	4,548	3,172	1,152	224	6,737	...	...
1882	4,975	3,474	1,176	324	8,219	...	...
1883	5,624	3,982	1,308	334	8,022	...	...
1884	4,638	3,368	1,270	--	8,095	...	...
1885	3,831	2,941	890	--	9,069	8,933	136
1886	4,878	4,002	876	--	10,457	10,413	44
1887	4,944	3,648	1,296	--	9,529	9,491	39
1888	4,541	3,330	1,211	--	11,708	11,671	36
1889	5,439	4,306	1,133	--	13,874	13,841	34
1890	6,962	5,259	1,703	--	13,143	13,073	69
1891	7,439	5,294	2,145	--	10,259	10,196	63
1892	4,684	3,838	846	--	8,060	8,030	30
1893	5,347	4,308	1,039	--	10,818	10,754	64
1894	5,713	4,354	1,359	--	9,141	8,997	144
1895	5,714	4,516	1,198	--	8,474	8,392	82
1896	7,165	5,464	1,700	--	15,515	15,460	55
1897	8,838	6,800	2,038	--	16,022	15,962	60
1898	11,651	8,696	2,955	--	17,347	17,256	91
1899 ⁵	19,060	15,021	4,039	--	22,629	22,518	111
1900 ⁵	10,684	8,710	1,974	--	14,404	14,363	42

1. Includes California, Oregon, and Washington State prior to their formal annexation. Import data also include merchandise from "northwest coast of America" (possibly British Columbia) in 1834-1840, Mazatlan in 1844, and Vancouver Island in 1851.

2. Two-year period.

3. January 1-August 17, 1840.

4. August 18, 1840-August 17, 1841.

5. January 1-June 14, 1900.

Source: W. S. W. Ruschenberger, Narrative of a Voyage Round the World, vol. 11 (1838), pp. 380-381; The Polynesian, Sept. 12, 1840 and Sept. 4, 1841; The Friend, Feb. 1, 1844 and July 1, 1844; The Polynesian, Jan. 18, 1845, Mar. 7, 1846, Jan. 30, 1847, Jan. 8, 1848, Jan. 20, 1849, Jan. 19, 1850, Feb. 1, 1851, Feb. 7, 1852, Jan. 29, 1853, Feb. 4, 1854, Feb. 17, 1855, and Feb. 16, 1856; Custom House Statistics for 1856-1871 (broadsides) and 1872-1884 (bound reports); Annual Report of the Collector General of Customs for 1885-1900.

TABLE 21.3 INTERSTATE AND FOREIGN TRADE, 1901 TO 1976
(Thousands of Dollars)

Year ¹	Merchandise Imports			Merchandise Exports		
	Total	From United States	From Other Countries ²	Total	To United States	To Other Countries ³
1901	NA	NA	2,835	28,023	27,903	120
1902	NA	NA	3,037	24,794	24,730	64
1903	14,086	10,943	3,142	26,275	26,243	33
1904	15,481	11,683	3,798	25,205	25,157	48
1905	14,768	11,753	3,015	36,172	36,112	60
1906	15,312	12,037	3,275	26,939	26,882	56
1907	18,587	14,436	4,152	29,302	29,072	230
1908	19,721	15,038	4,682	42,238	41,641	598
1909	21,814	17,781	4,034	40,517	40,433	84
1910	25,166	20,560	4,606	46,490	46,183	307
1911	27,116	21,925	5,190	41,938	41,208	731
1912	30,251	24,653	5,598	55,449	55,076	373
1913	37,520	30,646	6,874	43,472	42,713	759
1914	32,056	25,773	6,283	41,594	40,679	915
1915	30,721	25,005	5,716	62,465	62,087	378
1916	37,196	31,128	6,069	64,665	64,438	227
1917	50,813	44,330	6,483	74,098	73,174	924
1918	50,454	43,647	6,807	80,947	79,393	1,554
1918, July-Dec.	24,537	19,061	5,476	46,377	42,224	4,152
1919	58,965	49,984	8,981	102,614	98,363	4,251
1920	86,337	74,052	12,285	195,821	192,383	3,438
1921	73,976	64,446	9,530	73,020	71,669	1,350
1922	61,083	53,586	7,497	74,689	73,431	1,257
1923	75,106	66,421	8,685	102,667	101,086	1,581
1924	78,652	69,768	8,884	109,889	108,473	1,416
1925	83,754	72,924	10,830	104,625	102,781	1,845
1926	86,517	76,263	10,255	100,145	98,261	1,884
1927	88,802	79,630	9,172	111,504	109,236	2,268
1928	88,124	77,763	10,361	119,480	116,956	2,524
1929	92,703	82,951	9,753	108,439	106,313	2,126
1930	91,126	81,726	9,400	100,916	98,924	1,992
1931	86,957	79,092	7,864	102,738	101,549	1,189
1932	63,630	58,578	5,052	83,448	82,688	760
1933	63,128	57,894	5,233	92,953	92,277	676
1934	69,234	63,472	5,761	95,830	94,514	1,316
1935	84,553	78,925	5,628	100,034	98,696	1,338
1936	92,444	85,744	6,700	127,177	125,537	1,639
1937	113,975	104,303	9,673	132,240	130,138	2,102
1938	109,660	101,227	8,433	98,086	96,557	1,529
1939	109,252	101,818	7,434	115,096	113,207	1,889
1940	135,447	127,440	8,007	103,068	102,145	923

TABLE 21.3 (cont.)

Year ¹	Merchandise Imports			Merchandise Exports		
	Total	From United States	From Other Countries ²	Total	To United States	To Other Countries ³
1941	192,855	186,662	6,193	133,653	122,640	11,013
1942	143,377	141,702	1,676	96,904	96,650	253
1943	185,766	182,594	3,172	103,391	103,371	20
1944	198,509	185,794	12,716	85,141	85,087	53
1945	267,046	240,829	26,217	88,047	87,461	586
1946	236,307	227,073	9,234	140,043	133,338	6,705
1947 ⁴	349,627	340,411	9,216	236,433	228,353	8,080
1948	NA	NA	12,726	NA	NA	6,705
1949	NA	NA	16,007	NA	NA	3,462
1950	363,000	349,400	13,587	229,600	227,400	2,224
1951	374,800	355,600	19,158	238,400	234,900	3,505
1952	338,200	318,100	20,076	239,400	235,300	4,125
1953	402,900	383,000	19,867	266,600	260,300	6,321
1954	369,800	350,200	19,615	258,700	250,400	8,293
1955	419,500	399,600	19,854	270,800	261,700	9,107
1956	429,600	406,800	22,779	287,000	268,100	18,907
1957	488,400	461,700	26,695	278,500	258,600	19,873
1958	459,500	426,100	33,418	253,100	236,200	16,927
1959	520,800	486,700	34,130	276,000	258,100	17,912
1960	566,100	519,100	46,988	263,800	243,500	20,270
1961	573,600	515,500	58,053	281,700	258,900	22,793
1962	548,400	480,100	68,297	294,400	265,500	28,908
1963	571,900	497,900	73,973	338,200	307,800	30,449
1964	652,900	567,100	85,804	324,400	283,400	40,991
1965	711,000	615,100	95,944	331,800	296,700	35,110
1966	794,000	688,800	105,200	351,100	310,600	40,500
1967	942,500	822,400	120,100	372,700	325,300	47,400
1968	1,025,400	886,700	138,700	378,100	329,100	49,000
1969	1,196,400	1,029,100	167,300	368,100	321,700	46,400
1970	1,361,500	1,194,100	167,400	391,000	339,800	51,200
1971	1,416,900	1,201,400	215,500	412,000	365,700	46,300
1972	1,447,500	1,220,000	227,500	410,600	350,200	60,400
1973	1,868,400	1,563,500	304,900	454,600	381,800	72,800
1974	2,471,700	1,866,200	605,500	932,200	817,000	115,200
1975	NA	NA	757,600	NA	NA	95,700
1976	NA	NA	876,500	NA	NA	66,200

1. Years ended June 30, 1901-1918; six-month period ended June 30, 1918; and calendar years, 1919 and thereafter.

2. General imports through 1933; imports for consumption thereafter. These data reflect the customs district where the consumption or warehouse entry is filed, which is not necessarily either the point of arrival or point of destination of the merchandise.

TABLE 21.3 (cont.)

3. Merchandise exports, including merchandise of foreign origin. These data reflect the customs district of exportation, not necessarily the point of origin of the merchandise.

4. The legal requirement for filing of export declarations for shipments between the mainland United States and Hawaii was removed in April 1948.

Source. Statistical Abstract of the United States (annual, 1904 to 1959); U.S. Department of Commerce, Foreign Commerce and Navigation of the United States, 1946-1965, and publications IA 245 (1959), EM 563 (1959), and FT 990 (annual, 1966 to 1974) and records; Bank of Hawaii, Hawaii '68 (August 1968), p. 45, and Hawaii '76 (July 1976), p. 45.

TABLE 21.4 MERCHANDISE SHIPMENTS TO THE MAINLAND UNITED STATES, BY ORIGIN AND COMMODITY, 1901 TO 1947
(Thousands of dollars)

Year	Hawaiian Products ¹						Other Products
	All Merchandise Shipments	Articles produced in U.S., Returned	Foreign Merchandise	Total	Sugar ²	Pineapple ³	
Years ended June 30							
1901 ⁴	27,903	...	...	...	27,099	--	...
1902	24,730	...	30	24,700	23,922	--	778
1903	26,243	...	42	26,201	25,311	6	884
1904	25,157	...	24	25,134	24,360	32	742
1905	36,112	...	43	36,069	35,113	67	889
1906	26,882	...	32	26,850	25,496	153	1,201
1907	29,072	...	17	29,055	27,693	268	1,094
1908	41,641	...	45	41,596	39,816	632	1,148
1909	40,433	460	38	39,935	37,633	1,230	1,072
1910	46,183	721	22	45,441	42,625	1,560	1,256
1911	41,208	868	27	40,312	36,795	2,245	1,272
1912	55,076	1,067	20	53,989	50,039	2,705	1,245
1913	42,713	991	61	41,661	36,749	3,645	1,267
1914	40,679	1,090	50	39,539	33,338	4,606	1,595
1915	62,087	1,220	256	60,611	53,145	6,029	1,437
1916	64,438	1,686	49	62,704	54,745	6,556	1,403
1917	74,478	1,751	112	72,615	63,133	8,008	1,474
1918	79,393	4,083	132	75,178	64,744	8,397	2,037
Calendar years							
1918	75,760	3,577	340	71,843	57,501	11,554	2,788
1919	98,363	1,452	127	96,785	76,815	17,694	2,276
1920	192,383	1,793	75	190,516	159,378	29,221	1,917
1921	71,669	1,902	95	69,672	48,282	20,014	1,376
1922	73,431	2,265	38	71,129	47,119	22,652	1,358
1923	101,086	2,466	101	98,519	70,438	26,726	1,355
1924	108,473	2,550	64	105,859	78,869	25,372	1,618
1925	102,781	3,002	30	99,748	64,226	33,562	1,960
1926	98,261	2,939	29	95,294	59,807	33,928	1,559
1927	109,236	2,832	35	106,370	70,398	33,502	2,470

TABLE 21.4 (cont.)

Calendar Year	Hawaiian Products ¹					Other Products	
	All Merchandise Shipments	Articles produced in U.S., Returned	Foreign Merchandise	Total	Sugar ²		Pineapple ³
1928	116,956	2,786	15	114,155	72,937	39,299	1,919
1929	106,313	2,475	42	103,797	62,931	38,431	2,435
1930	98,924	2,349	55	96,519	56,564	37,728	2,227
1931	101,549	2,554	113	98,882	61,297	35,341	2,244
1932	82,688	2,168	26	80,494	57,906	20,592	1,996
1933	92,277	2,121	58	90,098	64,331	23,926	1,841
1934	94,514	2,575	60	91,878	55,264	34,272	2,342
1935	98,696	2,715	40	95,941	59,377	33,886	2,678
1936	125,537	2,882	145	122,510	68,480	51,453	2,577
1937	130,138	3,206	54	126,879	64,357	59,395	3,127
1938	96,557	3,078	48	93,431	51,398	37,848	4,185
1939	113,207	3,675	37	109,496	55,870	50,823	2,803
1940	102,145	5,166	54	96,925	47,913	45,673	3,339
1941	122,640	4,261	202	118,176	51,883	63,308	2,985
1942	96,650	4,456	18	92,176	51,865	38,982	1,329
1943	103,371	2,396	1	100,975	59,011	39,906	2,058
1944	85,087	2,468	--	82,619	55,066	26,025	1,528
1945	87,461	2,994	--	84,467	52,714	26,935	4,818
1946	133,338	19,039	12	114,286	48,066	62,025	4,195
1947 ⁵	228,353	47,021	1	181,330	98,615	74,412	8,303

1. Articles produced in U.S., returned, included with Hawaiian products before 1909.

2. Includes unrefined sugar, refined sugar, molasses, and syrup.

3. Data for 1901-1910 refer to all canned fruit (in 1911, canned pineapple accounted for all but \$83 of the canned fruit total). Data for 1911-1947 include canned pineapple and pineapple juice but not fresh pineapples, frozen pineapples, pineapple alcohol, pineapple syrup, pineapple stock feed, or prepared or preserved pineapples.

4. Sugar shipments are for June 14, 1900-June 30, 1901.

5. Last full year available; the legal requirement for filing of export declarations for shipments between Hawaii and the mainland U.S. was removed in April 1948.

TABLE 21.4 (cont.)

Source: U.S. Treasury Department, The Foreign Commerce and Navigation of the United States for 1902-1905; U.S. Department of Commerce, Monthly Summary of Commerce and Finance of the United States for 1908-1913, Monthly Summary of Foreign Commerce of the United States for 1915-1943, and Statistical Abstract of the United States for 1904-1949; Thos. G. Thrum, comp. and pub., Hawaiian Almanac and Annual for 1904, pp. 23 and 31.

TABLE 21.5 SHIPMENTS OF COFFEE, PINEAPPLE, AND SUGAR TO THE MAINLAND UNITED STATES, 1901 TO 1947

Year	Coffee (1,000 lb.)	Pineapple (1,000 lb.)		Sugar Products		
		Canned	Juice	Unrefined (1,000 lb.)	Refined (1,000 lb.)	Molasses (1,000 gal.)
Years ended						
June 30						
1901 ¹	...	...	...	690,882	--	94
1902	1,083	...	...	720,553	--	48 ₂
1903	1,852	...	...	774,825	--	2
1904	1,373	...	...	736,492	2	11
1905	1,437	...	...	811,603	21,118	27
1906	2,147	...	...	712,561	34,042	3
1907	1,101	...	...	803,249	17,766	7 ₂
1908	1,311	...	...	1,054,396	23,175	
1909	1,754	...	...	983,090	39,774	1 ₂
1910	2,351	...	...	1,073,352	37,242	
1911	2,707	...	...	988,607	22,608	1,802
1912	2,132	...	...	1,172,511	32,955	1,734
1913	2,150	...	...	1,056,245	29,117	3,737
1914	4,431	...	...	1,089,379	25,372	4,110
1915	3,191	...	...	1,253,669	27,195	5,203
1916	2,252	...	...	1,110,134	27,026	8,399
1917	1,987	...	...	1,127,825	34,780	10,979
1918	1,968	...	...	1,053,701	27,208	14,671
Calendar						
year						
1918	4,486	...	...	971,440	38,310	12,492
1919	3,144	...	...	1,134,989	23,915	9,883
1920	1,886	...	...	1,077,079	22,548	12,126
1921	4,183	...	...	1,065,899	16,357	6,790
1922	2,834	...	...	1,118,905	16,562	4,342
1923	2,170	285,458	32	1,024,580	13,810	6,722
1924	2,615	281,988	11	1,341,771	12,000	14,378
1925	3,590	402,558	--	1,494,090	16,227	19,982
1926	1,718	410,286	2	1,475,014	19,247	16,964
1927	5,435	408,161	...	1,525,626	27,445	13,868
1928	3,699	495,686	...	1,725,481	31,885	21,486
1929	5,300	439,867	...	1,745,047	19,809	28,370
1930	5,887	423,170	...	1,697,389	34,185	30,059
1931	6,637	484,276	...	1,915,791	20,138	14,341
1932	7,760	388,069	...	1,993,226	48,641	11,167
1933	4,158	434,884	18	1,989,066	45,946	7,604
1934	5,468	540,936	2,035	1,807,337	31,485	18,873
1935	5,399	436,801	103,529	1,840,971	30,117	28,569
1936	3,918	571,947	233,029	1,887,337	32,652	21,232
1937	4,076	595,792	283,850	1,835,559	19,501	31,015
1938	2,524	373,536	220,622	1,763,123	21,823	28,141

TABLE 21.5 (cont.)

Calendar Year	Coffee (1,000 lb.)	Pineapple (1,000 lb.)		Sugar Products		
		Canned	Juice	Unrefined (1,000 lb.)	Refined (1,000 lb.)	Molasses (1,000 gal.)
1939	2,479	536,327	311,677	1,841,379	26,050	28,979
1940	1,322	434,426	351,847	1,727,798	16,596	31,842
1941	2,490	648,526	396,506	1,698,151	9,500	45,441
1942	²	328,489	222,945	1,508,188	--	36,838
1943	--	248,848	192,709	1,676,245	--	49,805
1944	--	190,892	94,097	1,573,903	--	38,531
1945	²	143,762	149,088	1,487,321	--	36,942
1946	7,147	378,515	277,095	1,196,495	58	32,226
1947 ³	5,080	381,222	302,387	1,596,013	16,773	37,461

1. June 14, 1900 to June 30, 1901.

2. Less than 500 pounds or 500 gallons.

3. Last full year available; the legal requirement for filing of export declarations for shipments between Hawaii and the mainland U.S. was removed in April 1948.

Source: U.S. Treasury Department, The Foreign Commerce and Navigation of the United States for 1902-1905; U.S. Department of Commerce, Monthly Summary of Commerce and Finance of the United States for 1908-1913, Monthly Summary of Foreign Commerce of the United States for 1915-1943, and Statistical Abstract of the United States for 1943-1949; Thos. G. Thrum, comp. and pub., Hawaiian Almanac and Annual for 1904, p. 31.

TABLE 21.6 PRINCIPAL EXPORTS, 1844 TO 1900

Year	Sugar (1,000 lb.)	Molasses (1,000 gal.)	Coffee (1,000 lb.)	Rice (1,000 lb.)	Paddy (1,000 lb.)	Bananas (1,000 bunches)	Pulu ¹ (1,000 lb.)	Hides (pieces)	Tallow (1,000 lb.)	Goat- skins (pieces)	Sheep- skins (pieces)	Wool (1,000 lb.)
1844	514	27	...	...	...	...	...	2,536	...	30,837	...	...
1845	302	19	0.2	...	...	...	8	940	4	9,918	...	1
1846	300	16	10.0	...	...	...	...	2,000	...	35,000	...	...
1847	595	18	26.2	...	...	...	14	3,452	17	20,360	...	...
1848	500	29	50.1	...	...	...	...	...	...	...	...	...
1849	654	41	28.2	...	...	...	...	2,512 ²	17	31,488	...	1
1850	750	54	208.4	...	...	...	...	...	4	24,983	...	...
1851	21	14	27.2	...	...	...	2	2,172	5	26,717	...	...
1852	730	46	117.2	...	...	...	27	1,019	5	29,779	...	...
1853	635	58	50.5	...	...	...	13	1,741	5	5,600	...	11
1854	582	42	91.1	...	...	...	34	3,006	16	16,980	...	13
1855	290	26	77.6	...	...	...	83	4,331	15 ⁴	103,700	...	5
1856	555	49	68.5	...	...	0.1	6	5,358	4	70,914	...	5
1857	701	27	311.3	...	...	...	6	9,835	4	49,895	...	5
1858	1,205	72	58.1	...	...	0.2	6	13,201	4	35,901	...	5
1859	1,827	83	82.5	...	...	...	6	14,601	4	45,345	...	5
1860	1,444	109	49.0	...	...	...	649	19,964	85	37,298	...	71
1861	2,562	128	45.4	...	...	...	531	7,463	233	21,945	...	120
1862	3,006	130	146.5	111	812	0.1	738	15,461	243	53,076	...	40
1863	5,292	114	133.2	123	598	0.1	425	16,366	283	43,646	...	233
1864	10,414	340	50.1	320	105	1.9	643	12,049	190	32,333	...	197
1865	15,318	543	310.8	154	...	1.2	221	3,849	186	54,988	...	144
1866	17,729	852	93.7	435	...	1.8	212	8,331	160	76,115	...	73
1867	17,127	545	127.5	442	572	2.9	204	11,207	61	51,889	...	409
1868	18,313	493	78.4	40	863	4.0	343	11,144	110	57,670	...	259
1869	18,302	338	340.8	49	1,587	6.9	623	12,803	86	62,736	...	219
1870	18,784	217	415.1	152	535	4.0	234	13,095	90	67,463	...	235
1871	21,761	271	46.9	417	867	3.9	293	19,384	185	58,900	...	472
1872	16,995	192	39.3	455	895	4.5	421	27,066	494	53,598	...	289
1873	23,129	146	262.0	941	508	6	413	20,877	610	66,702	...	330

TABLE 21.6 (cont.)

Year	Sugar (1,000 lb.)	Molasses (1,000 gal.)	Coffee (1,000 lb.)	Rice (1,000 lb.)	Paddy (1,000 lb.)	Bananas (1,000 bunches)	Pulu ¹ (1,000 lb.)	Hides (pieces)	Tallow (1,000 lb.)	Goat- skins (pieces)	Sheep- skins (pieces)	Wool (1,000 lb.)
1874	24,567	90	75.5	1,188	439	6	418	22,620	126	71,955	7	400
1875	25,080	94	165.7	1,574	556	11	479	22,777	852	60,598	7	465
1876	26,072	139	153.7	2,259	1,543	15	314	11,105	327	45,265	3,425	406
1877	25,576	151	131.0	2,691	2,572	16	151	22,164	370	51,551	...	386
1878	38,431	93	128.0	2,768	2,785	13	213	25,309	240	64,525	...	523
1879	49,021	87	74.3	4,793	39	12	137	24,885	...	24,940	...	464
1880	63,585	198	99.5	6,470	...	19	45	22,945	19	31,013	2,230	381
1881	93,789	264	18.9	7,683	102	21	53	21,972	118	21,368	6,820	528
1882	114,178	221	8.1	12,169	460	29	...	26,007	78	23,402	4,385	529
1883	114,107	194	16.1	11,619	1,369	45	...	38,955	32	24,798	6,583	318
1884	142,655	111	4.2	9,493	46	58	...	21,026	3	20,125	8,038	408
1885	171,350	58	1.7	7,367	...	60	...	19,045	...	19,782	8,783	474
1886	216,224	113	5.9	7,339	...	46	...	31,207	21	21,173	9,255	419
1887	212,764	71	5.3	13,684	3	59	...	28,639	57	16,233	6,871	76
1888	235,888	48	7.1	12,879	...	71	...	24,494	205	17,589	5,629	562
1889	242,166	55	43.7	9,670	...	106	...	27,158	97	11,715	6,188	242
1890	259,798	75	88.6	10,579	...	97	...	28,196	34	8,661	7,565	375
1891	274,984	56	3.1	4,900	...	117	...	26,427	27	7,316	7,100	97
1892	263,657	48	13.6	11,516	...	105	...	21,622	1	3,449	5,358	289
1893	330,823	67	49.3	7,821	...	108	...	19,826	13	5,911	6,785	392
1894	306,685	73	189.2	7,804	...	123	...	21,603	...	6,759	6,472	261
1895	294,785	45	118.8	3,769	...	105	...	19,180	...	6,466	6,564	228
1896	443,569	16	255.7	5,025	...	126	...	25,079	...	12,647	7,886	463
1897	520,158	34	337.2	5,499	...	76	...	25,475	9	6,085	9,907	249
1898	444,963	15	733.3	2,866	...	81	...	31,280	221	8,262	7,519	4
1899	545,371	11	824.9	946	...	91	...	23,377	34	5,522	15,282	308
1900	344,531	3	321.1	40	...	10	...	40,000	2	3,711	115	...

TABLE 21.6 (cont.)

1. Defined in the Pukui and Elbert Hawaiian Dictionary as "a soft, glossy wool on the base of tree-fern leaf stalks ... used to stuff mattresses and pillows."
2. Reported in pounds (20,200).
3. Less than 500 pounds.
4. Reported in casks (160 in 1855, 226 in 1856, 642 in 1857, 548 in 1858, and 606 in 1859).
5. Reported in bales (19 in 1855, 67 in 1856, 253 in 1857, 119 in 1858, and 200 in 1859).
6. Reported in bales (4,100 in 1856, 2,900 in 1857, 3,900 in 1858, and 4,100 in 1859).
7. Reported in bundles (328, plus 848 pieces, in 1872; 63, plus 960 pieces, in 1873; 6 in 1874; and 3 in 1875).
8. January 1 to June 14, 1900.

Source: Custom House Statistics for 1859 and 1872-1875; Biennial Report of the Minister of Finance ... 1872, table R; Report of the Collector General of Customs for 1885-1900; Thos. G. Thrum, comp., Hawaiian Almanac and Annual for 1901, pp. 28-29.

TABLE 21.7 EXPORTS AND TRANSSHIPMENTS OF WHALING PRODUCTS, 1851 TO 1880

Year	Oil and Bone Exported ¹		Oil and Bone Transshipped ²		
	Whale Oil (1,000 gal.)	Whalebone (1,000 lb.)	Sperm Oil (1,000 gal.)	Whale Oil (1,000 gal.)	Whalebone (1,000 lb.)
1851	...	...	104	909	902
1852	...	...	173	1,183	3,160
1853	...	...	175	3,787	2,020
1854	...	...	156	1,684	1,480
1855	...	...	109	1,437	828
1856	...	...	121	1,642	1,075
1857	53	22	176	2,018	1,296
1858	87	39	213	2,504	1,609
1859	219	60	156	1,668	1,147
1860	140	40	48	782	572
1861	189	27	20	796	528
1862	57	3	13	460	194
1863	138	38	57	675	337
1864	123	8	34	609	339
1865	111	34	43	579	337
1866	46	57	119	1,251	611
1867 ³	71	48	103	822	405
1868	42	12	107	775	596
1869	154	90	158	1,698	628
1870	134	101 ⁴	105	1,444	633
1871	140		63	283	29
1872	23	23	51	33	82
1873	42	18	57	174	123
1874	49	16	23	404	174
1875	81	42	38	312	105
1876	34 ⁴	24	...	...	...
1877		12	...	...	...
1878	7	15	...	...	...
1879	...	1	...	...	...
1880	15	11	...	...	...

1. Data not available before 1857 or after 1880.

2. Data not available before 1851 or after 1875. The 1876 report stated: "I have omitted the table of exports of Oil, Bone and Ivory this year, as owing to the loss in the ice of the whaling fleet there was very little exported."

3. In addition to data on oil and bone, totals on ivory exported were reported for 1867 and 1869-1876. Totals (in thousands of pounds) were: 1867, 2; 1869, 1; 1870, 13; 1871, 1; 1872, 4; 1873, 25; 1874, 11; 1875, 17; and 1876, 8.

4. Less than 500 pounds.

Source: Custom House Statistics for 1859-1880.

TABLE 21.8 BALANCE OF PAYMENTS (EXCLUDING CAPITAL MOVEMENTS), 1950 TO 1974
(Millions of dollars)

Year	Earnings by Hawaii from Overseas					Expenditures by Hawaii to Overseas					Return on Investments in Hawaii
	Total	Commodity Exports	Federal expenditures	Services Performed	Return on Overseas Investments	Total	Commodity Imports	Payments to Federal Government	Services Performed	Return on Investments in Hawaii	
1950	513	230	202	60	21	564	363	98	84	19	
1951	595	238	261	74	22	609	375	128	84	22	
1952	633	239	294	77	23	600	338	152	89	21	
1953	690	266	308	90	26	671	403	150	95	23	
1954	679	259	306	90	24	643	370	152	92	29	
1955	747	270	338	113	26	707	419	146	109	33	
1956	805	286	357	130	32	748	430	164	117	37	
1957	856	279	385	158	34	833	489	183	121	40	
1958	859	253	421	152	33	821	460	191	130	40	
1959	954	276	447	194	37	922	521	219	141	46	
1960	1,029	264	486	230	49	1,036	566	259	165	46	
1961	1,082	282	530	219	51	1,077	573	278	176	50	
1962	1,112	294	530	229	59	1,120	548	314	197	61	
1963	1,199	334	536	263	66	1,183	572	314	225	72	
1964	1,310	322	602	313	73	1,314	653	337	242	82	
1965	1,418	331	647	354	86	1,398	711	343	251	93	
1966	1,607	351	751	415	90	1,544	796	382	262	104	
1967	1,828	373	847	507	101	1,762	947	414	287	114	
1968	1,983	378	912	580	113	1,999	1,029	527	313	130	
1969	2,154	366	984	683	121	2,330	1,200	634	341	155	
1970	2,317	391	1,071	727	128	2,805	1,534	672	446	153	
1971	2,601	412	1,220	825	144	2,756	1,425	696	450	185	
1972	2,819	411	1,301	953	154	2,935	1,464	744	507	220	
1973	3,309	455	1,526	1,152	176	3,608	1,904	846	606	252	
1974	4,307	930	1,694	1,488	195	4,449	2,488	951	707	303	

TABLE 21.8 (cont.)

Source: Bank of Hawaii, Hawaii '68 (August 1968), p. 44; Hawaii '75 (August 1975), p. 45; Hawaii '76 (July 1976), p. 45; and records.

TABLE 21.9 BALANCE OF INDEBTEDNESS, 1950 TO 1971
(Millions of dollars)

Year	Assets Out of State of Hawaii Residents	Assets in Hawaii of Nonresidents
1950	457	413
1955	728	924
1960	1,244	1,167
1965	2,296	2,483
1971	2,676	3,439

Source: H. Robert Heller and Emily E. Heller, The Economic and Social Impact of Foreign Investment in Hawaii (Economic Research Center, University of Hawaii, December 1973), p. 16.

TABLES IN SECTION 22

- 22.1 Registered corporations and partnerships, 1860 to 1976
- 22.2 Reporting units, employment, and payrolls under social security, 1946 to 1974
- 22.3 Corporations, by tax status, and proprietorships, by profitability, 1936 to 1974
- 22.4 Patents issued, 1884 to 1976

SECTION 22

Business Enterprise

This section presents statistics on the number and characteristics of corporations, partnerships, and proprietorships, and the number of business units by employment-size class. It also includes data on the number of patents issued to Hawaii residents. Related statistics appear in section 4 (on employment and payrolls), section 13 (sugar plantations), section 16 (manufactures), and section 20 (distribution and services).

The earliest statistics on business enterprise in the islands were data on the number of establishments of each type, found occasionally in nineteenth century newspaper accounts. In 1845, for example, The Friend reported that Honolulu had eleven wholesale and retail stores, fourteen retail stores, two auctioneers, five hotels, six boarding houses, and six "sailor's grog shops."

One of the responsibilities of the minister of the interior was the issuing of licenses to business establishments. During the year ended March 31, 1847, for instance, twenty-eight wholesaling and seventy-six retailing licenses were granted. The fees paid for these licenses were an important source of governmental revenue. Annual data on receipts from license fees, often by type of license, usually appeared in Report of the Minister of the Interior, which was published at annual or biennial intervals (with one extended hiatus) from the mid-1840s to the end of the century. Only a few of these reports, however, included data on the numbers of licenses issued.

The minister of the interior was also empowered to register corporations and partnerships, qualifying them as legal entities entitled to transact business in Hawaii. Corporations were classified as either domestic (chartered in Hawaii) or foreign (formed elsewhere), and were further designated as "incorporated for mercantile, agricultural or manufacturing purposes" and "eleemosynary." The first eleemosynary corporation was registered on November 19, 1849; the first noneleemosynary corporation, on March 12, 1859; the first foreign corporation, April 30, 1868; and the first partnership, September 27, 1880. Both in 1886 and 1894, the Report of the Minister of the Interior carried chronological listings of the domestic profit corporations then on record. Beginning with the 1895 report, annual or biennial totals were more or less regularly published on the number of domestic corporations formed, dissolved, and on record.

Responsibility for business registration was transferred in 1900 from the

minister of the interior to the territorial treasurer and, after statehood, to the Department of Treasury and Regulation (renamed Department of Regulatory Agencies in 1963). Annual statistics on corporations formed, dissolved, and on the books initially appeared in Report of the Governor of Hawaii to the Secretary of the Interior, a practice which continued throughout most of the territorial period. Similar statistics, usually in greater detail, were published in Report of the Treasurer to the Legislature, beginning with the report to the 1911 session and continuing to 1959; Annual Report of the Department of Treasury and Regulation for 1960, 1961, and 1962; and Annual Report of the Department of Regulatory Agencies, 1963 to 1968. Annual totals for more recent years have been carried in The State of Hawaii Data Book. These sources included yearly totals for partnerships beginning in 1935.

It should be noted that business registration data prior to 1915 were inflated to an unknown degree by the inclusion of firms that had failed, merged, or otherwise gone out of existence. As early as 1894, the minister of the interior noted this problem, complaining that "the record still remains, and there is no provision for disposing of any corporation which may cease to exist." In 1915, however, the legislature authorized the treasurer to annul the charters of nonreporting or defunct corporations, thereby deleting them from the annual statistics.

Following annexation, the inclusion of Hawaii in the economic censuses periodically conducted by the U.S. government provided additional information on business enterprise. The censuses of agriculture and manufactures were first taken in the islands for 1899; the census of mineral industries, for 1909; the censuses of retail trade, wholesale trade, and selected services, for 1939; and the census of construction industries, for 1967.

The development of the Standard Industrial Classification (SIC) during the 1940s did much to improve statistics on business. This system was devised for use in the classification of establishments (including government agencies and other nonprofit organizations) by the type of activity in which engaged, to facilitate the collection, tabulation, presentation, and analysis of data related to establishments, and to promote uniformity and comparability in data collection by governmental and private organizations. Under this scheme, all establishments could be classified into one of twelve broad activity divisions, with subcategories reaching to the four-digit level. The breakdown for manufacturing was first published in 1945; for nonmanufacturing, in 1949. Revisions appeared in 1957 and 1972. The most recent was issued by the U.S.

Office of Management and Budget as Standard Industrial Classification Manual 1972.

Employer reports on employment and payrolls under social security, first required by federal law in the late 1930s, provide still another source of data on business. All employers reporting under the Federal Insurance Contributions Act are classified by the SIC codes described above, sometimes to the four-digit level, and tabulations are made for each category on total reporting units, mid-March employment, and first-quarter taxable payrolls. (A "reporting unit" for purposes of this survey is a single establishment except that, for nonmanufacturing industries prior to 1974, a group of similar establishments of an employer located in the same county was also considered one reporting unit. Data exclude farm and domestic workers, government employees, the self-employed, and employees on ocean-borne vessels.) These statistics have been published for states and counties by the U.S. Department of Commerce. The first two reports, covering data for 1946 and 1947, appeared as Business Establishments, Employment and Taxable Payrolls Under Old Age and Survivors Insurance Program. Later reports, issued for 1948, 1951, 1953, 1956, 1959, 1962, and annually beginning in 1964, were titled County Business Patterns.

Data on the operating revenues, net earnings, and other characteristics of listed and unlisted corporations whose securities are authorized for trading on the Honolulu Stock Exchange appear in Manual of Hawaiian Securities, published annually by the exchange since 1910.

Statistics on corporations are also available from tabulations of corporate income tax data. The first Hawaiian income tax law was enacted in 1896, but the following year it was held unconstitutional by the Hawaii Supreme Court. A second law, likewise taxing individual incomes and corporation net profits, was passed by the territorial legislature in 1901, this time with greater success. Rates, exemptions, and other provisions of the law have been modified a number of times since 1901. Domestic (Hawaiian) corporations are currently taxed upon the entire income earned within and without the state, except for out-of-state revenues taxed by other nonfederal jurisdictions. Many out-of-state corporations are, however, exempt, as are island banks, building and loan associations, insurance companies, agricultural cooperatives, labor unions, and nonprofit organizations. Annual totals on the number of "corporations, firms, etc.," paying income taxes were published for the years from 1911 to 1930 in Report of the Treasurer ... for the Two Years Ended June 30,

1932. Data on the number of taxable and nontaxable corporations, 1936 to 1953, and their taxable net income, 1936 to 1949, appeared in Report of the Tax Commissioner for those years. Since 1958-1959, detailed analyses of tax return data for domestic, foreign, and small business corporations have been published by the Department of Taxation in an annual series, Hawaii Income Patterns--Corporations.

Statistics on proprietorships also are available from tabulations of income tax data. Summary data on the number of proprietorships with and without a net profit and their aggregate net profit and net loss have been published annually since 1958 in Hawaii Income Patterns--Individuals. More detailed analyses have been issued on a biennial basis since 1961 in Hawaii Income Patterns--Proprietorships. Both sources are based on the receipts and expenses claimed by proprietors on schedule C, Profit (or Loss) from Business or Profession, of the individual income tax returns. The annual reports count individuals with more than one business or profession only once, however, while the biennial reports count each business or profession listed by such persons; consequently, corresponding totals from the two publications may differ to a significant degree.

Patent statistics for Hawaii go back to 1884. The first legal provision for the issuance of patents for inventions was enacted by the Hawaiian government in 1846 and amended in 1859 and 1868, but no record can be found of any patents issued under this law. The position of commissioner of patents was created as of August 29, 1884, with authority to issue patents, caveats, and copyrights. Under the 1884 act (subsequently amended in 1888 and 1896), the Hawaiian government issued a total of 177 patents. Annual or biennial totals were published in Report of the Minister of the Interior for 1886, 1888, 1897, and 1899.

After Hawaii became a territory in 1900, this function was assumed by the U.S. Patent Office. Statistics on the number of patents issued to Hawaii residents have appeared from time to time in Annual Report of the Commissioner of Patents and Statistical Abstract of the United States, the latter sometimes serving as the primary source for the tabulations by state or territory of residence. Coverage has varied, in some years including only patents, in other years both patents and designs, and on at least one occasion (1958) patents, plants, and designs. Copyright statistics by state are unfortunately not available.

Data on business enterprise and patents for the nation as a whole appear in Historical Statistics of the United States, Colonial Times to 1970, chapters V and W, and Statistical Abstract of the United States.

TABLE 22.1 REGISTERED CORPORATIONS AND PARTNERSHIPS, 1860 TO 1976
 (Number on record as of Dec. 31, 1860 to 1899, and June 30, 1900
 and thereafter. Excludes eleemosynary corporations.)

Year	Domestic Corporations ¹	Corporations			Corporations				
		Year	Domes- tic ¹	For- eign ²	Partner- ships ³	Year	Domes- tic ¹	For- eign ²	Partner- ships ³
1860	1	1900	363	...	...	1940	929	68	584
1861	1	1901	...	...	...	1941	943	82	707
1862	1	1902	...	24	...	1942	923	83	735
1863	2	1903	...	...	...	1943	864	80	807
1864	2	1904	...	...	...	1944	794	83	1,253
1865	2	1905	...	...	...	1945	767	84	1,951
1866	2	1906	496	125	...	1946	959	91	2,595
1867	2	1907	534	119	...	1947	1,158	119	2,993
1868	2	1908	551	119	...	1948	1,348	143	2,939
1869	2	1909	581	122	...	1949	1,490	159	2,801
1870	2	1910	628	124	...	1950	1,491	167	2,637
1871	2	1911	659	125	...	1951	1,511	187	2,675
1872	2	1912	694	136	...	1952	1,558	204	2,727
1873	2	1913	735	145	...	1953	1,657	236	2,184
1874	2	1914	765	149	...	1954	1,815	266	2,144
1875	4	1915 ⁴	787	152	...	1955	1,979	311	2,145
1876	7	1916	587	154	...	1956	2,268	331	2,204
1877	8	1917	596	153	...	1957	2,568	344	2,088
1878	12	1918	628	144	...	1958	2,902	458	2,058
1879	15	1919	675	152	...	1959	3,345	529	2,013
1880	24	1920	719	155	...	1960	4,139	640	2,153
1881	27	1921	785	163	...	1961	4,794	772	2,276
1882	31	1922	784	169	...	1962	5,300	844	2,355
1883	50	1923	801	172	...	1963	5,789	867	2,331
1884	57	1924	809	178	...	1964	6,409	896	2,186
1885	69	1925	851	180	...	1965	7,080	998	2,238
1886	63	1926	778	199	...	1966	7,566	1,052	2,303
1887	64	1927	817	194	...	1967	7,996	1,131	2,132
1888	68	1928	854	199	...	1968	8,356	1,248	2,196
1889	82	1929	855	206	...	1969	9,035	1,492	2,492
1890	94	1930	870	214	...	1970	9,755	1,734	2,750
1891	110	1931	904	78	...	1971	10,603	1,939	3,160
1892	117	1932	933	74	...	1972	11,558	2,154	3,736
1893	119	1933	948	71	...	1973	13,288	2,384	4,263
1894	133	1934	944	67	...	1974	14,666	2,604	5,679
1895	143	1935	912	71	355	1975	16,212	2,783	5,798
1896	...	1936	961	71	377	1976	16,281	2,985	6,425
1897	175	1937	938	74	405				
1898	...	1938	947	67	474				
1899	260	1939	984	67	541				

TABLE 22.1 (cont.)

1. Data refer to Hawaii-based noneleemosynary corporations. The first such corporation was registered in Hawaii on March 12, 1859. Data for 1860-1885 refer to corporations still in existence in 1886; data for 1886-1893, to those still in existence in 1894.

2. Data refer to out-of-state noneleemosynary corporations registered in Hawaii. The first such corporation was registered in Hawaii on April 30, 1868, but statistics for this group were not published until 1902.

3. The first partnership was registered in Hawaii on September 27, 1880, but statistics were not published until 1935.

4. Data for 1915 and earlier years include many defunct corporations, which were deleted from later totals under the provisions of Act 57, Laws of 1915.

Source: Report of the Minister of the Interior for 1886-1899; Report of the Governor for 1900-1913; Report of the Treasurer for 1911-1959; Report of the Department of Treasury and Regulation for 1960-1962; Report of the Department of Regulatory Agencies for 1963-1968; Business Registration Division, Department of Regulatory Agencies, records.

TABLE 22.2 REPORTING UNITS, EMPLOYMENT, AND PAYROLLS UNDER SOCIAL SECURITY, 1946 TO 1974

Year ¹	Number of Employees, Mid-March Pay Period	Taxable Payrolls, Jan.-Mar. (\$1,000)	Total Reporting Units ²	Number of Reporting Units, by Employment-Size Class ²							500 or More
				1 to 3 ³	4 to 7	8 to 19	20 to 49	50 to 99	100 to 249	250 to 499	
1946	74,134	40,946	5,962	5,451			291	109		95	16
1947	84,399	54,343	6,401	3,649	1,326	844	329	122		105	26
1948	89,046	58,335	7,177	3,985	1,496	1,046	397	122		106	25
1951	89,851	61,902	7,584	4,358	1,521	1,026	420	127		84	20
1953	93,333	68,951	7,577	4,207	1,582	1,074	426	153		82	20
1956	95,953	74,203	8,171	4,478	1,658	1,260	488	153		87	16
1959	117,086	106,221	9,406	4,975	1,823	1,564	672	194		125	20
1962	134,927	139,901	10,059	5,070	2,044	1,695	791	260		139	22
1964	142,453	160,573	10,862	5,345	2,218	1,984	845	264		144	24
1965	151,633	175,334	11,242	5,424	2,307	2,076	910	300		161	23
1966	164,026	198,320	11,438	5,352	2,360	2,194	971	311		179	25
1967	170,877	213,174	11,609	5,366	2,427	2,253	969	334		184	31
1968	180,127	242,509	11,863	5,296	2,484	2,353	1,095	365		187	27
1969	196,343	283,081	12,046	5,268	2,449	2,462	1,190	369		220	32
1970	208,882	330,607	12,146	5,212	2,487	2,464	1,243	403		240	33
1971	214,916	351,722	12,526	5,351	2,570	2,585	1,258	424		236	32
1972	222,207	383,974	12,959	5,332	2,778	2,725	1,344	434		245	32
1973 ⁴	239,209	433,925	13,640	5,557	2,950	2,852	1,412	520		243	30
1973 ⁵	236,606	444,491	16,298	NA	NA	NA	NA	NA		NA	NA
1974	249,915	481,402	16,959	14,524			1,558	553		234	53

TABLE 22.2 (cont.)

1. Data not published for unlisted years.
2. A "reporting unit" for purposes of this survey is a single establishment except that, for nonmanufacturing industries prior to 1974, a group of similar establishments of an employer located in the same county was also considered one reporting unit. The total for reporting units prior to 1974 was thus significantly smaller than a count of establishments (as defined for the Census of Business) would have been.
3. Interval shown as 0 to 19 in 1946 and 0 to 3 in 1947-1959. Data for 1962 and later years include reporting units with no employees in the mid-March pay period if they reported any taxable payroll for the quarter.
4. "Reporting units" rather than establishments (see footnote 2) and thus comparable to data for earlier years.
5. "Establishments" rather than "reporting units" (see footnote 2) and thus comparable to data for later years.

Source: U.S. Department of Commerce, Business Establishments, Employment and Taxable Payrolls Under Old Age and Survivors Insurance Program (annual, 1946 and 1947); U.S. Department of Commerce, County Business Patterns (irregular, 1948-1962; annual, 1964 and thereafter).

TABLE 22.3 CORPORATIONS, BY TAX STATUS, AND PROPRIETORSHIPS, BY PROFITABILITY, 1936 TO 1974

Year Earned	Corporations ¹			Taxable Income ⁴ (million dollars)	Proprietorships: Number ²		
	Number ³				Total	With Net Profit	With Net Loss
	Total	Taxable	Nontaxable				
1936	778	542	236	27.1	...	...	...
1937	839	537	302	22.9	...	...	...
1938	823	492	331	15.0	...	...	...
1939	892	480	412	18.9	...	...	...
1940	927	562	365	24.9	...	...	...
1941	851	593	258	34.5	...	...	...
1942	849	699	150	35.5	...	...	...
1943	821	665	156	31.9	...	...	...
1944	776	600	176	32.2	...	...	...
1945	802	574	228	27.3	...	...	...
1946	1,044	635	409	30.3	...	...	...
1947	1,233	692	541	43.7	...	...	...
1948	1,357	679	678	35.9	...	...	...
1949	1,382	657	725	29.4	...	...	...
1950	1,488	782	706	41.5	...	...	...
1951	1,549	905	644	36.8	...	...	...
1952	1,598	861	737	28.8	...	...	...
1953	1,618	865	753	32.2	...	...	...
1954-57	...	...	...	...	...	...	...
1958 ⁵	2,562	1,461	1,101	76.2	21,712	18,740	2,972
1959 ⁵	2,771	1,706	1,065	100.1	22,055	18,889	3,166
1960	3,153	1,689	1,464	92.8	22,155	19,433	2,722
1961	4,095	2,140	1,955	131.5	20,802	17,887	2,915
1962	4,552	2,340	2,212	126.1	22,059	18,722	3,337
1963	5,016	2,432	2,584	126.9	22,477	18,681	3,796
1964	5,331	2,654	2,677	164.7	24,685	20,617	4,068
1965	5,744	3,116	2,628	177.7	22,019	19,097	2,922
1966	6,109	3,344	2,765	181.0	23,708	19,715	3,993
1967	6,384	3,463	2,921	192.6	23,060	19,452	3,608
1968	6,841	3,948	2,893	231.7	24,924	20,484	4,440
1969	7,121	4,149	2,972	229.8	24,578	20,088	4,490
1970	7,821	4,324	3,497	224.4	25,444	19,790	5,654
1971	8,071	4,390	3,681	216.2	28,276	21,013	7,263
1972	8,441	4,666	3,775	241.4	29,398	22,894	6,504
1973	9,263	5,031	4,232	319.3	31,338	23,734	7,604
1974	10,360	5,375	4,985	568.3	32,509	22,906	9,603

1. Data for fiscal years ending during the year specified. Most domestic (Hawaii-chartered) corporations for profit, as well as many foreign (out-of-state) corporations, are taxable. Banks, building and loan associations, insurance companies, agricultural cooperatives, labor unions, nonprofit organizations, and certain out-of-state corporations are nontaxable.

TABLE 22.3 (cont.)

2. Based on annual data reported in Hawaii Income Patterns--Individuals, in which persons with more than one business or profession are counted only once. More detailed tabulations, issued biennially since 1961 in Hawaii Income Patterns--Proprietorships, count each business or profession reported by a single person separately and thus differ somewhat from the totals shown here. For the biennial data, see The State of Hawaii Data Book 1976, table 206. Statistics on proprietorships are not available before 1958.

3. Variant figures exist for 1943 and 1946. Data are not available for 1954-1957.

4. Excludes net losses. Data for 1950-1953 computed from the amounts assessed and the prevailing tax rate (10 percent).

5. Data for corporations refer to fiscal years ending between September 1 of the year specified and August 31 of the following year.

Source: Report of the Tax Commissioner for 1940-1954; Hawaii State Department of Taxation, Hawaii Income Patterns--1958, Summary Report, Hawaii Income Patterns--Corporations (annual report, 1958-1959 to 1974), and Hawaii Income Patterns--Individuals (annual report, 1959 to 1974).

TABLE 22.4 PATENTS ISSUED, 1884 TO 1976

Issued by Hawaiian Government ¹			Issued by Hawaiian Government ¹		
Year	Total	To Hawaii Residents	Year	Total	To Hawaii Residents
1884-86 ²	14	NA	1894	11	7
1886-88 ³	9	NA	1895	8	3
1888-89 ⁴	39	NA	1896	9	2
1890	5	1	1897	13	5
1891	10	5	1898	15	2
1892	13	8	1899	13	8
1893	3	--			

Year	Patents Issued ⁵	Year	Patents Issued ⁵	Year	Patents Issued ⁵	Year	Patents Issued ⁵
1898	7	1919	34	1940	39	1961	26
1899	7	1920	26	1941	39	1962	28
1900	7	1921	38	1942	18	1963	20
1901	11	1922	25	1943	22	1964	20
1902	12	1923	35	1944	13	1965	13
1903	13	1924	36	1945	16	1966	26
1904	7	1925	35	1946	17	1967	20
1905	14	1926	28	1947	12	1968	22
1906	17	1927	27	1948	8	1969	41
1907	16	1928	25	1949	14	1970	50
1908	11	1929	27	1950	31	1971	37
1909	11	1930	29	1951	31	1972	26
1910	14	1931	27	1952	40	1973 ⁶	50
1911	19	1932	29	1953	28	1974 ⁶	55
1912	30	1933	31	1954	9	1975 ⁶	61
1913	21	1934	18	1955	18	1976	43
1914	30	1935	32	1956	34		
1915	24	1936	22	1957	12		
1916	32	1937	45	1958	22		
1917	26	1938	30	1959	20		
1918	38	1939	33	1960	13		

1. The first legal provision for issuance of patents for inventions was enacted by the Hawaiian government in 1846 and amended in 1859 and 1868, but no record can be found of any patents issued under this law. The position of commissioner of patents was created as of August 29, 1884, with authority to issue patents, caveats, and copyrights. Under the 1884 act (subsequently amended in 1888 and 1896), the Hawaiian government issued a total of 177 patents. This function was terminated upon the establishment of the territorial government on June 14, 1900.

2. From August 29, 1884 to March 15, 1886. The Commissioner of Patents also issued nine caveats and three copyrights during this period.

TABLE 22.4 (cont.)

3. April 1, 1886 to March 31, 1888. The Commissioner also issued two copyrights during this period.
4. April 1, 1888 to December 31, 1889.
5. Patents issued by the U.S. Commissioner of Patents to Hawaii residents.
6. Fiscal year. Includes reissues.

Source: Report of the Minister of the Interior for 1886, 1888, 1897 and 1899; Annual Report of the Commissioner of Patents for 1907-1925, 1955, 1968, 1971, and 1975; Statistical Abstract of the United States for 1946 and 1947; U.S. Department of Commerce, Patent and Trademark Office, news release dated March 17, 1977 and records.

TABLES IN SECTION 23

- 23.1 Banks and trust companies, 1859 to 1976
- 23.2 Building and loan associations and loan companies, 1890 to 1976
- 23.3 Market value of stocks and bonds traded on the Honolulu Stock Exchange, 1903 to 1976
- 23.4 Hawaii residents holding shares in U.S. public corporations or investment companies, 1959 to 1975
- 23.5 Insurance business transacted in Hawaii, 1903 to 1975
- 23.6 Prepaid health plans, 1903 to 1976
- 23.7 Fire losses recorded by the Honolulu Fire Department, 1867 to 1976

SECTION 23

Banking and Finance

This section presents statistics on banks, trust companies, building and savings and loan associations, and loan companies; stocks and bonds traded on the Honolulu Stock Exchange; insurance business transacted in Hawaii; and fire losses on Oahu. Related statistics appear in section 4 (on employment in finance and insurance and payments for workmen's compensation), section 8 (social security and the Hawaii State Employees' Retirement System), section 14 (forest fires), and section 15 (real estate mortgage loans).

There were relatively few banks in the islands during the nineteenth century. The first to be established was the Bank of Bishop and Company, opened in Honolulu on August 17, 1858. A second institution, the Bank of Claus Spreckels and Company, was not established until 1885. Other banks founded locally prior to 1900 included the Yokohama Specie Bank (1892), Bank of Hawaii (1897), Kei Hin Bank (1898), and First American Bank of Hawaii (1899). A branch of the latter organization, opened in Hilo in 1900, was the first branch bank in the islands and also the first bank outside of Honolulu. The earliest savings and loan association was the Pioneer Building and Loan Association, chartered in 1890. A Hawaiian Postal Savings Bank, with branches at various post offices, was created by the 1884 legislature and operated by the government until 1900.

The mandatory reporting of bank data was a later development. An 1876 law required banks to obtain licenses, and an 1884 act provided for the incorporation of banks, but neither law established procedures for the regular compilation of data on the condition of banks. This situation was finally rectified in 1905, when all "fiduciary companies" were required to report semi-annually on their resources and liabilities to the territorial treasurer. Eight years later the legislature created the office of bank examiner.

Most banking statistics for Hawaii accordingly go back only to the early 1900s. Beginning in 1908, the Report of the Governor of Hawaii to the Secretary of the Interior regularly included a table on the number of banks, total commercial deposits, and total savings deposits, annually from 1901 to the most recent available date. A similar table appeared in Report of the Treasurer to the 1921 and subsequent legislatures. These tables were eventually expanded to include data on trust companies (1925), savings and loan associations (1934), industrial loan licensees (1938), and small loan licensees (1953). During the

1960s, banking statistics were contained in annual reports of the Department of Regulatory Agencies, and in greater detail in semiannual mimeographed releases. An effort to extend these data back into the nineteenth century proved unsuccessful. Although the present-day First Hawaiian Bank is the successor to both the Bank of Bishop and the Spreckels Bank, its readily available records contain no references to assets or deposits prior to the late territorial period.

Statistics on stocks and bonds were first collected early in the twentieth century. A stock exchange had been started in Honolulu as early as 1883, but was discontinued after two years. The present Honolulu Stock Exchange was established in August 1898 to handle trading in Hawaiian shares. Data on the market value of stocks and bonds traded on the Honolulu Stock Exchange were first compiled in 1903. In 1910 the exchange began publication of its Manual of Hawaiian Securities, an annual review of data on the operating revenues, net earnings, earnings per share, dividends per share, and price range of all listed and unlisted corporations whose securities are authorized for trading on the local exchange. In 1959 Hawaii was first included in the New York Stock Exchange census of shareholders. This sample survey, which was also conducted in 1962, 1965, 1970, and 1975, included data on the number of Hawaii residents holding shares in U.S. public corporations or investment companies.

The history of insurance in Hawaii goes back at least as far as 1852, when "Mr. Judd" (presumably Dr. Gerrit P. Judd) inserted a brief advertisement in The Polynesian announcing the availability of literature from the New England Life Insurance Company. The 1875 edition of Thrum's Hawaiian Almanac and Annual listed twelve life, fire, and marine insurance agencies in the islands, representing eighteen companies. "An Act to Regulate and License Insurance Business in this Territory" was passed by the 1903 legislature. This act, the earliest to impose any governmental controls on insurance in Hawaii, created an insurance department under the territorial treasurer, and required all companies licensed to transact business in the islands to file annual statements on the volume of such business. When the law became effective on October 1, 1903, Hawaii was served by seventy-nine insurance companies: one domestic (incorporated in Hawaii), thirty-seven foreign (mainland-based), and forty-one alien (non-U.S.). Statistics have been published regularly since that time in Report of the Insurance Commissioner, issued biennially from 1903 to 1933 and annually thereafter.

Prepaid health care plans have been available in the islands since 1938,

when the Hawaii Medical Service Association (HMSA) was established as the territory's Blue Shield agency. A second plan, operated by the Kaiser Foundation, was put into operation in 1958. Both HMSA and Kaiser offer combined hospital, surgical, and medical coverage. In its 1971 report on Prepaid Health Care in Hawaii, the Legislative Reference Bureau estimated total coverage (subscribers and their dependents, both group and individual bases) in January 1971 at 381,243 for HMSA, 87,107 for Kaiser, and, among commercial carriers, 124,710 for hospitalization insurance, 104,404 for surgical, and 89,494 for medical coverage. These estimates included an unknown amount of duplication. Besides HMSA, Kaiser, and commercial health insurance plans, Hawaii residents are served by Medicare, Medicaid, CHAMPUS (Civilian Health and Medical Program of the Uniformed Services), and workmen's compensation.

Annual data on fire losses for Oahu go back as far as 1867, although estimates for years prior to 1920 exhibit varying degrees of incompleteness. The Honolulu Fire Department was established by an ordinance that became effective January 11, 1851. The department commenced keeping records of fire losses on an intermittent basis in 1867 and more regularly in 1882. Major fires included the Esplanade fire of 1877, the Chinatown fires of 1886 and 1900, and fires set by the Pearl Harbor attack in 1941 and West Loch explosions in 1944. Most of the damage in the two latter disasters occurred on military and naval bases, which are generally excluded from the Fire Department statistics.

Data for the nation as a whole on banking, finance, and private insurance appear in Historical Statistics of the United States, Colonial Times to 1970, chapter X, and recent editions of Statistical Abstract of the United States.

TABLE 23.1 BANKS AND TRUST COMPANIES, 1859 TO 1976

Year (as of June 30)	Banks ¹			Trust Companies	
	Number ²	Assets ³ (\$1,000)	Deposits ⁴ (\$1,000)	Number	Assets (\$1,000)
1859-1884	1	...	...	...	...
1885-1892	2	...	...	...	...
1893-1897	3	...	...	...	...
1898	4	...	...	...	...
1899	5	...	...	...	...
1900	7	...	4,637	...	...
1901	8	...	4,662	...	...
1902	9	...	5,169	...	...
1903	9	...	4,798	...	...
1904	9	...	5,531	...	...
1905	9	...	5,688	...	...
1906	9	...	7,550	...	...
1907	11	...	7,744	...	...
1908	11	...	7,664	...	...
1909	11	...	9,658	...	...
1910	11	...	13,324	...	...
1911	16	...	15,310	...	...
1912	17	...	18,189	...	...
1913	17	...	17,026	...	...
1914	18	...	16,648	...	...
1915	19	...	20,115	...	...
1916	19	...	26,379	...	...
1917	22	...	32,692	...	...
1918	23	...	34,513	...	...
1919	26	...	35,349	...	...
1920	26	69,731	52,783	...	...
1921	31	...	51,181	...	...
1922	28	...	46,243	...	...
1923	29	...	53,382	...	...
1924	29	...	56,496	...	...
1925	29	73,631	60,810	...	11,388
1926	29	81,079	67,851	11	13,981
1927	29	90,318	75,024	...	15,395
1928	31	97,178	80,210	11	17,932
1929	31	100,734	79,039	...	21,898
1930	29	104,552	80,175	12	22,873
1931	29	106,087	83,806	...	23,614
1932	31	96,119	73,684	13	22,357
1933	31	94,770	74,335	...	19,632

TABLE 23.1 (cont.)

Year (as of June 30)	Banks ¹		Trust Companies				
	Number ²		Assets ³ (\$1,000)	Deposits ⁴ (\$1,000)	Clearings, Cal. Year (\$1,000)	Assets (\$1,000)	
	Banks	Branches					Number
1934		30	93,196	75,952	...	12	17,888
1935	7	24	100,427	83,903	...	8	17,561
1936	7	24	111,251	94,908	...	7	15,488
1937	7	21	120,283	103,201	...	6	14,662
1938	7	21	126,953	108,451	...	5	11,924
1939	7	21	124,897	111,361	...	5	11,898
1940	7	21	137,489	123,296	...	5	12,314
1941	7	30	167,784	152,762	680,446	5	12,703
1942	4	33	214,381	200,027	839,084	5	13,396
1943	4	34	324,808	309,877	1,192,621	5	15,414
1944	4	36	418,685	402,409	1,558,841	5	16,443
1945	4	38	512,149	493,296	1,710,172	5	20,103
1946	4	38	522,784	502,544	1,447,207	5	20,146
1947	4	38	473,923	452,202	1,679,939	5	19,283
1948	4	39	439,167	417,536	1,785,357	5	20,170
1949	4	39	412,863	390,149	1,642,927	5	17,635
1950	4	40	400,031	376,456	1,815,958	5	17,991
1951	4	40	392,951	368,039	2,081,695	5	18,987
1952	4	43	407,825	381,211	2,246,312	5	18,153
1953	4	44	412,360	384,314	2,477,347	5	18,801
1954	5	46	422,430	392,179	2,615,371	5	19,840
1955	5	46	418,498	386,749	2,838,904	5	20,592
1956	5	50	428,471	395,392	3,187,589	5	21,263
1957	5	54	481,299	445,611	3,553,661	5	20,364
1958	5	63	565,464	522,824	3,737,261	5	22,609
1959	6	70	666,138	614,510	4,287,810	5	22,329
1960	6	79	735,652	672,866	4,959,892	5	22,182
1961	7	88	843,084	769,200	5,656,596	5	24,004
1962	7	98	934,438	842,596	6,425,844	5	23,999
1963	7	115	934,223	838,080	6,842,960	5	24,502
1964	7	115	991,432	887,057	6,710,284	5	25,833
1965	7	123	1,081,588	940,835	7,155,161	5	25,348
1966	7	126	1,201,515	1,052,845	7,585,787	5	30,309
1967	7	128	1,263,917	1,110,733	7,700,654	4	25,077
1968	7	126	1,440,891	1,287,166	9,281,829	4	37,312
1969	7	132	1,669,606	1,499,459	11,190,757	4	44,790
1970	7	143	1,762,811	1,558,671	13,286,842	3	40,606
1971	7	149	2,062,194	1,804,545	15,091,524	3	45,049
1972	7	155	2,252,841	2,000,685	16,839,868	4	46,941
1973	8	162	2,625,855	2,367,682	19,253,017	3	45,809
1974	8	164	2,875,085	2,573,664	21,219,856	3	41,181
1975	8	165	2,964,953	2,615,796	23,663,047	3	46,988
1976	8	168	3,207,161	2,883,238	27,173,406	3	53,365

TABLE 23.1 (cont.)

1. The first bank in Hawaii was established August 17, 1858. Excludes the Hawaiian Postal Savings Bank, which was opened July 1, 1886, discontinued June 14, 1900, and as of August 12, 1898 had deposits of \$914,047.

2. Main offices and branch offices and facilities; not reported separately before 1935 (except December 31, 1920, when there were fourteen banks and fourteen branches).

3. Total for 1920 as of December 31.

4. Commercial deposits before 1920 as of December 31; savings deposits before 1920 and all deposits thereafter as of June 30.

Source: Cecil G. Tilton, The History of Banking in Hawaii (University of Hawaii, June 30, 1927); Report of the Governor of Hawaii for 1909 (p. 20) and 1934 (p. 19); Report of the Treasurer to the Legislature of 1921-1959; Hawaii State Department of Regulatory Agencies, Bank Examination Division, semiannual consolidated statements and records.

TABLE 23.2 BUILDING AND LOAN ASSOCIATIONS AND LOAN COMPANIES, 1890 TO 1976

Year (as of June 30)	Building, Savings and Loan Associations			Industrial Loan Licensees		Small Loan Licensees		
	Number Associations	Branches ²	Assets (\$1,000)	Deposits ¹ (\$1,000)	Number	Assets (\$1,000)	Number	Assets (\$1,000)
1890	1	--	...	...	...	...	...	...
1918	...	...	387	...	...	...	...	...
1928	...	...	3,329	...	...	...	...	...
1929	...	...	...	...	...	...	...	...
1930	...	...	4,233	...	...	...	...	...
1931	...	...	...	...	...	...	...	...
1932	...	...	5,211	...	...	...	...	...
1933	...	...	...	...	...	...	...	...
1934	...	...	5,287	...	...	...	...	...
1935	...	...	...	...	...	...	...	...
1936	...	...	5,049	3,910	...	...	...	...
1937	...	...	5,586	4,793	...	...	...	...
1938	11	...	6,134	5,254	34	5,701	2	...
1939	...	...	6,742	5,638	33	6,425	...	...
1940	...	...	7,663	6,452	32	6,781	3	67
1941	...	...	8,866	7,526	32	7,157	...	...
1942	...	...	10,228	9,039	31	5,327	...	...
1943	9	--	13,273	12,317	27	3,939	...	...
1944	9	--	17,071	15,482	26	4,007	...	...
1945	9	--	20,733	19,022	25	2,984	...	...
1946	9	--	25,732	22,885	27	4,252	...	...
1947	9	--	29,522	25,566	29	7,829	...	...
1948	9	--	32,860	27,981	31	10,235	...	...
1949	9	--	36,098	31,172	37	11,886	...	...
1950	9	--	43,336	36,826	39	13,997	...	...

TABLE 23.2 (cont.)

Year (as of June 30)	Building, Savings and Loan Associations				Industrial Loan Licensees		Small Loan Licensees	
	Number Associations	Branches ²	Assets (\$1,000)	Deposits ¹ (\$1,000)	Number	Assets (\$1,000)	Number	Assets (\$1,000)
1951	9	--	49,048	41,214	40	16,713	...	...
1952	9	--	55,679	47,571	43	24,250	...	...
1953	9	--	65,127	56,303	46	35,956	3	96
1954	9	--	80,466	71,662	47	35,355	3	117
1955	9	--	99,028	87,245	61	46,800	5	191
1956	10	--	117,186	103,098	66	52,561	5	341
1957	11	1	136,162	118,437	80	50,604	11	625
1958	11	2	150,940	131,740	92	51,820	10	641
1959	10	8	166,111	144,647	104	61,332	13	1,067
1960	10	10	202,200	165,653	116	80,648	22	1,303
1961	10	13	228,476	188,179	134	95,905	26	1,763
1962	14	17	263,781	220,120	145	104,171	32	1,917
1963	15	26	322,674	273,288	154	111,667	36	1,944
1964	15	26	395,586	322,355	167	126,422	40	2,315
1965	18	30	460,454	365,211	174	156,929	45	1,853
1966	17	38	490,130	387,152	173	180,067	48	1,771
1967	15	39	514,407	424,005	180	182,914	52	1,740
1968	14	42	569,325	480,227	192	204,543	52	1,571
1969	14	44	650,398	528,570	198	265,310	54	1,367
1970	13	51	730,772	584,017	213	311,978	46	1,016
1971	13	55	869,323	716,674	220	371,556	47	871
1972	12	62	1,085,455	878,335	220	448,935	40	365
1973	12	72	1,325,331	1,032,679	221	549,495	24	131
1974	11	82	1,474,175	1,146,587	225	680,286	24	653
1975	11	90	1,650,050	1,326,024	235	718,010	6	67
1976	11	107	1,923,501	1,608,434	239	797,883	6	32

TABLE 23.2 (cont.)

1. Withdrawable shares, withdrawable deposits, and investment certificates.

2. Branches, facilities, and agencies.

Source: Report of the Treasurer to the Legislature of 1927-1959; Hawaii State Department of Regulatory Agencies, Bank Examination Division, semiannual consolidated statements and records.

TABLE 23.3 MARKET VALUE OF STOCKS AND BONDS TRADED ON THE HONOLULU STOCK EXCHANGE, 1903 TO 1976

Year	Value (\$1,000)	Year	Value (\$1,000)	Year	Value (\$1,000)	Year	Value (\$1,000)
1903	1,038	1922	10,880	1941	3,810	1960	11,412
1904	NA	1923	11,235	1942	3,164	1961	25,378
1905	NA	1924	8,212	1943	5,906	1962	20,422
1906	2,837	1925	11,526	1944	6,985	1963	20,141
1907	2,833	1926	10,226	1945	8,870	1964	15,163
1908	2,354	1927	13,838	1946	7,472	1965	14,988
1909	6,489	1928	10,664	1947	6,061	1966	11,329
1910	10,128	1929	10,178	1948	5,052	1967	16,716
1911	5,632	1930	7,852	1949	3,755	1968	13,449
1912	11,381	1931	5,191	1950	5,349	1969	11,679
1913	4,527	1932	2,502	1951	6,511	1970	8,590
1914	1,651	1933	4,755	1952	6,399	1971	5,533
1915	6,629	1934	5,169	1953	6,828	1972	3,986
1916	19,093	1935	8,008	1954	8,643	1973	1,896
1917	6,390	1936	8,904	1955	8,737	1974	1,175
1918	2,736	1937	6,984	1956	8,858	1975	523
1919	12,496	1938	4,045	1957	7,658	1976	383
1920	21,890	1939	3,977	1958	10,132		
1921	7,163	1940	3,677	1959	14,521		

Source: Honolulu Stock Exchange, records.

TABLE 23.4 HAWAII RESIDENTS HOLDING SHARES IN U.S. PUBLIC CORPORATIONS OR INVESTMENT COMPANIES, 1959 TO 1975

Year	Shareowners
1959	13,000
1962	18,000
1965	39,000
1970	74,000
1975	58,000

Source: New York Stock Exchange, Inc., Share-ownership in America 1959 (p. 27), Shareownership U.S.A., 1965 Census of Shareowners (p. 22), Shareownership - 1970, Census of Shareowners (p. 20), and Shareownership 1975 (p. 19).

TABLE 23.5 INSURANCE BUSINESS TRANSACTED IN HAWAII, 1903 TO 1975

Year	All Insurance							Life Insurance ¹		
	Companies, Dec. 31 ²	Premiums Received, (\$1,000)	Losses, Claims, and Benefits Paid ³ (\$1,000)	Companies, Dec. 31 ⁴	Insurance Written or Transferred ⁵ (\$1,000)	Insurance in Force, Dec. 31 ⁶ (\$1,000)	Premiums Received ⁷ (\$1,000)	Claims and Benefits Paid ³ (\$1,000)		
1903 ⁸	81	914	252	...	1,392	...	436	88		
1904	...	1,077	454	...	1,927	...	481	150		
1905	...	1,182	332	...	1,683	...	500	244		
1906	103	1,166	453	11	2,417	13,023	518	222		
1907	...	1,152	139	11	1,541	13,745	498	76		
1908	...	1,163	442	10	1,430	13,804	494	381		
1909	...	1,321	487	10	1,240	13,949	498	465		
1910	93	1,391	460	11	1,884	14,857	528	368		
1911	86	1,508	678	10	1,895	15,569	453	534		
1912	...	1,634	505	10	3,136	17,724	629	397		
1913	97	1,655	450	11	2,855	19,450	700	224		
1914	101	1,674	248	11	2,007	20,006	712	142		
1915	102	1,872	974	11	3,411	21,924	785	225		
1916	...	2,173	274	10	4,088	24,562	932	166		
1917	101	2,855	590	11	6,599	29,565	1,220	297		
1918	104	3,280	725	12	5,272	32,241	1,360	527		
1919	103	3,603	802	12	6,145	35,711	1,494	521		
1920	109	5,071	1,121	13	12,445	45,164	1,872	593		
1921	110	4,381	1,119	13	8,468	49,132	2,061	596		
1922	118	4,429	923	13	11,219	55,740	2,268	483		
1923	118	4,961	1,031	13	11,425	66,174	2,535	440		
1924	127	5,832	1,190	15	12,948	70,700	2,894	472		
1925	130	6,063	1,301	15	13,479	79,093	3,108	744		
1926	141	6,336	1,370	16	14,344	86,663	3,345	654		
1927	139	6,895	1,567	16	13,252	93,150	3,571	918		
1928	147	7,338	1,492	18	19,083	105,254	3,892	832		
1929	149	8,151	2,025	17	17,977	115,670	4,459	993		
1930	151	7,939	1,952	16	17,688	123,978	4,675	1,049		

TABLE 23.5 (cont.)

Year	All Insurance			Life Insurance ¹			Losses, Claims, and Benefits Paid ³ (\$1,000)	Companies Dec. 31 ²	Premiums Received (\$1,000)	Companies Dec. 31 ⁴	Insurance Written or Transferred ⁵ (\$1,000)	Insurance in Force, Dec. 31 ⁶ (\$1,000)	Premiums Received ⁷ (\$1,000)	Claims and Benefits Paid ³ (\$1,000)
	Companies Dec. 31 ²	Premiums Received (\$1,000)	Losses, Claims, and Benefits Paid ³ (\$1,000)	Companies Dec. 31 ⁴	Insurance Written or Transferred ⁵ (\$1,000)	Insurance in Force, Dec. 31 ⁶ (\$1,000)								
1931	156	8,236	2,077	17	19,436	134,749		5,020					5,020	1,264
1932	..	7,861	2,507	19	15,796	136,850		4,910					4,910	1,793
1933	153	7,182	2,149	19	13,138	134,821		4,245					4,245	1,442
1934	150	7,580	2,184	21	17,443	137,512		4,570					4,570	1,393
1935	152	8,488	3,130	22	19,374	145,132		5,218					5,218	2,283
1936	161	6,690	2,364	23	22,926	153,529		5,303					5,303	1,549
1937	162	7,554	2,623	23	26,998	168,565		5,691					5,691	1,679
1938	163	7,597	2,488	24	31,192	182,713		6,051					6,051	1,555
1939	164	9,398	2,741	27	32,548	198,812		6,624					6,624	1,812
1940	166	9,861	3,396	27	26,805	211,284		6,797					6,797	2,079
1941	166	12,270	3,434	25	48,719	239,582		7,163					7,163	1,688
1942	163	18,062	4,014	25	32,881	249,204		7,898					7,898	1,625
1943	163	16,847	5,600	25	47,938	277,511		8,837					8,837	3,094
1944	164	18,791	5,564	25	53,108	312,160		9,869					9,869	3,598
1945	165	20,863	6,127	26	51,927	341,010		11,060					11,060	3,849
1946	175	22,730	6,050	27	85,105	395,759		12,662					12,662	2,842
1947	192	28,429	6,893	34	119,447	480,180		14,786					14,786	3,337
1948	194	32,119	7,879	40	132,446	554,739		16,563					16,563	3,581
1949	199	32,487	8,424	42	118,044	614,684		17,799					17,799	3,527
1950	203	35,521	9,216	44	148,702	707,063		19,247					19,247	3,830
1951	204	39,775	10,577	45	152,353	801,460		20,891					20,891	4,265
1952	212	44,005	13,350	49	184,145	924,782		23,668					23,668	6,039
1953	221	49,473	15,077	54	195,267	1,054,853		26,214					26,214	7,227
1954	231	52,417	18,731	60	283,920	1,247,510		28,150					28,150	8,927
1955	262	56,319	21,640	77	309,907	1,446,976		31,281					31,281	10,150
1956	258	60,178	22,118	85	332,983	1,620,086		33,612					33,612	11,107
1957	267	65,068	25,195	86	349,240	1,826,498		36,012					36,012	12,882

TABLE 23.5 (cont.)

Year	All Insurance			Life Insurance			Losses, Claims, and Benefits Paid ³ (\$1,000)	Companies Dec. 31 ²	Premiums Received (\$1,000)	Companies Dec. 31 ⁴	Insurance Written or Transferred ⁵ (\$1,000)	Insurance in Force, Dec. 31 ⁶ (\$1,000)	Premiums Received ⁷ (\$1,000)	Claims and Benefits Paid ³ (\$1,000)
	Companies Dec. 31 ²	Premiums Received (\$1,000)	Losses, Claims, and Benefits Paid ³ (\$1,000)	Companies Dec. 31 ⁴	Insurance Written or Transferred ⁵ (\$1,000)	Insurance in Force, Dec. 31 ⁶ (\$1,000)								
1958	267	72,262	27,904	96	444,419	2,078,987	38,972	13,848						
1959	291	80,518	32,644	108	479,726	2,232,582	41,683	14,254						
1960	313	91,387	38,354	116	594,203	2,555,929	45,607	16,677						
1961	332	97,782	39,242	126	586,962	2,873,220	50,003	17,791						
1962	354	105,597	42,864	140	697,666	3,265,933	54,166	19,215						
1963	362	116,263	48,696	148	832,820	3,593,592	59,230	22,145						
1964	369	124,287	50,407	153	701,309	3,760,033	63,318	23,878						
1965	391	137,331	56,283	164	829,700	4,212,206	69,315	26,185						
1966	403	149,321	65,255	179	841,080	4,697,954	74,127	30,456						
1967	415	162,102	74,888	189	929,044	5,102,132	80,217	32,964						
1968	434	179,236	86,102	200	1,171,454	5,874,280	85,713	36,609						
1969	450	207,184	98,867	213	1,289,564	6,632,539	91,402	39,703						
1970	469	246,986	114,011	223	1,376,907	7,441,077	98,360	40,267						
1971	485	276,707	119,880	233	1,565,272	8,127,837	106,524	45,301						
1972	502	303,954	124,502	239	1,484,039	8,788,361	115,491	44,661						
1973	517	316,897	132,102	262	1,935,643	9,433,897	120,229	47,980						
1974	534	331,146	155,272	270	2,609,649	11,095,747	130,102	54,009						
1975	537	380,480	170,561	279	2,046,479	12,650,488	138,597	53,291						

1. Excludes annuities.

2. Companies authorized in Hawaii for 1903, 1910, 1930, 1934 to 1946, and 1949 forward; companies active during year for 1906, 1911 to 1929, 1931, 1933, 1947, and 1948. The number authorized in 1920 was 123.

3. Data for 1952 and later years are not strictly comparable to data for 1903-1951.

4. Companies transacting life insurance business in Hawaii during the year, 1906-1972; number authorized as of December 31, 1973 and later years. Includes fraternal benefit societies.

5. Includes revived and increased. Excludes reinsurance assumed, 1964 forward.

TABLE 23.5 (cont.)

6. For companies active during the year.
7. Data for 1903-1938 refer to net premiums. Net premiums in 1939 were \$5,034,000.
8. Act 69, S.L.H. 1903, "to regulate and license insurance business in this Territory," was approved April 28, 1903, to go into effect October 1, 1903.

Source: Report of the Insurance Commissioner (biennial, 1903 to 1933; annual, 1934 and later years).

TABLE 23.6 PREPAID HEALTH PLANS, 1903 TO 1976

Year	Hawaii Medical Service Association ¹		Kaiser Foundation Health Plan ²		Commercial Carrier Accident and Health Insurance Premiums (\$1,000)
	Persons Covered, End of Year ³	Membership Dues ⁴ (\$1,000)	Persons Covered ³	Membership Dues (\$1,000)	
1903	...	...	...	...	8
1905	...	...	...	...	13
1910	...	...	...	...	21
1915	...	...	...	...	35
1920	...	...	...	...	83
1925	...	...	...	...	174
1930	...	...	...	...	174
1935	...	...	...	...	135
1940	1,310	45	...	...	204
1945	9,268	165	...	...	427
1950	48,056	1,289	...	...	1,829
1955	105,562	3,093	...	...	4,508
1960	213,952	9,063	38,811	1,642	7,720
1965	318,418	19,217	52,910	3,892	11,651
1970	393,546	35,389	87,008	9,372	23,000
1971	404,293	42,443	94,009	11,503	26,556
1972	417,305	48,759	95,877	13,227	29,097
1973	432,905	55,209	96,242	14,779	31,200
1974	451,583	64,138	98,184	16,309	33,176
1975	474,265	79,827	101,827	18,592	35,564
1976	484,295	97,882	104,785	21,879	NA

1. Began operations May 1, 1938. Data for 1940 and 1945 refer to fiscal years ended May 31.

2. Began operations in Hawaii in 1958.

3. Subscribers and dependents, whether on a group or individual basis.

4. Excludes investment income, membership fees, etc.

Source: Report of the Insurance Commissioner for 1936-1976; Hawaii Medical Service Association, records; Kaiser Foundation Health Plan, Inc., records.

TABLE 23.7 FIRE LOSSES RECORDED BY THE HONOLULU FIRE DEPARTMENT, 1867 TO 1976
(Thousands of dollars. Records appear to be incomplete prior to 1920. Excludes most fires on military bases and some fires in rural areas. Data refer to calendar years through 1960 and to years ended June 30 for 1962 and thereafter.)

Year	Loss	Year	Loss	Year	Loss
1867 ¹	1	1911	83	1944 ⁸	339
1877 ²	65	1912	31	1945	468
1878	33	1913	86	1946	307
		1914	36	1947	341
1882	1	1915	82	1948	545
1883	10	1916	47	1949	961
1884	36	1917	33		
1885 ³	70	1918	50	1950	712
1886 ³	272	1919	242	1951	396
1887	16			1952	831
1888	44	1920	88	1953	464
1889	12	1921	169	1954	1,278
		1922	96	1955	555
1890	44	1923	131	1956	505
1891	109	1924	277	1957	1,130
1892	11	1925	100	1958	1,043
1893	1	1926 ⁵	198	1959	1,875
1894	8	1927 ⁵	75		
1895	28	1928	69	1960 ⁹	773
1896	49	1929	381	1961 ⁹	654
1897	6			1962	1,343
1898	31	1930 ⁶	143	1963	1,252
1899	10	1931	47	1964	1,442
		1932	60	1965	1,631
1900 ⁴	27	1933	85	1966	1,809
1901	260	1934	52	1967	4,016
1902	212	1935	59	1968	3,771
1903	134	1936	62	1969	3,677
1904	91	1937	68		
1905	35	1938	75	1970	4,531
1906	32	1939	55	1971	5,032
1907	38			1972	3,527
1908	24	1940 ⁷	116	1973	12,962
1909	15	1941 ⁷	392	1974	6,392
		1942	102	1975	7,303
1910	45	1943	196	1976	7,370

1. Earliest year available. The Honolulu Fire Department was established by an ordinance that became effective January 11, 1851.

2. Recorded figure for Esplanade fire, December 18, 1877. According to the Pacific Commercial Advertiser of December 22, 1877, however, the total loss amounted to \$258,700, of which \$63,100 was insured.

TABLE 23.7 (cont.)

3. Includes estimated loss of \$214,000 in the Chinatown fire of April 18, 1886. According to H. A. Smith, "The Honolulu Fire Department," Hawaiian Annual for 1932, pp. 49-55, however, the loss from this fire exceeded \$1,455,000.

4. Apparently excludes the Chinatown fire of January 20, 1900. This fire resulted in claims for losses amounting to \$3,175,132.90, of which \$1,473,173 was awarded (H. A. Smith, op. cit.).

5. Excludes \$200,000 barracks fire at Luke Field, February 1927 (Honolulu Advertiser, February 15, 1927).

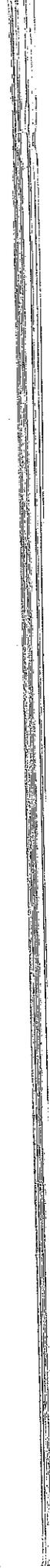
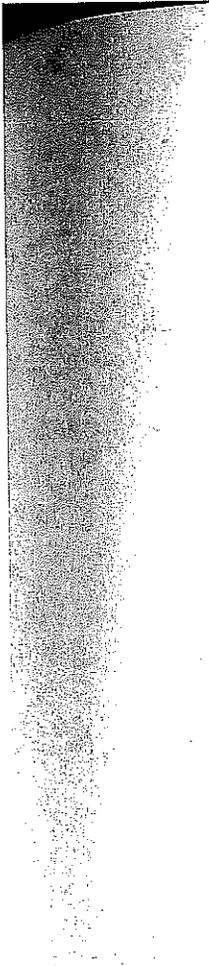
6. Excludes loss resulting from burning of S.S. City of Honolulu at its berth in Honolulu Harbor, May 25, 1930.

7. Excludes fire losses on military reservations resulting from the Pearl Harbor attack, December 7, 1941.

8. Excludes fire losses from West Loch explosions, May 21, 1944.

9. January through June.

Source: Honolulu Fire Department, Annual Report, 1930-1975, and records.



TABLES IN SECTION 24

- 24.1 Persons voting in general elections, 1851 to 1897
- 24.2 Persons registered to vote in general elections, 1868 to 1897
- 24.3 Registered voters and votes cast in statewide general elections, 1900 to 1976
- 24.4 Registered voters and votes cast in primary elections, 1930 to 1976
- 24.5 Votes cast in major plebiscites, 1873 to 1959
- 24.6 Votes cast for candidates in major races in general elections, 1900 to 1976
- 24.7 Apportionment of the legislature, by island, 1840 to 1974
- 24.8 Party membership of territorial and state legislators, 1901 to 1977

SECTION 24

Elections and Politics

This section presents statistics on the number of persons registered to vote and the number actually voting in primary and general elections, votes cast in major plebiscites, votes for the candidates in major races in general elections, apportionment of the legislature by island, and the party membership of legislators.

There were but few elective offices during the middle and late nineteenth century, and none at all before 1840. Prior to that time the islands were ruled as an absolute monarchy, with local governance in the hands of appointive or hereditary chiefs. The Constitution of 1840 provided for a "representative body" of legislators, who were initially chosen on the basis of petitions sent to the king. The first popular election was held January 6, 1851, when the elective offices included representatives and road supervisors but not, of course, either the nobles or the king. Under the provisions of the Constitution of 1887, the House of Nobles joined the House of Representatives as an elective body. The overthrow of the monarchy in 1893 and creation of the republic a year later did little to change matters; the Constitution of 1894 renamed the upper house the Senate and created the position of president, but only the representatives and senators were subject to popular election. The president was designated by name in the constitution, with his successors to be elected by the legislature, and other officials continued to be appointed.

The short list of elective offices was gradually augmented after annexation. Under the terms of the organic act, which created territorial government for Hawaii in 1900, the electorate was permitted to vote for a delegate to Congress as well as for representatives and senators of the territorial legislature. The first election of local officials took place June 20, 1905, shortly after approval of the law creating county government. Elective offices included county supervisors, sheriff, clerk, auditor, assessor/tax collector, attorney, and treasurer. The first (and only) municipal government in the islands was the City and County of Honolulu, created from Oahu County effective January 1, 1909. Major appointed officials during the territorial period included the governor, secretary, and supreme court judges, all of whom were appointed by the president of the United States.

Statehood, finally granted in 1959, further increased the number of elective offices. The electorate could now vote for the president of the

United States, two U.S. senators, members of the U.S. House of Representatives, and the state governor and lieutenant governor, along with state representatives and senators. Judges were still appointive, however, and, except for the City and County of Honolulu, municipal government remained unknown.

Since 1873, elections for public officials have from time to time been combined with plebiscites on specific issues. The first such plebiscite, conducted January 1, 1873, was intended to determine the voters' choice for a successor to King Kamehameha V, who had died three weeks earlier without an heir; the actual decision on a successor was however the responsibility of the legislature. Statehood was the subject of two plebiscites, one in 1940 to ascertain public opinion on the issue and another in 1959 to approve the admission act. Both the Constitution of 1950 and the twenty-three amendments proposed by the Constitutional Convention of 1968 (plus one proposed by the legislature) had to be submitted to the electorate. Such deference to island voters was in sharp contrast to nineteenth century practice: the constitutions of 1840, 1852, 1864, 1887, and 1894, annexation in 1898, and the organic act in 1900 were all imposed on Hawaii residents without any effort to seek approval at the polls.

Eligibility requirements for voters have varied greatly since 1850. A law enacted in that year limited the ballot to male subjects (either native or naturalized) or denizens, at least 20 years of age, who had lived at least one year in Hawaii and were not insane or unpardoned felons. (A "denizen" was an alien who had been granted "all the rights, privileges and immunities of a native.") The Constitution of 1864 added a property or income requirement and stipulated that voters born since 1840 had to be literate. The property/income requirement was repealed in 1874 but reinstated in 1887, along with a new requirement for literacy in Hawaiian, English, or a European language. These specifications were superseded thirteen years later by those in the organic act, which limited the franchise to male U.S. citizens, 21 years old and over, literate in English or Hawaiian, residents of the territory for at least one year but not "by reason of being in the Army or Navy." Women finally became eligible in 1920. The minimum age was dropped to 20 years in 1959 and to 18 years in 1971. The literacy requirement was abandoned in 1968 and the one-year residence requirement in 1972. From 1970 forward, military personnel who planned to reside permanently in Hawaii have been allowed to register, although the practical effect of this liberalization has apparently been quite small.

The total size, apportionment, and districting of both houses of the legislature have been modified frequently since 1840. The lower house was reapportioned for the elections of 1851, 1854, 1870, 1887, 1894, 1900, 1958, 1959, 1970, and 1974. The House of Nobles was neither elective nor fixed in size until 1887; redesignated the Senate, it underwent reapportionment for the elections of 1894, 1958, 1966, 1970, and 1974 (although the last two resulted in no change). Although the organic act called for reapportionment of both houses of the legislature after every decennial census, no action was taken until 1956, when the apportionment specified by the as-yet inoperative Constitution of 1950 was enacted by the U.S. Congress.

Election records prior to 1900 are few in number and unreliable in quality. Official documents filed in the state archives are largely limited to statements submitted by election inspectors, certifying the election of the successful candidates but not presenting the magnitude of the vote. Such standard sources as the annual reports of government agencies, Thrum's Annual, and the general histories of Kuykendall, Daws, and others contain few if any references to the size of the vote. Although the Honolulu newspapers invariably reported election results for the Honolulu district, their coverage of rural Oahu and the neighbor islands was much less comprehensive. Ambiguities in terminology, obvious errors in addition, and misprints were common, and comparison of data in different newspapers for the same date or different editions of the same paper reveals numerous discrepancies. The Report of the Commission Upon the Election Laws of the Hawaiian Kingdom to the Legislature of 1888 complained that "the commission has actually not been able to procure either the registration at any recent election or the number of votes polled." Interpretation of the data is further complicated by the fact that the published accounts were sometimes limited to tallies of the number of votes cast, without indicating the number of voters who submitted these ballots. In Honolulu, each voter could vote for as many as four candidates throughout most of this period; in 1894 and 1897, moreover, he could give all his votes to one candidate, distribute his votes among two or more candidates, or even cast half-votes.

An article by Robert C. Schmitt, "Voter Participation Rates in Hawaii Before 1900," published in The Hawaiian Journal of History, vol. 5 (1971), presents such nineteenth century election statistics as are available, together with a critical discussion of their limitations.

Annexation brought considerable improvement in island election data. After each election, the secretary (and later the lieutenant governor) issued official

counts, by district and sometimes by precinct, on total registered voters, total votes cast, and the vote for each candidate. Initially printed in broadside form, these official tallies eventually grew into rather thick statistical compendia. A second source for postannexation election statistics was the Report of the Governor of Hawaii to the Secretary of the Interior, which from 1901 to 1940 carried tables showing the number of registered voters by race and the votes cast for delegate to Congress by party. General election registration totals back to 1900 and primary election data back to 1928 were recapitulated in Voter Registration Program 1970, published by the Office of the Lieutenant Governor in August 1970.

Biennial data on the party membership of representatives and senators have been compiled and published since 1901. Such data regularly appeared in the Report of the Governor until 1932, along with ethnic statistics on members of the legislature. Data on party membership for more recent legislative sessions have appeared in Session Laws of Hawaii.

Statistics on elections and politics for the nation are reported in Historical Statistics of the United States, Colonial Times to 1970, chapter Y, series Y1 to Y271, and the annual editions of Statistical Abstract of the United States.

TABLE 24.1 PERSONS VOTING IN GENERAL ELECTIONS, 1851 TO 1897

Election Date	Honolulu	Oahu	All Islands	Percent of Population ¹		
				Honolulu	Oahu	All Islands
Representatives						
1851, Jan. 6	2,000	...	...	13.9	...	...
1852, Jan. 5	1,200	...	...	8.7	...	...
1853, Jan. 3	983	...	...	7.2	...	...
1854, Jan. 2	2,169*	...	...	18.9	...	...
1855, Jan. 1	851	...	...	7.1	...	...
1856, Jan. 7	2,181*	...	...	17.6	...	...
1858, Jan. 4	2,111	3,656	12,673	16.0	17.8	17.7
1860, Jan. 2	1,776*	...	...	12.7	...	...
1862, Jan. 6	2,962	...	...	20.9	...	...
1864, Jan. 4	2,408	4,222	...	17.3	20.6	...
1866, Jan. 1	218*	...	...	1.6	...	...
1868, Feb. 3	607	1,539	...	4.4	7.7	...
1870, Feb. 7	921	1,854	...	6.5	9.1	...
1872, Feb. 5	1,275	2,268	...	8.7	11.0	...
1874, Feb. 2	1,336	...	...	9.3	...	...
1876, Feb. 2	1,402*	2,674*	...	10.3	13.9	...
1878, Feb. 6	1,179*	2,284*	...	8.6	11.7	...
1880, Feb. 4	1,490	2,635	...	9.6	11.9	...
1882, Feb. 1	1,451	2,616	...	8.3	10.8	...
1884, Feb. 6	1,942	3,045	8,825	9.8	11.2	11.2
1886, Feb. 3	2,157	3,416	...	10.1	11.7	...
1887, Sept. 12	3,619*	4,964*	...	16.7	16.8	...
1890, Feb. 5	2,990	3,876	11,671	13.3	12.7	13.4
1892, Feb. 3	2,750	3,560	...	11.1	10.6	...
1894, May 22	1,252*	1,455*	...	4.8	4.1	...
Oct. 29	909	1,425*	2,903*	3.4	3.9	2.9
1897, Sept. 29	283*	397*	...	0.9	0.9	...
Nobles/Senators						
1887, Sept. 12	1,519*	1,636*	...	7.0	5.5	...
1890, Feb. 5	...	1,739	3,187	...	5.7	3.7
1892, Feb. 3	1,347*	1,449*	...	5.5	4.3	...
1894, Oct. 29	...	960	1,445*	...	2.6	1.4

* Partly estimated.

1. As of January 1 nearest election date.

2. For delegates to Constitutional Convention.

Source: Robert C. Schmitt, "Voter Participation Rates in Hawaii Before 1900," The Hawaiian Journal of History, vol. 5 (1971), pp. 50-58.

TABLE 24.2 PERSONS REGISTERED TO VOTE IN GENERAL ELECTIONS, 1868 TO 1897

Election Date ¹	Percent of Population ²					
	Honolulu	Oahu	All Islands	Honolulu	Oahu	All Islands
Representatives						
1868, Feb. 3	860	...	...	6.3	...	...
1870, Feb. 7	1,336	...	...	9.4	...	...
1872, Feb. 5	1,900	...	...	13.0	...	...
1876, Feb. 2	2,300	...	...	16.9	...	...
1880, Feb. 4	2,159	...	...	13.9	...	...
1882, Feb. 1	1,945	...	...	11.2	...	...
1884, Feb. 6	2,743	...	13,300	13.9	...	16.9
1887, Sept. 12	...	5,008	14,598	...	16.9	17.2
1890, Feb. 5	...	...	14,113	...	...	16.2
1894, May 2 ³	1,514	...	...	5.8	...	...
Oct. 29	1,589	1,917	5,202	5.9	5.3	5.2
1897, Sept. 29	649	816	2,693	2.1	1.9	2.3
Nobles/Senators						
1887, Sept. 12	...	1,716	2,997	...	5.8	3.5
1894, Oct. 29	1,106	1,230	2,008	4.1	3.4	2.0

1. Listing limited to elections for which data are available; for complete list, see table 24.1.

2. As of January 1 nearest election date.

3. For delegates to Constitutional Convention.

Source: Robert C. Schmitt, "Voter Participation Rates in Hawaii Before 1900," The Hawaiian Journal of History, vol. 5 (1971), pp. 50-58.

TABLE 24.3 (cont.)

1. Votes for delegate to Congress for 1900-1918.
2. Based on July 1 estimates in the present volume, table 1.4.
3. Data for registered voters by sex are from unpublished tabulations that add to somewhat different totals than the official figures for both sexes combined in 1942-1959 and 1964-1968.
4. Special election.

Source: Registered voters by sex, 1946-1968, from county clerks. Other data on registered voters and votes cast from Office of the Lieutenant Governor, "Hawaii's Territorial and Statewide Registered Voters and Votes Cast, General Elections, 1900-1974" (table, July 1975), and official tabulations and reports of election results in the State Archives and Office of the Lieutenant Governor.

TABLE 24.4 REGISTERED VOTERS AND VOTES CAST IN PRIMARY ELECTIONS, 1930 TO 1976

Year	Registered Voters	Votes Cast		Pct. of Civilian Population ¹	
		Number	Pct. of Reg. Voters	Registered	Voting
1930	48,758	39,319	80.6	14.0	11.3
1932	56,497	49,214	87.1	15.4	13.4
1934	67,360	57,005	84.6	18.4	15.6
1936	71,314	59,994	84.1	19.2	16.2
1938	76,670	65,957	86.0	20.1	17.3
1940	82,677	63,967	77.4	20.8	16.1
1942	80,656	51,891	64.3	18.1	11.6
1944	74,784	57,205	76.5	16.5	12.7
1946	89,811	69,047	76.9	18.7	14.4
1948	111,753	90,667	81.1	23.1	18.7
1950	134,807	91,396	67.8	28.2	19.1
1952	135,485	100,567	74.2	29.4	21.9
1954	149,941	113,726	75.8	32.1	24.3
1956	159,995	117,676	73.5	31.9	23.5
1958	164,703	118,056	71.7	29.9	21.5
1959	174,335	147,078	84.4	30.8	26.0
1960	190,504	139,049	73.0	32.7	23.9
1962	212,861	172,401	81.0	35.2	28.5
1964	228,230	156,324	68.5	36.4	24.9
1966	245,307	175,049	71.4	37.4	26.7
1968	265,253	166,271	62.7	39.2	24.5
1970	282,472	202,401	71.7	39.2	28.1
1972	326,906	203,160	62.1	42.5	26.4
1974	333,527	235,982	70.8	41.9	29.6
1976	353,249	251,457	71.2	42.5	30.3

1. Based on July 1 estimates in the present volume, table 1.4.

Source: Office of the Lieutenant Governor, Voter Registration Program 1970 (December 28, 1970), p. 34, and Result of Votes Cast, Primary Election for 1972, 1974, and 1976.

TABLE 24.5 VOTES CAST IN MAJOR PLEBISCITES, 1873 TO 1959

Date of Election	Issue ¹	Category	Number
1873, Jan. 1	Successor to Kamehameha V	Votes cast	12,581
		W. C. Lunalilo	12,530
		Others ²	51
1940, Nov. 5	Statehood plebiscite	Registered voters	87,321
		Votes cast	74,538
		Yes	46,174
		No	22,428
		Not voting	3,455
		Ballots rejected	2,645
1950, Nov. 7	State constitution	Registered voters	141,319
		Votes cast	118,704
		Yes	82,788
		No	27,109
		Ballots rejected	2,645
1959, June 27	Statehood propositions	Registered voters	174,335
		1. Admission as state	
		Yes	132,773
		No	7,971
		2. Approval of boundaries	
		Yes	132,194
		No	7,654
3. Approval of other provisions			
Yes	132,281		
No	7,582		

1. Limited to major plebiscites. Excludes the plebiscite of November 5, 1968 on constitutional amendments proposed by the Constitutional Convention of 1968, which required separate votes on each amendment (twenty-four were approved and one was rejected). No plebiscites were conducted for the various constitutions of the nineteenth century (1840-1894), annexation (1898), or the organic act (1900).

2. Kalakaua, Queen Emma, Kealikolani, and Pauahi.

Source: Hawaiian Gazette, January 22, 1873, p. 2; official tabulations of elections of November 5, 1940, November 7, 1950, June 27, 1959, and November 5, 1968, filed in Hawaii State Archives.

TABLE 24.6 VOTES CAST FOR CANDIDATES IN MAJOR RACES IN GENERAL ELECTIONS, 1900 TO 1976

Contest and Year	Democrat		Republican		Other Parties	
	Candidate	Votes	Candidate	Votes	Candidate, and Party	Votes
DELEGATE						
1900, 56th Cong.	Kawananaakoa	1,650	Parker	3,856	Willcox (HR)	4,083
1900, 57th Cong.	Kawananaakoa	1,656	Parker	3,845	Willcox (HR)	4,108
1902		...	Kalaniana'ole	6,628	Willcox (HR)	4,698
1904	Iaukea	2,868	Kalaniana'ole	6,833	Notley (HR)	2,289
1906	McClanahan	2,884	Kalaniana'ole	7,366	Notley (HR)	2,181
1908	McCandless	3,824	Kalaniana'ole	5,698	Notley (HR)	2,889
1910	McCandless	4,503	Kalaniana'ole	8,049	Notley (HR)	2,989
1912	McCandless	5,770	Kalaniana'ole	7,023	Notley (HR)	2
1914	McCandless	4,424	Kalaniana'ole	8,590	Carter (PR)	610
1916	McCandless	5,637	Kalaniana'ole	7,702	...	...
1918	McCandless	6,032	Kalaniana'ole	7,343	...	...
1920	McCandless	8,710 ³	Kalaniana'ole	13,626	...	...
1922, special			Baldwin	14,937	Atcherley (NP)	163
1922, regular			Wise	11,667	...	...
1924	Jarrett	14,305	Rice	12,689	...	...
1926	Jarrett	17,028	Houston	18,160	...	...
1928	Jarrett	16,372	Houston	27,908	...	...
1930	Rivenburgh	11,031	Houston	22,223	...	...
1932	McCandless	19,568	Houston	27,017	...	...
1934	McCandless	29,431	King, S. W.	31,487	...	...
1936	McCandless	29,630	King, S. W.	41,183	...	...
1938	Rivenburgh	18,417	King, S. W.	41,009	...	...
1940	Trask	28,890	King, S. W.	54,466	...	...
1942	Reid	...	Farrington, J.	39,856	...	...
1944		19,746	Farrington, J.	52,074	...	...
1946	Borthwick	...	Farrington, J.	45,765	...	...
1948	Burns	37,209	Farrington, J.	75,725	...	...
1950	Cobb	24,920	Farrington, J.	71,271	...	...
1952	Metzger	40,612	Farrington, J.	67,748	...	...
		58,445				

TABLE 24.6 (cont.)

Contest and Year	Democrat		Republican		Other Parties	
	Candidate	Votes	Candidate	Votes	Candidate and Party	Votes
DELEGATE (cont.)						
1954, special	Metzger	19,591	Farrington, E.	43,195	Hale (NP)	2,619
regular	Burns	68,576	Farrington, E.	69,466	...	...
1956	Burns	82,166	Farrington, E.	66,732	...	...
1958	Burns	81,915	Turner	67,609	Brenner (C)	1,266
GOVERNOR						
1959	Burns	82,074	Quinn	86,213	Kihei (C)	375
1962	Burns	114,308	Quinn	81,707	...	...
1966	Burns	108,840	Crossley	104,324	...	...
1970	Burns	137,150	King, S. P.	100,573	...	...
1974	Ariyoshi	136,262	Crossley	113,388	...	...
PRESIDENT						
1960	Kennedy	92,410	Nixon	92,295	...	...
1964	Johnson	163,249	Goldwater	44,022	...	...
1968	Humphrey	141,324	Nixon	91,425	Wallace (AI)	3,469
1972	McGovern	101,409	Nixon	168,865	...	...
1976	Carter	147,375	Ford	140,003	MacBride (L)	3,923
U.S. REPRESENTATIVE						
1959	Inouye, D.	111,727	Silva	51,058	Lekivetz (C)	932
1960	Inouye, D.	135,827	Titcomb	46,812	...	...
1962	Gill	123,649	Evensen	70,880	...	...
1964	Matsunaga	123,599	Sutton	46,292	...	...
1966	Matsunaga	140,224	Milligan	89,425	...	...
	Mink	106,909	Sutton	56,147	...	...
	Matsunaga	140,110	Carroll	67,281	...	...
	Mink	140,880	Kealoha	62,473	...	...

TABLE 24.6 (cont.)

Contest and Year	Democrat		Republican		Other Parties	
	Candidate	Votes	Candidate	Votes	Candidate and Party ¹	Votes
U.S. REPRESENTATIVE ⁴ (cont.)						
1968	Matsunaga	161,954	Blaisdell	78,733	Olsen (PF)	2,432
	Mink	149,207	DuBois	39,233	Lombardi (PF)	2,026
1970, Dist. 1	Matsunaga	84,845	Cockey	31,534		...
Dist. 2	Mink	90,628		...		...
1972, Dist. 1	Matsunaga	73,826	Rohlfing	61,138		...
Dist. 2	Mink	79,856	Hansen	60,043		...
1974, Dist. 1	Matsunaga	71,552	Paul	49,065		...
Dist. 2	Mink	86,916	Coray	51,894		...
1976, Dist. 1	Heftel	60,050	Rohlfing	53,745	Hoshijo (IGG) 5	23,807 ⁵
Dist. 2	Akaka	124,116	Inouye, H.	23,917		
U.S. SENATOR						
1959, seat A,	Fasi	77,647	Fong	87,161	Ressencourt (C)	1,052
seat B	Long	83,700	Tsukiyama	79,123		...
1962	Inouye, D.	136,294	Dillingham	60,067	Domine (NP)	1,278
1964	Gill	96,789	Fong	110,747	Lee (PF)	3,671
1968	Inouye, D.	189,248	Thiessen	34,008		...
1970	Heftel	116,039	Fong	123,334	Kimme1 (PE) 6	42,767 ⁶
1974	Inouye, D.	207,454		...		
1976	Matsunaga	162,305	Quinn	122,724		

1. AI, American Independent; C, Commonwealth; HR, Home Rule; IGG, Independents for Godly Government; L, Libertarian; NP, Nonpartisan; PE, People's; PF, Peace and Freedom; PR, Progressive; S, Socialist.
 2. Clark (S), 201; Notley (HR), 346.
 3. McCandless ("regular" Democrat), 6,874; Kumalae ("Independent" Democrat), 2,239.
 4. One seat at large, 1959 and 1960; two seats at large, 1962 through 1968; two seats by district, 1970 and thereafter.
 5. Penarozza (IGG), 3,461; Cate (PE), 2,408; Smith (L), 2,197.
 6. Hodges (PE), 14,226; Kimme1 (NP), 1,433; Johnson (L), 1,404.
 Source: Official tabulations of general elections, filed in State Archives and Office of the Lieutenant Governor.

TABLE 24.7 APPORTIONMENT OF THE LEGISLATURE, BY ISLAND, 1840 TO 1974

House and Year of Legislation	Election When Effective	Apportionment of Legislature					
		State Total	Hawaii	Maui and Kahoolawe	Lanai and Molokai	Oahu	Kauai and Niihau
Senate							
1887	1887	24	6		6	9	3
1894	1894	15	4		3	6	2
1900	1900	15	4		3	6	2
1956	1958	25	7		5	10	3
1959 ²	1959	25	7		5	10	3
1965	1966	25	3		2	19	1
1968	1970	25	3		2	19	1
1973	1974	25	3		2	19	1
House of Representatives							
1840	1840	7	2		2	2	1
1850 ³	1851	24	6	5	2	6	5
1853	1854	27	8	6	2	8	3
1868	1870	28	8	7	2	8	3
1887	1887	24	7		7	7	3
1894	1894	15	4		3	6	2
1900	1900	30	8		6	12	4
1956	1958	51	8	5	1	33	4
1959	1959	51	7	4	1	36	3
1968	1970	51	6		4	38	3
1973	1974	51	5		4	39	3

1. House of Nobles until 1894. Exact size and apportionment not specified in law until 1887.
2. Changes in apportionment procedures enacted in 1965 were limited to the Senate.
3. The 1850 apportionment provided for one representative from Lanai, one from Molokai, four from Kauai, and one from Niihau.
Source: L. 1842, ch. 11 (approved Nov. 2, 1840); Penal Code ... 1850, pp. 165-167; L. 1853, pp. 24-25; L. 1868, pp. 49-50; Constitution of 1887, Art. 58 and 60; Constitution of 1894, Art. 55 and 57; Organic Act (1900), ch. 11, sections 32, 33, 38, and 39; U.S. Stat. at Large, vol. 70 (1956), P.L. 895, ch. 851; Governor's Proclamation of May 1, 1959; L. 1965, Act 281; Constitution of 1968, Art. XVI; Report and Reapportionment Plan of the 1973 Legislative Reapportionment Commission (1973), p. 10.

TABLE 24.8 PARTY MEMBERSHIP OF TERRITORIAL AND STATE LEGISLATORS, 1901 TO 1977

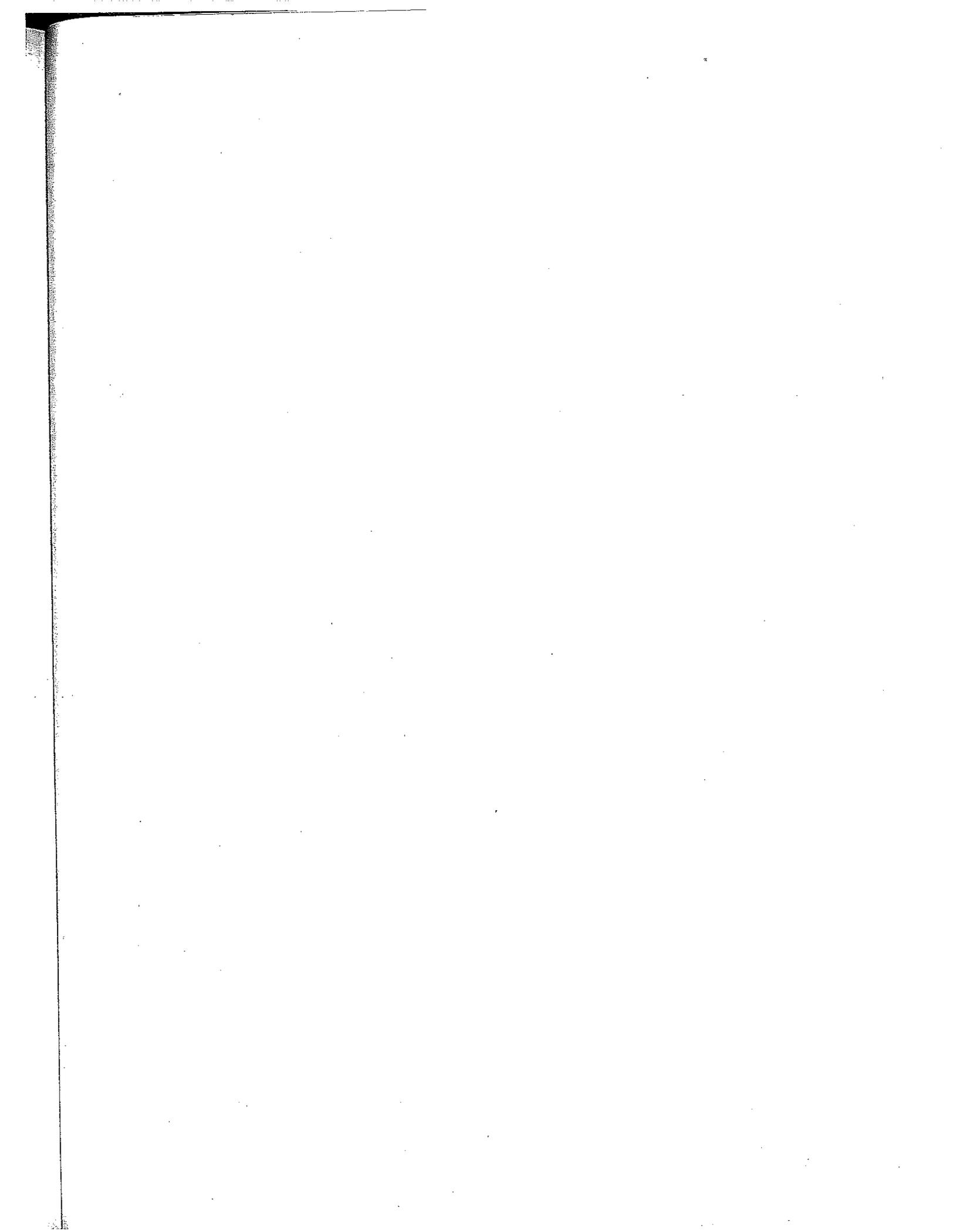
Legislative Session	Representatives			Senators				
	Total	Demo- crats	Repub- licans	Home Rule	Total	Demo- crats	Repub- licans	Other ¹
1901	30	4	9	17	15	--	6	9
1903	30	--	20	10	15	1	10	4
1905	30	1	28	1	15	1	14	--
1907	30	6	24	--	15	2	12	1
1909	30	7	22	1	15	4	9	2
1911 ²	30	--	28	2	15	1	12	2
1913 ²	30	11	18	1	15	4	9	2
1915	30	1	29	--	15	7	8	--
1917	30	6	24	--	15	3	12	--
1919	30	6	24	--	15	1	14	--
1921	30	4	26	--	15	1	14	--
1923	30	1	29	--	15	--	15	--
1925	30	3	27	--	15	2	13	--
1927	30	2	28	--	15	2	13	--
1929	30	3	27	--	15	1	14	--
1931	30	2	28	--	15	1	14	--
1933	30	10	20	--	15	4	11	--
1935	30	7	23	--	15	5	10	--
1937	30	4	26	--	15	4	10	1
1939	30	2	28	--	15	3	11	1
1941	30	3	27	--	15	3	12	--
1943	30	5	25	--	15	4	11	--
1945	30	9	21	--	15	7	8	--
1947	30	15	15	--	15	7	8	--
1949	30	10	20	--	15	6	9	--
1951	30	9	21	--	15	6	9	--
1953	30	11	19	--	15	7	8	--
1955	30	22	8	--	15	9	6	--
1957	30	18	12	--	15	12	3	--
1959, terr.	51	33	18	--	25	16	9	--
state	51	33	18	--	25	11	14	--
1961	51	33	18	--	25	11	14	--
1963	51	40	11	--	25	15	10	--
1965	51	39	12	--	25	16	9	--
1967	51	39	12	--	25	15	10	--
1969 ³	50	38	12	--	25	17	8	--
1971 ⁴	51	34	17	--	24	16	8	--
1973	51	35	16	--	25	17	8	--
1975 ⁵	51	35	16	--	25	18	7	--
1977 ⁵	51	41	10	--	25	18	7	--

1. Home Rule, 1901-1913; nonpartisan, 1937-1939.
2. Initial composition. One Republican senator died during the session and was replaced by a Democrat in a special election.
3. One disputed House seat was left vacant for the session.
4. One Senate Democrat died prior to the session and his seat was left vacant.

TABLE 24.8 (cont.)

5. Forty Democrats and eleven Republicans were elected to the House of Representatives in the general election of November 1976. In January 1977, however, one Republican changed his affiliation to Democrat.

Source: Report of the Governor of Hawaii to the Secretary of the Interior, 1932, p. 22; Session Laws of Hawaii, 1933-1975; Office of the Lieutenant Governor, records.



TABLES IN SECTION 25

- 25.1 Federal, state, and county employment, 1889 to 1976
- 25.2 Government payrolls, 1939 to 1975
- 25.3 State receipts and expenditures, 1843 to 1976
- 25.4 Tax revenues of the Kingdom, Provisional Government, and Republic of Hawaii, 1852 to 1899
- 25.5 Tax revenues of the Territory of Hawaii, 1900 to 1957
- 25.6 State and county tax collections, 1934 to 1976
- 25.7 Federal tax collections, 1900 to 1976
- 25.8 Total tax collections relative to population, 1852 to 1976, and personal income, 1939 to 1976
- 25.9 State revenue receipts (general and special funds), 1949 to 1976
- 25.10 County operating revenues, 1941 to 1976
- 25.11 State operating expenditures, 1949 to 1976
- 25.12 County operating expenditures, 1941 to 1976
- 25.13 Funded debt, 1856 to 1976
- 25.14 Public bonded debt of state and county governments, 1949 to 1976

SECTION 25

Government Employment and Finances

This section presents statistics on employment and payrolls, tax collections, operating revenues and expenditures, and public bonded debt, for federal, state, and county governments. Related tables appear in section 4, on government workers; section 6, on defense expenditures; section 7, on individual income tax returns; section 8, on government expenditures for public welfare and social insurance programs; section 9, on public school teachers and expenditures; section 12, on government land and real property assessments; section 15, on government housing and the general excise tax base for contracting and rentals; section 18, on postal service; section 20, on the general excise tax base for trade and services; section 24, on elections; and section 26, on the armed forces.

Except for the armed forces, data on government employment and payrolls in Hawaii were virtually nonexistent prior to 1939. A significant body of government workers had gradually emerged during the nineteenth century, some serving the kingdom and others employed by the United States and other foreign governments. What appears to be the only complete count of Hawaiian government employment during this period is one based on official records as of August 31, 1889 and published the following year in Thrum's Annual; no comparable total for employment by foreign governments is available. From 1900 to 1930, the decennial census reported the number of persons "gainfully occupied" as teachers, librarians, or in other specified work, but without any indication as to whether they were self-employed, private wage and salary workers, or government employees; the only category explicitly restricted to government workers was one headed "public service (not elsewhere classified)," which consisted mostly of members of the armed forces. This lack of data existed not only for federal and territorial workers but also for county employees, a group which originated with the creation of county government in 1905.

This paucity of statistics on government employment abruptly ended in 1939. In that year, the legislature created the Civil Service Commission, an agency that included among its responsibilities the maintenance of statistics on all employees covered by the merit system. Also in 1939, the advent of social security and unemployment insurance produced many of the statistics needed for continuing estimates of total employment; although government employees were initially excluded from the categories of covered workers, statisticians

responsible for these estimates routinely incorporated data on federal, territorial, and county employees in their compilations. A year later, the 1940 decennial census was the first to classify employed persons by "class of worker," a breakdown that later included separate categories for federal, state, and local government employees.

Statistics on government employment and payrolls were further developed after World War II. In 1953 the U.S. Office of Business Economics (now the Bureau of Economic Analysis) added Hawaii to the list of areas for which personal income estimates were routinely computed; as part of this program, the Office of Business Economics compiled data on civilian and military payrolls, extending back to 1939. The Department of Civil Service was created by the 1955 territorial legislature, and with the coming of statehood was redesignated the Department of Personnel Services. This department continued the issuance of annual reports initiated by the Civil Service Commission in 1939, generally including limited data on the number and characteristics of state workers. Hawaii was finally included in the U.S. Census of Governments in 1957 (the previous census in this series, conducted in 1942, had omitted the islands); one of the subjects treated in this survey was state and local public employment and salaries. Subsequent censuses of governments, all of which included Hawaii, were made in 1962, 1967, and 1972. Other federal publications containing statistics on government employment were Federal Civilian Employment in the United States by Geographic Area, issued annually by the U.S. Civil Service Commission, and two annual releases of the Bureau of the Census, Public Employment in (year) and City Employment in (year).

Coverage of government finance--tax collections, operating revenues and expenditures, and funded debt--has been much more comprehensive; unlike the data on government employment, these series in some cases go back to the 1840s or 1850s.

Taxation during the early nineteenth century differed considerably from the system subsequently developed. Payments in kind, such as hogs or tapa cloth, were made by the commoners to the chiefs to whom they owed allegiance, as well as to the royal house. None of the commoners owned land, and these payments served both as rent and tribute or tax. Except for port charges levied on foreign vessels beginning in 1817, few of the taxes were paid in cash.

The coming of a money economy, together with the enactment of new tax laws, eventually created a more modern system of taxation. New sources of revenue included a poll tax proclaimed in 1839, import duties first imposed

in 1843, and a property tax enacted in 1859. By 1850 all taxes except the road tax were payable only in cash.

Statistics on government finance during the nineteenth century were published in the annual and biennial reports of the minister of finance and auditor general. The report of the minister of finance appeared annually from 1846 to 1856 and biennially from 1858 to 1899. The report of the auditor general was issued biennially from 1884 to the end of the century, sometimes in combination with the finance minister's report. Both series included comprehensive information on tax collections, operating expenditures and revenues, and the public debt. Additional detail often appeared in the reports of individual departments and bureaus.

The establishment of territorial government in 1900 brought about a number of important changes in governmental finance. Customs duties, which had provided a substantial part of the revenues of the Hawaiian government, now were collected by the United States. In addition to taxes levied by the territory, islanders were required to pay various federal taxes. The newly established county governments lacked taxing powers but nevertheless managed to obtain considerable revenue from utility franchises, licenses, permits, and fees.

Statistics on government finance during the territorial period appeared in summary form in the annual reports of the governor to the secretary of the interior, and in greater detail in the annual and biennial reports of the treasurer, auditor, tax commissioner, and comptroller. The office of treasurer was established by the organic act in 1900, to replace that of minister of finance. In 1932 the legislature created the position of tax commissioner, transferring to this new office the tax collection responsibilities previously exercised by the treasurer. The auditor, whose position had been established by the organic act to succeed the former auditor general, was given the title of comptroller by congressional action in 1956. A new accounting system was set up by the 1923 legislature and further modified in 1953. Reports of the treasurer were issued irregularly through 1902 and biennially from 1904 to 1958. Reports of the auditor (or comptroller) were issued at irregular intervals through 1908 and biennially from 1910 to 1959. The tax commissioner published reports in 1940 (with data back to 1933), 1947 (with data back to 1941), and annually beginning in 1948.

Comprehensive accounts of island taxation during the nineteenth century and subsequent territorial period were published in two monographs by Robert M. Kamins, The Tax System of Hawaii (1952) and Hawaii's Revised Tax System (1957).

The coming of statehood resulted in further changes. The Office of the Tax Commissioner was replaced by the Department of Taxation, although with little change in functions. The new department continued to issue annual reports and a wide variety of monthly, semi-annual, and annual tabular releases containing current data on different tax programs. The report of the comptroller, heretofore submitted biennially, became an annual publication in 1960, and in 1969 received a new title, Annual Financial Report of the State of Hawaii. The former Treasury Department was stripped of its last remaining financial responsibilities and renamed first the Department of Treasury and Regulation and soon afterwards the Department of Regulatory Agencies.

Information on county government finances appeared in reports of the county auditors and finance directors.

Additional data appeared on numerous reports issued by federal agencies. Considerable detail on federal tax collections in Hawaii was published in Statistics of Income, issued annually by the Internal Revenue Service, and Annual Report of the Commissioner of Internal Revenue. Data on territorial, state, and county finances appeared in various publications of the Bureau of the Census--Wealth, Debt, and Taxation (released in 1907), the censuses of governments for 1957, 1962, 1967, and 1972, and several annual series, including State Tax Collections, State Government Finances, and City Government Finances.

Statistics for the years since World War II have been compiled and summarized by the Tax Foundation of Hawaii. Drawing on official reports and records, this organization (originally the Tax Research Committee of the Chamber of Commerce of Honolulu) has since 1951 issued an annual "handbook of financial statistics" titled Government in Hawaii. In 1969 the Tax Foundation published A Compendium of Governmental Finances in Hawaii, 1949-1968, drawn from its annual editions for the preceding two decades. Both the Compendium and the annual handbooks present data on tax rates and collections, operating revenues and expenditures, public bonded debt, and related subjects for federal, state, and county governments. The yearly volumes also contain numerous comparisons with other states.

A major difficulty in developing time series on public finance is the lack of exact comparability from year to year, resulting from periodic changes in definitions and accounting procedures. Such changes have been particularly significant in the late 1880s, 1900, the mid-1920s, and early 1950s. The Tax Foundation of Hawaii appears to take special pains to minimize such breaks in comparability.

Reporting periods may likewise differ. In most instances, published data refer to fiscal years ended June 30. From 1843 to 1852 and again from 1858 to 1894, however, the Hawaiian government reported for twelve- and twenty-four-month periods ended March 31, and during the 1850s and 1890s it sometimes used calendar years. Calendar years were also used by the City and County of Honolulu through 1960 and Hawaii, Kauai, and Maui counties through 1965.

National trends in government employment and finances have been traced in Historical Statistics of the United States, Colonial Times to 1970, chapter Y, series Y272-Y848, and subsequent editions of Statistical Abstract of the United States.

TABLE 25.1 FEDERAL, STATE, AND COUNTY EMPLOYMENT, 1889 TO 1976
(Full- and part-time combined. Annual averages unless otherwise specified.)

Government Civilian Employment ¹								
Year	Total, All Levels		Federal			Territorial or State	County	Armed Forces ² Ashore ²
	Number	Per 1,000 Pop. ³	Total	Defense	Other			
1889 ⁴	NA	NA	NA	NA	NA	1,796	--	33
1939	20,495	53	9,642	4,836	4,806	5,990	4,863	23,502
1940	22,136	56	11,139	6,925	4,214	6,245	4,752	28,230
1941	27,935	68	16,831	13,536	3,295	6,561	4,543	44,278
1942	53,111	119	41,809	39,759	2,050	6,669	4,633	117,155
1943	75,644	168	64,094	62,498	1,596	6,575	4,975	206,014
1944	78,617	174	66,809	65,069	1,740	6,550	5,258	378,322
1945	78,846	171	66,248	64,350	1,898	7,231	5,367	300,328
1946	58,269	121	44,419	42,317	2,102	7,951	5,899	67,818
1947	47,343	97	32,372	30,066	2,306	8,638	6,333	33,667
1948	45,618	94	30,213	28,027	2,186	9,024	6,381	30,035
1949 ⁵	40,119	84	24,082	21,562	2,520	9,392	6,645	25,603
1950 ⁵	33,140	69	18,891	16,354	2,537	7,955	6,294	21,000
1951	40,024	85	25,270	22,682	2,588	8,236	6,518	32,000
1952	40,616	88	25,258	22,630	2,628	8,692	6,666	35,000
1953	39,257	85	23,237	20,646	2,591	9,077	6,943	36,000
1954	39,082	84	21,966	19,535	2,431	10,009	7,107	36,000
1955	39,731	82	26,676	20,226	2,450	9,897	7,158	47,000
1956	42,804	85	25,094	22,610	2,484	10,592	7,118	47,000
1957 ⁶	43,361	83	25,117	22,629	2,488	10,962	7,282	48,000
1958 ⁶	46,970	85	25,560	18,350	7,210	13,700	7,710	45,000
1959	48,320	85	26,200	18,450	7,750	14,290	7,830	45,000
1960	49,510	85	27,010	18,650	8,360	14,620	7,880	42,000
1961	50,390	84	27,290	18,890	8,400	15,030	8,070	45,000
1962	51,170	85	27,770	18,700	9,070	15,070	8,330	48,000
1963	52,890	85	27,910	18,420	9,490	16,430	8,550	48,000
1964	54,440	87	28,440	18,540	9,900	17,150	8,850	51,000
1965	57,840	89	29,690	19,040	10,650	18,880	9,270	48,000
1966	62,630	95	31,620	20,730	10,890	21,260	9,750	41,000
1967	66,340	100	33,900	22,530	11,370	22,630	9,810	41,000
1968	69,230	102	34,970	23,130	11,840	24,420	9,840	42,000
1969	71,130	101	34,690	23,520	11,170	26,090	10,350	41,000
1970	73,640	102	33,380	22,080	11,300	30,600	9,660	42,000
1971	78,220	105	32,920	21,520	11,400	34,920	10,380	38,000
1972	79,390	103	32,680	21,200	11,480	35,290	11,430	41,000
1973	78,030	99	31,640	20,590	11,050	35,250	11,140	44,600
1974	78,890	99	31,010	20,200	10,810	35,940	11,940	46,898
1975	81,980	101	30,530	19,670	10,860	38,700	12,750	45,989
1976	84,800	102	29,800	19,200	10,600	41,400	13,600	44,838

TABLE 25.1 (cont.)

1. Based on data from various sources, which, because of differences in definitions and estimation procedures, are not exactly comparable with one another. Data for 1889 refer to employees of the Kingdom of Hawaii. Data for 1939-1949 are from U.S. Office of Business Economics estimates of government employment. Data for 1950-1957 are unrevised estimates by the Hawaii Territorial Department of Labor and Industrial Relations; for 1958 and later years, revised estimates by the Hawaii State Department of Labor and Industrial Relations.

2. Excludes naval personnel aboard ships. The 1889 figure is the authorized strength of the King's Guard, and excludes two battalions of volunteers (with a maximum authorized strength of 520) created in 1888 and abolished in 1890.

3. Civilian employment in government per 1,000 civilian resident population (from present volume, tables 1.3 and 1.4).

4. As of August 31.

5. Estimates for 1950 comparable to 1939-1949 data are as follows: total, 36,960 (or 77 per 1,000); federal, 19,967; defense, 17,384; nondefense, 2,583; territorial, 9,900; and county, 7,093.

6. Estimates for 1958 comparable to 1950-1957 data are as follows: total, 43,451 (or 79 per 1,000); federal, 24,317; defense, 21,829; nondefense, 2,488; territorial, 11,678; and county, 7,456.

Source: Thos. G. Thrum, ed., Hawaiian Almanac and Annual for 1890, p. 11; Ralph S. Kuykendall, The Hawaiian Kingdom, vol. III, 1874-1893, The Kalakaua Dynasty (1967), pp. 421, 432, and 465-466; U.S. Department of Commerce, Office of Business Economics, Income of Hawaii (1953), table 4, p. 20; Hawaii State Department of Labor and Industrial Relations, Labor Force Estimates for 1950-1969 and Labor Force Statistics for 1970 and later years; U.S. Department of Commerce, Bureau of Economic Analysis, unpublished data on military strength.

TABLE 25.2 GOVERNMENT PAYROLLS, 1939 TO 1975
(Amounts in millions of dollars)

Year	All Government		Federal		State and Local
	Amount	Percent of All Payrolls	Civilian ¹	Military	
1939	51	32.5	12	23	16
1940	61	34.1	17	26	17
1941	97	37.7	31	48	18
1942	257	52.1	112	125	20
1943	434	66.1	190	221	23
1944	675	75.4	210	436	29
1945	638	73.4	207	399	32
1946	304	54.4	146	122	36
1947	224	41.1	102	80	42
1948	228	41.7	103	79	46
1949	216	42.4	94	72	50
1950	203	40.0	80	71	53
1951	259	43.5	104	99	55
1952	295	45.5	113	125	57
1953	306	45.5	113	129	64
1954	298	44.8	104	129	65
1955	323	45.8	110	145	68
1956	352	46.6	114	165	73
1957	373	45.9	119	173	81
1958	382	43.9	126	169	87
1959	410	42.1	138	174	98
1960	433	40.0	149	175	108
1961	458	39.9	159	184	115
1962	498	41.0	166	205	127
1963	521	40.9	174	208	140
1964	568	40.8	184	235	148
1965	592	39.5	202	227	163
1966	646	39.2	226	226	194
1967	720	40.2	254	247	220
1968	799	39.5	279	277	244
1969	859	37.1	299	283	278
1970	971	36.8	320	310	341
1971	1,039	37.4	344	319	376
1972	1,129	37.6	354	377	398
1973	1,248	37.2	378	449	421
1974	1,327	36.5	404	479	444
1975	1,480	37.0	459	514	507

1. Includes civilian employees of the armed forces.

Source: U.S. Department of Commerce, Office of Business Economics, Personal Income by States Since 1929 (1956), p. 204; U.S. Department of Commerce, Bureau of Economic Analysis, computer printouts for 1948 and later years, and Survey of Current Business, August 1976, pp. 26-27.

TABLE 25.3 STATE RECEIPTS AND EXPENDITURES, 1843 TO 1976
 (Thousands of dollars. Because of changes in definitions and accounting procedures, data are not always directly comparable from year to year.)

Year ¹	Receipts ²	Expenditures ³	Year ¹	Receipts ²	Expenditures ³
1843	41	...	1896	1,975	1,904
1844	69	...	1897	2,189	1,924
1845	65	...	1898	2,568	2,186
1846	76	78	1899	3,345	2,394
1847	128	116	1900	2,773	3,005
1848	155	144	1901	2,140	2,577
1849	166	166	1902	2,473	2,383
1850	194	179	1903	2,388	2,603
1851	284	251	1904	2,415	2,844
1852	316	330	1905	2,355	2,241
1852 (9 mo.)	200	224	1906	3,321	2,513
1853	327	266	1907	2,717	2,666
1854	323	319	1908	2,552	2,698
1855	419	399	1909	2,938	2,820
1856-58	639	667	1910	2,975	2,558
1858-60	656	643	1911	2,822	2,861
1860-62	682	682	1912	3,964	4,002
1862-64	689	666	1913	4,301	4,261
1864-66	729	582	1914	3,925	4,264
1866-68	831	834	1915	4,539	4,446
1868-70	998	936	1916	5,627	5,554
1870-72	1,027	970	1917	5,945	5,638
1872-74	1,137	1,193	1918	7,208	7,441
1874-76	1,008	919	1919	4,121	4,307
1876-78	1,152	1,110	1920	6,696	6,129
1878-80	1,704	1,496	1921	6,789	8,054
1880-82	2,070	2,283	1922	7,151	7,487
1882-84	3,092	3,216	1923	6,952	8,901
1884-86	3,298	3,292	1924	8,048	8,859
1886-88	4,813	4,712	1925	9,106	10,260
1888-90	2,817	2,671	1926	9,553	10,126
1890-92	3,254	3,110	1927	10,291	11,990
1892-94	2,989	3,028	1928	11,706	12,479
1893	1,714	1,972	1929	12,478	12,266
1894	1,740	1,719	1930	12,609	13,367
1895	1,740	2,009	1931	13,638	13,292
			1932	13,235	13,279

TABLE 25.3 (cont.)

Year ¹	Receipts ²	Expenditures ³	Year ¹	Receipts ²	Expenditures ³
1933	11,083	11,579	1954	84,995	89,054
1934	10,936	10,832	1955	85,183	92,257
1935	13,129	11,715	1956	92,386	94,668
1936	15,987	12,534	1957	100,388	102,278
1937	17,617	14,953	1958	119,235	110,748
1938	20,944	16,903	1959	153,002	140,024
1939	20,791	19,877	1960	171,005	160,943
1940	22,518	18,869	1961	195,583	188,891
1941	23,632	18,000	1962	204,789	216,932
1942	26,413	19,235	1963	213,090	233,979
1943	35,477	20,936	1964	229,216	227,148
1944	40,240	25,339	1965	243,958	229,016
1945	42,584	28,455	1966	326,999	303,588
1946	45,454	34,595	1967	385,588	382,946
1947	48,535	41,034	1968	418,103	416,453
1948	61,057	53,815	1969	497,425	480,625
1949	68,991	66,885	1970	577,643	570,214
1950	70,335	78,287	1971	630,598	685,058
1951 ⁴	75,140	79,187	1972	689,958	762,413
1952 ⁴	78,416	77,851	1973	781,430	783,166
			1974	895,314	898,884
1952 ⁵	74,045	75,272	1975	1,032,196	1,071,523
1953	79,776	81,855	1976	1,214,900	1,283,471

1. Years ended March 31, 1843 to 1852; 9-month period ended December 31, 1852; calendar years 1853, 1854, and 1855; 24-month periods ended March 31, 1858 to 1894; calendar years 1893 to 1900; and years ended June 30, 1901 and thereafter.

2. Total governmental receipts, 1843-1888; current receipts, exclusive of postal savings bank and loan fund receipts, 1888-1899; territorial revenues from all funds, 1900-1925; territorial revenue receipts, 1926-1952; and total territorial and state receipts from general and special funds, 1952 and thereafter. Variant figures exist for some of these years. For an alternate series, 1856-1939, see Hawaiian Almanac and Annual for 1912 (p. 31), 1918 (p. 27), 1925 (p. 21), 1931 (p. 18), 1937 (p. 25), and 1940 (p. 40).

3. Not available before 1846. Total governmental disbursements or expenditures, 1846-1888; current expenditures, excluding debt redemption, 1888-1899; total disbursements from all funds, 1900-1925; governmental cost payments, 1926-1952; state and territorial operating expenditures, 1952 forward. Variant figures exist for some of these years. For an alternate series, 1856-1939, see the source cited in footnote 2.

4. Based on old (1926-1952) definition.

5. Based on new definition. For 1949-1951 data based on this definition, see the Tax Foundation of Hawaii, A Compendium of Governmental Finances in Hawaii, 1949-1968, pp. 22 and 46.

Source: Report of the Minister of Finance for 1846-1897 and 1899; Reports of the Minister of Finance and Auditor-General ... 1898; Report of the Auditor ... 1900; Report of the Auditing Department for 1901-1918; Report of the Auditor to the Legislature, 1921-1953; Tax Foundation of Hawaii, A Compendium of Governmental Finances in Hawaii, 1949-1968 (Nov. 1969), pp. 22 and 46, and Government in Hawaii for 1970-1977.

TABLE 25.4 TAX REVENUES OF THE KINGDOM, PROVISIONAL GOVERNMENT, AND REPUBLIC OF HAWAII, 1852 TO 1899
(Thousands of dollars)

Year ¹	All Sources	Property					
		Real	Personal	Poll	School	Road	Carriage
1852-53	340	--	8	16	45	2	--
1854-55	481	--	16	30	60	NA	--
1856-58	437	--	20	30	66	8	--
1858-60	438	8	38	31	68	NA	--
1860-62	423	17	68	33	56	NA	1
1862-64	451	19	68	32	59	NA	1
1864-66	587	20	81	31	57	NA	2
1866-68	732	22	87	30	58	54	2
1868-70	743	24	88	29	57	52	2
1870-72	819	52	104	28	55	52	3
1872-74	780	54	99	28	54	51	3
1874-76	756	59	102	27	54	51	4
1876-78	861	95	145	29	54	68	5
1878-80	1,239	144	199	35	67	65	6
1880-82	1,545	188	251	46	87	90	7
1882-84	1,903	223	276	53	100	103	9
1884-86	1,865	227	262	62	115	118	11
1886-88	2,045	252	300	63	120	121	12
1888-90	2,304	339	330	69	131	132	14
1890-92	2,668	359	341	79	152	152	15
1892-94	2,282	339	313	79	152	152	12
1894 (9 mo.)	986	167	152	39	75	75	4
1895	1,247	197	164	44	83	79	11
1896	1,491	241	210	47	89	84	12
1897	1,600	247	243	48	96	96	12
1898	1,851	268	267	50	99	99	12
1899	2,559	385	377	55	110	109	13

TABLE 25.4 (cont.)

Year ¹	Dog	Seamen's	Insurance	Inheritance	Tax Pen- alties	Licenses	Customs
1852-53	5	5	--	--	--	49	208
1854-55	15	7	--	--	--	73	279
1856-58	15	3	--	--	--	63	231
1858-60	14	4	--	--	--	63	213
1860-62	11	2	--	--	--	58	176
1862-64	10	2	--	--	--	57	202
1864-66	12	5	--	--	--	71	309
1866-68	13	10	--	--	--	82	373
1868-70	15	8	--	--	--	105	363
1870-72	22	6	--	--	--	99	396
1872-74	20	3	--	--	--	118	351
1874-76	19	3	--	--	--	90	347
1876-78	16	2	--	--	--	86	361
1878-80	15	1	--	--	--	123	583
1880-82	14	1	--	--	--	142	719
1882-84	14	2	2	--	--	178	945
1884-86	13	2	3	--	--	194	859
1886-88	12	--	6	--	--	227	932
1888-90	14	--	3	--	--	189	1,083
1890-92	14	--	4	--	--	197	1,356
1892-94	12	--	4	--	5	198	1,015
1894 (9 mo.)	5	--	2	1	4	79	383
1895	6	--	2	NA	7	107	547
1896	6	--	2	8	7	255	657
1897	7	--	1	4	10	143	709
1898	6	--	2	--	8	191	897
1899	6	--	3	4	10	191	1,296

1. Biennial periods ended December 31, 1853 and 1855; biennial periods ended March 31, 1858 to 1894, April 1 to December 31, 1894, and calendar years 1895 to 1899.

2. Less than \$500.

Source: Robert M. Kamins, The Tax System of Hawaii (University of Hawaii Press, 1952), pp. 160, 164, and 166 (for 1852-1897); Biennial Report of the Minister of Finance ... 1899, pp. 74, 79, and 91, and Report of the Minister of the Interior ... 1899, p. 6 (for 1898 and 1899).

TABLE 25.5 TAX REVENUES OF THE TERRITORY OF HAWAII, 1900 TO 1957
(Thousands of dollars)

Year Ended June 30	All Sources	Property		Income		Estate and Inheritance	Poll	Vehicle	Insurance
		Real	Personal	Corporate	Personal				
1900	2,629	383	378	--	--	4	346	13	3
1901	1,986	444	490	--	--	1	250	15	3
1902	1,808	533	571		287	6	231	16	4
1903	1,844	560	592		203	1	255	17	5
1904	1,835	619	608		171	2	241	18	5
1905	1,794	609	571		156	6	250	18	7
1906	2,697	961	929		323	6	244	40	9
1907	2,058	655	631		257	9	239	34	14
1908	2,114	640	635		266	21	245	34	14
1909	2,342	669	679		394	17	236	35	27
1910	2,894	710	720		814	150	249	41	20
1911	2,786	766	734	704		38	242	45	21
1912	3,212	893	822	830		188	243	51	25
1913	3,309	1,037	915	836		19	242	59	31
1914	2,963	1,068	869	435		31	286	69	30
1915	3,172	1,201	928	447		54	258	85	30
1916	3,991	1,378	1,093	749		171	266	105	33
1917	4,525	1,548	1,225	1,033		20	275	146	38
1918	5,330	1,968	1,511	973		77	279	199	49
1919	5,871	2,414	1,849	761		45	284	205	58
1920	7,547	2,939	2,433	882		407	284	260	64
1921	9,905	3,745	3,125	1,794		84	312	322	89
1922	9,970	4,196	3,247	1,517		88	375	35	87
1923	9,918	4,726	3,508	689		154	400	18	76
1924	11,491	5,284	3,771	1,537		63	423	14	74
1925	12,224	5,677	3,662	1,734		125	426	--	113
1926	13,028	6,525	3,839	1,439		166	418	--	102
1927	14,198	7,579	4,188	1,205		133	411	--	104
1928	15,048	8,075	4,279	1,328		215	421	--	117
1929	15,484	8,330	4,286	1,559		116	434	--	122

TABLE 25.5 (cont.)

Year Ended June 30	All Sources	Property		Income		Estate and Inheritance	Poll	Vehicle	Insurance
		Real	Personal	Corporate	Personal				
1930	16,110	8,626	4,453	1,591	401	175	445	--	123
1931	16,574	8,900	4,754	1,740		298	454	--	133
1932	15,554	8,031	4,414	1,380		213	446	--	89
1933	12,061	6,082	2,185	388	230	129	501	--	194
1934	12,764	5,094	1,358	1,051	175	199	473	--	137
1935	14,590	5,292	2,700	976	216	146	486	--	141
1936	17,532	5,525	2,741	1,510	366	149	515	--	162
1937	18,308	5,574	2,322	2,298	822	167	437	--	169
1938	21,695	5,734	2,862	1,873	783	210	653	--	194
1939	22,307	5,988	3,822	1,451	714	183	582	--	187
1940	24,429	6,040	3,395	1,315	715	118	618	--	229
1941	26,726	6,266	3,384	1,660	886	102	707	--	242
1942	28,590	6,243	3,486	2,202	1,335	161	700	--	226
1943	36,371	6,105	3,730	2,587	2,684	139	777	--	456
1944	40,015	6,474	4,019	2,670	1,610	370	119	--	434
1945	40,309	6,329	3,808	2,512	1,040	225	35	--	409
1946	43,605	6,763	3,836	2,292	1,064	549	35	--	504
1947	46,410	7,491	4,098	2,122	938	882	24	--	474
1948	62,268	8,680	1,166	3,239	1,485	295	21	--	476
1949	66,355	9,777	12	3,899	1,495	311	12	--	934
1950	64,964	10,874	7	3,441	1,381	290	--	--	705
1951	71,262	10,701	3	3,566	1,483	212	--	--	784
1952	76,683	11,151	2	4,459	1,679	300	--	--	839
1953	71,912	6,119	4	3,217	1,671	283	--	--	951
1954	82,916	15,821	1	3,099	1,683	376	--	--	1,020
1955	74,569	6,647	2 ²	3,113	1,827	205	--	--	1,012
1956	89,798	15,721	2	3,487	1,876	239	--	--	1,095
1957	87,977	6,604		4,162	2,113	427	--	--	1,229

TABLE 25.5 (cont.)

Year Ended June 30	Licenses	Public Utility	Bank Excise	General Excise	Compensation and Dividends	Fuel ¹	Liquor	Tobacco	Unemployment Compensation	Other Taxes
1900	197	--	--	--	--	--	--	--	--	1,306
1901	186	--	--	--	--	--	--	--	--	597
1902	147	--	--	--	--	--	--	--	--	12
1903	198	--	--	--	--	--	--	--	--	13
1904	159	--	--	--	--	--	--	--	--	16
1905	160	--	--	--	--	--	--	--	--	17
1906	171	--	--	--	--	--	--	--	--	14
1907	198	--	--	--	--	--	--	--	--	21
1908	240	--	--	--	--	--	--	--	--	18
1909	267	--	--	--	--	--	--	--	--	19
1910	173	--	--	--	--	--	--	--	--	17
1911	123	--	--	--	--	--	--	--	--	15
1912	44	--	--	--	--	--	--	--	--	15
1913	59	--	--	--	--	--	--	--	--	11
1914	47	--	--	--	--	--	--	--	--	50
1915	51	--	--	--	--	--	--	--	--	27
1916	51	--	--	--	--	--	--	--	--	33
1917	53	--	--	--	--	--	--	--	--	53
1918	52	--	--	--	--	--	--	--	--	59
1919	38	--	--	--	--	--	--	--	--	72
1920	19	--	--	--	--	--	--	--	--	90
1921	18	--	--	--	--	--	--	--	--	116
1922	24	--	--	--	--	--	--	--	--	124
1923	25	--	--	--	--	--	--	--	--	132
1924	24	--	--	--	--	--	--	--	--	43
1925	51	124	--	--	--	--	--	--	--	48
1926	30	142	--	--	--	--	--	--	--	63
1927	28	160	--	--	--	--	--	--	--	61
1928	30	159	--	--	--	--	--	--	--	70
1929	37	170	--	--	--	--	--	--	--	50

TABLE 25.5 (cont.)

Year Ended June 30	Licenses	Public Utility	Bank Excise	General Excise	Compensation and Dividends	Fuel ¹	Liquor	Tobacco	Unemployment Compensation	Other Taxes
1930	42	179	--	--	--	--	--	--	--	76
1931	37	183	--	--	--	--	--	--	--	76
1932	33	189	--	--	--	706	--	--	--	50
1933	36	312	--	--	--	955	--	--	--	47
1934	31	662	23	1,001	452	1,003	--	--	--	41
1935	32	684	44	2,065	496	1,036	--	--	--	45
1936	49	714	50	2,298	568	1,184	--	--	--	77
1937	34	748	50	3,921	705	1,316	--	--	--	8
1938	42	868	50	3,659	731	1,034	--	--	--	2
1939	39	900	50	3,865	672	2,034	--	1,792	1,809	7
1940	38	1,165	50	3,770	878	2,131	1	1,809	1,942	6
1941	36	1,034	50	4,943	878	2,375	375	229	1,942	5
1942	36	1,181	49	5,760	1,032	2,638	585	281	2,058	5
1943	34	1,391	50	6,922	1,240	1,554	683	362	2,204	5
1944	37	1,624	50	10,795	1,880	1,564	805	411	2,946	8
1945	39	1,811	50	10,964	6,327	1,557	1,455	418	1,859	27
1946	56	1,912	51	9,866	8,487	1,712	1,755	413	1,789	28
1947	70	1,792	87	11,298	8,639	2,317	1,990	453	1,818	28
1948	80	1,785	125	12,684	8,992	3,118	1,425	484	1,729	--
1949	89	1,939	125	25,096	9,982	5,252	1,631	567	2,387	--
1950	82	1,949	125	26,889	9,798	6,217	1,653	643	2,572	--
1951	73	2,008	149	25,977	9,040	5,981	1,668	945	2,499	--
1952	182	2,145	176	29,921	9,897	6,974	1,912	1,099	2,480	--
1953	192	2,277	178	31,163	10,702	8,459	1,934	1,120	2,474	--
1954	206	2,413	172	31,842	11,148	8,731	1,981	1,144	2,175	--
1955	215	2,389	175	32,622	11,720	8,438	1,990	1,116	2,239	--
1956	301	2,625	132	33,276	11,691	8,470	2,066	1,217	2,264	--
1957	350	3,003	218	35,288	12,338	10,929	2,101	1,264	2,401	--
				38,519	13,218	11,874	2,174	1,249	2,836	--

TABLE 25.5 (cont.)

1. Calendar year data for 1932-1941.

2. Less than \$500.

Source: Robert M. Kamins, The Tax System of Hawaii (University of Hawaii Press, 1952), pp. 173-176, and Hawaii's Revised Tax System (University of Hawaii, College of Business Administration, October 1957), pp. 39-41.

TABLE 25.6 STATE AND COUNTY TAX COLLECTIONS, 1934 TO 1976
(Thousands of dollars)

Year	State and County Total	Territorial and State Collections ¹							Net Personal Income	Corporate Income	Real Property ⁶	Personal ⁷ Property
		State ³ Total	General Excise ⁴	Compensation ⁵ and Dividends	Personal Income	Corporate Income	Real Property ⁶	Personal ⁷ Property				
1934	14,200	12,598	2,065	...	916	6,452						
1942	29,979	27,833	6,922	1,240	3,601	6,243	3,486					
1943	38,693	36,590	10,795	1,880	5,364	6,105	3,730					
1944	42,517	40,477	10,964	6,653	4,289	6,474	4,019					
1945	42,626	40,451	9,866	8,487	3,562	6,329	3,808					
1946	46,066	43,754	11,299	8,639	3,362	6,763	3,836					
1947	49,364	46,671	12,684	8,990	3,065	7,491	4,098					
1948	65,730	62,497	25,096	9,999	4,724	8,680	1,166					
1949	70,010	66,295	26,888	9,798		9,777	12					
1950	69,156	65,148	25,977	9,040		10,874	7					
1951	75,889	71,540	29,921	9,897		10,704	...					
1952	81,485	76,834	31,163	10,702		11,154	...					
1953	81,755	76,704	31,842	11,148		10,845	...					
1954	83,565	78,263	32,622	11,720		11,100	...					
1955	84,459	79,097	33,276	11,691		11,125	...					
1956	90,907	85,386	35,288	12,338		11,245	...					
1957	99,640	93,831	38,139	13,218		12,966	...					
1958	120,870	114,578	48,621	9,234		16,144	...					
1959	139,101	132,693	54,623	180		18,074	...					
1960	155,073	148,256	62,195	123		19,865	...					
1961	172,159	164,816	68,147	98		21,886	...					
1962	180,757	172,762	66,076	38		30,808	...					
1963	183,488	175,260	67,786	28		30,958	...					
1964	199,858	191,235	71,099	15		34,272	...					
1965	221,903	212,712	77,252	9		41,757	...					
1966	273,032	263,239	93,722	7		57,399	...					
1967	309,839	297,410	104,495	5		60,144	...					

TABLE 25.6 (cont.)

Year	State and County Total	Territorial and State Collections ¹						Net Personal Income	Corporate Income	Real Property	Personal ⁷ Property
		State ³ Total	General Excise ⁴	Compensation ⁵ and Dividends	Personal Income	Real Property	Personal ⁷ Property				
1968	338,054	324,323	114,460	3	70,309	11,196	63,705	...			
1969	395,498	379,881	137,236	5	86,496	13,749	70,296	...			
1970	454,378	438,397	162,904	2	105,016	14,578	75,839	...			
1971	497,606	480,690	178,030	1	116,231	12,876	87,893	...			
1972	530,117	512,047	186,556	...	120,061	11,766	98,265	...			
1973	591,792	571,689	210,926	...	134,931	12,888	105,845	...			
1974	672,325	650,855	244,555	...	151,734	18,166	121,864	...			
1975	765,284	743,926	287,479	...	168,670	31,505	128,670	...			
1976	876,035	850,639	309,903	...	184,916	32,862	153,788	...			

TABLE 25.6 (cont.)

Year	Territorial and State Collections ¹							County Collections ²		
	Fuel	Liquor	Tobacco	Insurance	Public Service Companies ⁸	Inheritance and Estate	Unemployment Compensation	County Total ⁹	Motor Vehicle Weight	
1934	1,003	...	...	137	662	199	452	1,603	...
1942	542	684	362	226	1,181	161	2,204	2,146	...	
1943	1,564	805	420	456	1,391	139	2,946	2,103	...	
1944	1,557	1,455	418	434	1,624	370	1,859	2,041	...	
1945	1,712	1,755	413	409	1,811	225	1,789	2,175	...	
1946	2,316	1,989	453	504	1,912	549	1,818	2,312	1,460	
1947	3,119	1,425	484	474	1,792	882	1,729	2,693	...	
1948	5,252	1,631	567	476	1,785	295	2,387	3,233	2,147	
1949	5,943	1,653	643	934	1,939	311	2,572	3,715	2,549	
1950	5,981	1,668	945	705	1,949	290	2,499	4,009	2,767	
1951	6,974	1,912	1,099	784	2,008	212	2,480	4,349	2,928	
1952	8,459	1,934	1,120	839	2,145	300	2,474	4,651	3,192	
1953	8,731	1,981	1,144	951	2,277	283	2,175	5,051	3,396	
1954	8,438	1,990	1,116	1,020	2,413	376	2,239	5,303	3,507	
1955	8,470	2,066	1,217	1,012	2,389	205	2,264	5,362	3,582	
1956	10,929	2,101	1,264	1,095	2,625	239	2,401	5,521	3,733	
1957	11,874	2,174	1,249	1,229	3,003	427	2,836	5,809	3,913	
1958	12,323	2,750	1,698	1,383	3,382	339	3,104	6,292	4,110	
1959	13,176	3,003	1,823	1,683	3,766	670	3,496	6,408	4,207	
1960	14,579	3,232	1,971	1,883	4,026	587	4,485	6,817	4,397	
1961	16,430	3,519	2,248	2,213	4,645	1,060	5,334	7,343	4,694	
1962	17,252	3,607	2,347	2,174	5,279	1,075	5,142	7,994	5,078	
1963	15,241	3,644	2,370	2,674	5,708	1,730	6,044	8,228	5,226	
1964	16,058	3,816	2,356	2,755	7,262	1,165	9,374	8,623	5,454	
1965	17,058	4,183	2,609	2,795	7,613	1,077	10,618	9,190	5,743	
1966	18,455	5,405	3,719	3,812	8,985	1,446	10,873	9,793	6,034	
1967	20,317	5,797	4,669	3,932	8,964	1,592	10,769	12,429	8,545	

TABLE 25.6 (cont.)

Year	Territorial and State Collections ¹							County Collections ²		
	Fuel	Liquor	Tobacco	Insurance	Public Service Companies ⁸	Inheritance and Estate	Unemployment Compensation	County Total ⁹	Motor Vehicle Weight	
1968	21,911	6,291	4,973	5,147	10,545	1,606	11,461	13,731	8,777	
1969	23,917	7,025	5,398	5,229	10,841	3,413	13,325	15,617	9,173	
1970	26,181	7,482	5,803	6,096	14,105	2,324	14,246	15,981	10,070	
1971	27,260	8,385	6,438	7,317	13,620	4,428	14,018	16,916	10,451	
1972	28,347	9,426	6,527	8,278	15,661	3,635	18,294	18,070	10,970	
1973	29,787	10,229	7,143	9,150	18,335	2,100	24,008	20,104	11,698	
1974	29,649	11,414	8,305	9,534	21,167	2,661	25,168	21,470	12,488	
1975	31,639	12,783	8,706	9,886	24,668	3,479	30,137	21,358	11,713	
1976	41,547	15,010	9,574	16,082	28,583	3,254	48,967	25,396	12,447	

1. Fiscal years ended June 30.

2. Previous calendar year for City and County of Honolulu through 1961 and Hawaii, Kauai, and Maui Counties through 1966; fiscal years ended June 30 for City and County of Honolulu beginning in 1962 and Hawaii, Kauai, and Maui Counties beginning in 1967.

3. Includes miscellaneous taxes not listed separately (banks and other financial corporations, licenses, permits, and others). Reduced by natural disaster refunds and credits beginning in 1963.

4. Includes business excise tax (repealed in 1935) and consumption and compensating taxes (later designated use tax).

5. Repealed in 1958. Includes public welfare tax (repealed in 1943). Collections after 1958 are for delinquent taxes.

6. Data for 1954, 1956, 1958, 1961, 1967, and 1968 are adjusted for delayed collections due the previous year.

7. Repealed in 1948; collections after 1948 are for delinquent taxes.

8. Formerly public utility tax.

9. Includes liquor licenses and fees, utility franchise, licenses, permits, and other, not shown separately.

Source: Chamber of Commerce of Honolulu, Tax Study Committee, Government in Hawaii for 1951 (pp. 7 and 11) and 1953 (p. 14), and Committee on Legislation, Facts and Faces, 4th ed. (1955), p. 17; Tax Foundation of Hawaii, A Compendium of Governmental Finances in Hawaii, 1949-1968 (Nov. 1969), pp. 30-31, and Government in Hawaii

(annual, for 1957, 1959, and 1970-1977).

TABLE 25.7 FEDERAL TAX COLLECTIONS, 1900 TO 1976
(Thousands of dollars. For fiscal years ended June 30.)

Year	Amount ¹	Year	Amount ¹	Year	Amount ¹	Year	Amount ¹
1901 ²	109	1911	219	1921	20,680	1931	4,816
1902	70	1912	266	1922	15,515	1932	3,786
1903	40	1913	241	1923	4,148	1933	3,067
1904	45	1914	247	1924	5,797	1934	5,747
1905	44	1915	435	1925	5,750	1935	5,692
1906	43	1916	694	1926	6,797	1936	8,034
1907	48	1917	1,535	1927	5,331	1937	11,726
1908	57	1918	9,687	1928	6,244	1938	14,395
1909	79	1919	5,832	1929	5,607	1939	11,894
1910	209	1920	11,930	1930	5,516	1940	9,875

Collections by Source ¹				
Year	Total	Individual Income ³	Corporate Income ⁴	All Other Taxes ⁵
1941	13,991	3,973	5,085	4,933
1942	32,417	11,274	12,852	8,291
1943	76,482	35,572	27,885	13,025
1944	150,781	91,313	41,827	17,641
1945	173,999	107,247	42,544	24,208
1946	141,554	85,783	34,913	20,858
1947	106,314	68,569	23,097	14,649
1948	108,178	75,179	17,894	15,105
1949	91,203	61,452	19,824	9,927
1950	81,401	54,061	18,216	9,124
1951	98,023	65,872	23,525	8,626
1952	134,996	88,436	35,614	10,946
1953	136,319	95,757	30,214	10,348
1954	136,175	95,394	30,991	9,790
1955	126,340	91,630	26,957	7,753
1956	140,693	100,847	30,846	9,000
1957	154,274	110,947	33,621	9,706
1958	166,306	122,838	33,764	9,704

Collections by Source ¹				
Year	Total	Individual Income ³	Corporate Income ⁴	All Other Taxes ⁵
1959	175,176	132,024	30,730	12,422
1960	216,939	162,086	41,486	13,367
1961	242,358	185,655	42,657	14,046
1962	272,265	202,043	53,909	16,313
1963	271,153	213,348	39,544	18,261
1964	293,453	225,116	52,416	15,921
1965	290,164	218,295	53,039	18,830
1966	323,614	240,711	63,323	19,580
1967	342,842	265,903	59,019	17,920
1968	440,237	366,171	53,611	20,455
1969	526,624	410,939	81,138	34,547
1970	602,998	490,710	84,519	27,769
1971	608,051	507,062	74,022	26,967
1972	632,583	532,391	65,715	34,477
1973	735,359	615,636	86,199	33,524
1974	840,089	710,004	96,814	33,271
1975	1,087,520	812,775	244,506	30,239
1976	945,899	783,504	130,719	31,676

TABLE 25.7 (cont.)

1. Internal revenue only.
 2. Includes data for June 14-30, 1900 (\$7 thousand) as well as fiscal 1901 (\$102 thousand).
 3. Data for 1949 and later years include employment taxes. On 1941-1948 basis, 1949 amount was \$57,485 thousand.
 4. Data for 1949 and later years include excess profits. On 1941-1948 basis, 1949 amount was \$19,824 thousand.
 5. Admissions, manufacturing excise, retailing excise, alcohol, communications, transportation, estate, gift, tobacco, unemployment insurance, and others. On 1941-1948 basis, 1949 amount was \$13,894 thousand.
- Source: U.S. Treasury Department, Internal Revenue Service, data for 1900-1940 supplied May 27, 1963; Chamber of Commerce of Honolulu, Tax Study Committee, Government in Hawaii, 1951, p. 9; Tax Foundation of Hawaii, A Compendium of Government Finances in Hawaii, 1949-1968, pp. 32-33, and Government in Hawaii (annual, for 1970-1977).

TABLE 25.8 TOTAL TAX COLLECTIONS RELATIVE TO POPULATION, 1852 TO 1976, AND PERSONAL INCOME, 1939 TO 1976

Year	Total Collections ¹ (\$1,000)	Per Capita Collections ² (dollars)	Year	Total Collections ¹ (\$1,000)	Per Capita Collections ² (dollars)	Collections as Percent of Personal Income ³
1852-1853	170	2	1911	3,005	15	...
1854-1855	240	3	1912	3,478	17	...
1856-1858	218	3	1913	3,550	16	...
1858-1860	219	3	1914	3,210	14	...
1860-1862	212	3	1915	3,607	16	...
1862-1864	226	3	1916	4,685	20	...
1864-1866	294	5	1917	6,060	24	...
1866-1868	366	6	1918	15,017	59	...
1868-1870	372	6	1919	11,703	45	...
1870-1872	410	7	1920	19,477	75	...
1872-1874	390	7	1921	30,585	113	...
1874-1876	378	7	1922	25,485	90	...
1876-1878	430	8	1923	14,066	47	...
1878-1880	620	10	1924	17,288	56	...
1880-1882	772	11	1925	17,974	55	...
1882-1884	952	13	1926	19,825	60	...
1884-1886	932	11	1927	19,529	58	...
1886-1888	1,022	12	1928	21,292	61	...
1888-1890	1,152	13	1929	21,091	59	...
1890-1892	1,334	14	1930	21,626	59	...
1892-1894	1,141	12	1931	21,390	57	...
1894	1,315	13	1932	19,340	50	...
1895	1,247	12	1933	15,128	39	...
1896	1,491	14	1934	18,511	48	...
1897	1,600	14	1935	20,282	52	...
1898	1,851	15	1936	25,566	65	...
1899	2,559	19	1937	30,034	75	...
1900	2,636	17	1938	36,090	88	...
1901	2,088	13	1939	34,201	82	15.7
1902	1,878	12	1940	34,304	80	13.9
1903	1,884	12	1941 ⁴	40,717	89	11.9
1904	1,880	11	1942 ⁴	60,250	104	9.8
1905	1,838	11				
1906	2,740	16	1942 ⁵	62,396	107	10.2
1907	2,106	12	1943	115,175	177	14.8
1908	2,171	12	1944	193,299	225	18.8
1909	2,421	13	1945	216,625	266	21.5
1910	3,103	16	1946	187,620	344	26.1

TABLE 25.8 (cont.)

Year	Total Collections ¹ (\$1,000)	Per Capita Collections ² (dollars)	Collections as Percent of Personal Income ³
1947	155,678	296	21.6
1948	173,908	336	24.1
1949	161,213	315	23.5
1950	150,558	302	21.8
1951	173,912	338	21.9
1952	216,481	418	25.0
1953	218,074	428	24.3
1954	219,741	435	24.2
1955	210,799	391	21.7
1956	231,600	415	22.3
1957	253,914	434	22.8
1958	287,176	474	24.3
1959	314,277	505	23.9
1960	372,012	580	25.2
1961	414,517	629	26.0
1962	453,021	663	27.0
1963	454,641	666	25.7
1964	493,311	705	25.9
1965	512,066	728	25.3
1966	596,646	840	26.8
1967	652,681	903	26.7
1968	778,291	1,060	28.5
1969	922,122	1,229	29.9
1970	1,057,376	1,366	30.0
1971	1,105,657	1,386	29.3
1972	1,162,700	1,416	28.2
1973	1,327,151	1,572	28.7
1974	1,512,414	1,771	29.8
1975	1,852,804	2,134	32.7
1976	1,821,934	2,055	29.9

1. Annual averages for biennial periods ended December 31, 1853 and 1855, and March 31, 1858 to 1894; nine-month period ended December 31, 1894 (annual basis); calendar years 1895 to 1899; and fiscal years ended June 30, 1900 and thereafter (except county data, based on previous calendar years for Oahu, 1942-1961, and other islands, 1942-1966). Excludes county collections prior to 1942. Federal data limited to internal revenue collections.

2. Based on total resident population for middle of period through 1899 and end of period thereafter; per capita income for fiscal 1972, for example, is based on the population estimates for July 1, 1972.

3. Based on income estimates for calendar years.

4. Excludes county collections and is thus comparable to earlier years.

5. Includes county collections and is thus comparable to later years.

Source: Computed from present volume, tables 1.3, 1.4, 6.3, 25.4, 25.5, 25.6, and 25.7.

TABLE 25.9 STATE REVENUE RECEIPTS (GENERAL AND SPECIAL FUNDS), 1949 TO 1976
(Thousands of dollars. For fiscal years ended June 30.)

Year	Tax Receipts							Unemployment Compensation	Other Taxes and Licenses ⁴
	All Receipts ¹	All Tax Receipts	General Excise	Specific Excises ³	Individual Income	Corporate Income			
1949	66,398	45,448	17,829	9,355		12,245		2,566	3,453
1950	67,308	43,972	17,474	9,659		13,856		2,496	484
1951	71,641	49,236	19,863	11,576		14,941		2,476	380
1952	74,045	52,765	20,679	12,314	12,524	4,313		2,469	465
1953	79,776	52,523	21,088	12,770	12,886	3,148		2,173	458
1954	84,995	53,482	21,591	12,603	13,462	3,039		2,218	567
1955	85,183	54,052	22,042	12,719	13,575	3,055		2,261	400
1956	92,386	58,659	23,363	14,513	14,259	3,442		2,397	694
1957	100,388	63,969	25,141	15,589	15,398	4,098		2,832	911
1958	119,235	80,268	34,753	17,242	19,482	4,616		3,099	1,076
1959	153,002	95,206	39,787	18,879	25,803	5,659		3,489	1,589
1960	171,005	106,652	45,352	20,969	28,778	5,650		4,478	1,429
1961	195,583	118,582	49,567	23,499	32,150	5,827		5,318	2,222
1962	204,789	118,185	47,246	26,000	30,382	7,303		5,079	2,176
1963	213,090	119,348	48,373	24,328	31,571	6,102		6,035	2,939
1964	229,216	130,341	50,392	26,585	34,680	7,053		9,368	2,264
1965	243,958	141,462	54,033	28,240	38,551	7,567		10,611	2,461
1966	326,999	199,336	93,648	34,241	47,350	9,951		10,864	3,283
1967	385,588	230,289	104,460	37,171	63,512	10,525		10,751	3,870
1968	418,103	253,499	114,518	42,021	70,312	11,196		11,449	4,002
1969	497,425	301,757	137,234	44,939	86,501	13,749		13,311	6,024
1970	577,643	354,045	162,857	51,595	105,019	14,578		14,224	5,763
1971	630,598	383,668	178,048	54,328	116,233	12,876		13,992	8,191
1972	689,958	404,513	186,573	59,471	120,063	11,764		18,234	8,408
1973	781,430	455,734	210,912	65,148	134,930	12,889		23,938	7,916
1974	895,314	518,928	244,599	70,646	151,734	18,166		25,069	8,713
1975	1,032,196	604,794	287,488	77,957	168,670	31,505		30,082	9,093
1976	1,214,900	686,151	309,885	100,975	184,916	32,862		48,936	8,577

TABLE 25.9 (cont.)

Year	Fees, Fines, Escheats	Federal Grants	Rents, Royalties, Land Income	Departmental Earnings	Public Service Company Earnings	Repayment of Advances	Repayment of County Debt Costs	Interest Earned	Other Receipts ²
1949	36	12,335	1,347	2,218	1,473	734	365	758	1,683
1950	69	13,769	1,303	3,356	1,733	227	355	712	1,809
1951	37	12,491	1,514	2,392	2,282	293	531	694	2,170
1952	62	11,803	1,635	2,867	1,917	345	516	699	1,436
1953	79	16,363	1,881	3,151	2,238	354	800	741	1,647
1954	33	20,025	2,016	3,352	2,273	432	1,226	720	1,436
1955	63	18,615	1,934	3,542	2,368	400	1,349	699	2,160
1956	68	19,767	2,005	3,772	2,465	500	1,629	875	2,637
1957	36	20,136	2,498	3,926	2,745	621	1,497	1,521	3,448
1958	70	21,930	2,277	4,525	2,695	968	2,194	1,538	2,771
1959	64	37,645	2,290	4,887	2,963	1,993	1,986	1,812	4,155
1960	19	42,776	2,391	5,481	3,152	1,579	3,061	2,638	3,256
1961	33	46,510	1,354	5,344	3,562	1,359	3,934	4,002	10,903
1962	126	53,511	4,996	5,946	3,369	1,744	3,767	3,046	10,100
1963	149	59,556	2,778	6,057	5,202	2,653	3,773	2,792	10,782
1964	162	58,366	3,205	8,600	6,483	3,311	3,697	3,049	12,003
1965	193	58,563	3,202	10,553	6,649	3,162	3,759	3,796	11,621
1966	1,545	76,874	3,068	14,443	7,853	3,137	3,782	4,719	12,242
1967	1,771	103,198	3,313	14,387	7,926	2,360	3,558	4,441	14,345
1968	1,770	104,557	3,682	21,245	10,476	3,100	3,478	4,592	11,703
1969	2,027	123,171	4,379	20,143	14,294	8,309	3,406	7,526	12,413
1970	2,175	139,412	4,459	29,002	15,865	4,413	3,311	10,349	14,611
1971	2,560	147,193	5,421	34,788	23,860	2,923	2,946	11,921	15,318
1972	3,030	178,639	5,437	39,595	26,622	3,568	2,795	9,802	15,958
1973	3,287	200,660	5,700	40,397	31,983	7,749	2,124	13,945	19,851
1974	3,802	224,789	5,954	46,923	36,894	11,348	2,214	23,334	21,128
1975	4,405	256,370	9,095	55,266	37,792	18,875	2,089	22,383	21,128
1976	5,535	326,327	7,930	67,481	46,400	32,715	1,856	18,571	21,933

TABLE 25.9 (cont.)

1. Excludes transfers and payments except as shown.
2. Includes revenues from other agencies, real property sales, sale of investments, public school cafeteria sales, and miscellaneous nontax revenues.
3. Public utility, tobacco, liquor, insurance, and fuel taxes.
4. Franchise, inheritance and estate, and conveyance taxes, and business and nonbusiness licenses and permits. Total for 1949 includes delinquent taxes and a portion of the compensation and dividends tax, credited to the special funds; after 1949 these items are credited to the appropriate categories in the general fund.

Source: Tax Foundation of Hawaii, A Compendium of Governmental Finances in Hawaii, 1949-1968 (November 1969), pp. 22-23, and Government in Hawaii (annual, 1970-1977).

TABLE 25.10 COUNTY OPERATING REVENUES, 1941 TO 1976
(Thousands of dollars)

Year	All Counties	City and County of Honolulu ¹	County of Hawaii ²	County of Kauai ²	County of Maui ²
1941 ³	13,959	...	...	...	...
1942 ³	13,370	...	...	...	...
1943 ³	16,275	...	...	...	...
1944 ³	17,881	...	...	...	...
1945 ³	19,653	...	...	...	...
1946 ³	20,014	...	...	...	...
1947 ³	26,903	...	...	...	...
1948 ³	27,056	...	...	...	...
1949 ³	29,889	...	...	...	...
1949 ⁴	29,586	18,177	5,447	2,208	3,753
1950	30,388	19,137	5,128	2,326	3,797
1951	33,472	20,636	5,882	2,502	4,452
1952	36,201	22,474	6,283	2,693	4,751
1953	37,830	23,644	6,515	2,916	4,755
1954	37,603	23,394	6,493	2,908	4,808
1955	39,751	25,109	6,841	2,990	4,811
1956	44,105	28,258	7,028	3,424	5,395
1957	49,829	33,142	7,435	3,489	5,763
1958	55,488	38,105	7,875	3,543	5,965
1959	62,535	41,091	9,551	4,601	7,292
1960	70,454	47,956	10,588	4,436	7,474
1961 ⁵	53,658	29,019	12,278	4,581	7,780
1962	81,118	56,648	11,184	5,025	8,261
1963	91,278	63,785	14,018	5,010	8,465
1964	91,695	63,721	13,285	5,310	9,379
1965 ⁶	103,419	71,750	16,485	5,333	9,851
1966 ⁶	90,906	77,743	6,668	2,461	4,034
1967	109,203	84,207	11,584	5,627	7,785
1968	113,019	87,957	11,883	5,470	7,709
1969	127,676	98,282	13,631	6,221	9,542
1970	144,448	111,871	15,458	6,993	10,126
1971	161,240	122,424	19,087	8,300	11,429
1972	186,080	145,720	19,012	8,302	13,046
1973	205,271	155,864	24,704	9,726	14,977
1974	235,722	176,488	26,565	11,827	20,842
1975	259,310	189,212	29,515	12,865	27,718
1976	333,075	249,256	35,261	14,607	33,951

TABLE 25.10 (cont.)

1. Calendar years through 1960, six-month period ended June 30, 1961, and fiscal years ended June 30, 1962 forward.

2. Calendar years through 1965, six-month period ended June 30, 1966, and fiscal years ended June 30, 1967 forward.

3. "County revenue receipts," not exactly comparable to data for 1950 and later years. Distribution by county not reported in source.

4. "County operating revenues," comparable to data for later years but not to preceding years.

5. Six-month period for the City and County of Honolulu.

6. Six-month period for the Counties of Hawaii, Kauai, and Maui.

Source: Tax Foundation of Hawaii, A Compendium of Governmental Finances in Hawaii, 1949-1968 (November 1969), pp. 36-44, and Government in Hawaii for 1951 (p. 20) and 1970-1977 (annually).

TABLE 25.11 STATE OPERATING EXPENDITURES, 1949 TO 1976
(Thousands of dollars. For fiscal years ended June 30.)

Year	All State Operating Expenditures	General Government		Police and Fire	Other Protection	Highways	Natural Resources	Health and Sanitation
		Control	Staff					
1949	66,263	1,600	2,363	31	4,712	7,080	1,472	2,415
1950	74,316	1,678	2,293	38	6,807	8,482	1,517	2,287
1951	74,435	1,822	2,457	50	6,243	8,274	1,729	2,330
1952	75,272	1,243	2,393	109	6,343	10,707	1,808	2,328
1953	81,855	1,474	3,975	230	7,084	9,658	1,903	2,302
1954	89,054	1,362	3,529	137	7,232	8,975	2,537	3,482
1955	92,257	1,808	3,652	134	7,675	8,348	2,655	3,496
1956	94,668	1,288	3,610	139	8,395	8,930	2,872	3,514
1957	102,278	2,151	4,044	157	9,090	9,810	3,657	3,867
1958	110,748	1,562	4,321	149	8,523	9,306	3,848	3,196
1959	140,024	2,829	5,263	152	21,672	13,085	4,078	3,312
1960	160,943	4,303	6,494	162	22,475	12,321	4,669	5,134
1961	188,891	3,964	7,779	160	24,775	11,130	8,620	4,020
1962	216,932	3,578	9,324	189	24,185	15,612	10,591	4,133
1963	233,979	4,339	9,751	205	22,279	15,369	10,191	4,278
1964	227,148	3,593	9,085	67	22,933	14,770	9,384	4,360
1965	229,016	4,442	9,940	64	16,107	17,686	8,910	4,497
1966	303,588	5,543	9,859	73	18,578	23,712	11,740	5,484
1967	382,946	6,438	11,998	78	19,954	41,580	13,740	6,256
1968	416,453	6,735	16,584	81	20,273	36,223	13,963	6,899
1969	480,625	9,630	21,686	86	19,836	45,013	15,231	7,406
1970	570,214	10,326	20,512	121	24,690	11,890	14,589	8,568
1971	685,058	11,576	26,285	141	23,440	14,946	19,608	10,939
1972	762,413	12,414	24,980	242	26,050	9,840	15,344	12,464
1973	783,166	12,072	26,828	365	29,206	15,673	15,801	11,518
1974	898,884	12,828	29,150	219	34,973	16,166	10,564	16,904
1975	1,071,523	15,383	37,774	247	41,283	19,279	13,867	19,798
1976	1,283,471	19,050	58,545	184	46,737	25,908	15,409	19,702

TABLE 25.11 (cont.)

Year	Hospitals and Institutions		Public Welfare	University of Hawaii	Public Schools	Library and Other Education		Recreation	Utilities and Other Enterprises	Interest ²	Bond Redemption ²
	Hospitals and Institutions	Public Welfare				Library and Other Education	Recreation				
1949	6,756	7,733	3,901	14,058	738	239	2,669	292	811		
1950	7,030	9,677	3,550	14,481	708	294	2,375	327	811		
1951	7,786	9,943	4,002	15,210	657	342	3,434	571	811		
1952	7,695	8,932	3,853	16,270	905	160	2,379	729	764		
1953	7,583	8,726	4,921	17,363	599	117	4,133	881	1,594		
1954	7,633	6,888	4,177	23,085	599	219	2,791	912	2,372		
1955	8,454	7,970	4,330	23,845	782	533	2,864	1,007	2,977		
1956	7,885	7,945	4,744	25,681	669	168	4,690	1,149	2,964		
1957	8,297	7,892	5,261	27,290	721	168	3,832	1,681	3,275		
1958	8,737	9,144	6,235	30,763	957	181	3,835	2,420	3,279		
1959	9,177	9,531	6,986	33,674	1,008	293	5,561	2,694	3,900		
1960	9,752	8,571	9,796	39,136	1,241	1,183	9,343	3,628	5,267		
1961	11,348	9,979	13,097	51,282	1,665	1,103	8,617	3,480	6,072		
1962	12,201	11,818	20,470	51,241	2,043	1,533	9,108	3,313	7,537		
1963	13,960	13,083	28,105	55,196	2,442	2,124	9,248	3,829	7,537		
1964	12,433	14,804	26,887	55,267	1,948	505	9,379	4,403	7,537		
1965	11,952	14,931	28,500	59,475	1,882	478	7,977	5,617	8,648		
1966	17,178	20,125	38,576	85,382	2,287	439	7,621	6,411	9,224		
1967	17,895	24,180	52,616	107,855	3,412	773	9,738	6,763	11,809		
1968	18,628	31,436	63,007	104,684	3,945	2,084	15,627	7,764	13,634		
1969	20,930	37,615	72,842	119,301	3,796	2,174	21,542	10,026	15,434		
1970	27,019	48,796	76,550	134,534	6,779	1,346	18,642	12,290	15,868		
1971	39,941	65,683	90,723	160,896	7,982	1,699	26,112	15,559	18,949		
1972	40,348	91,343	107,178	165,072	7,442	1,581	24,580	42,541			
1973	43,326	106,856	109,146	160,410	7,338	3,573	35,590	48,674			
1974	42,131	118,154	115,539	182,470	8,367	4,351	39,240	62,583			
1975	48,938	133,529	126,528	198,978	8,621	4,294	45,379	72,260			
1976	57,707	167,998	147,613	218,376	11,475	7,987	51,605	92,486			

TABLE 25.11 (cont.)

Year	Retirement and Pension	Health and Hospital Insurance	Salary Adjustment ³	Unemployment Compensation	Grants-in-Aid to Counties	Urban Redevelopment and Housing	Miscellaneous	Cash Capital Improvements
1949	2,630	--	NA	3,022	--	--	3,745	--
1950	3,194	--	NA	5,470	--	--	3,393	--
1951	3,314	--	NA	2,778	--	--	2,682	--
1952	3,029	--	NA	2,545	--	--	3,078	--
1953	3,470	--	NA	3,546	--	--	2,296	--
1954	3,411	--	NA	4,745	--	--	4,966	--
1955	3,827	--	NA	4,616	--	--	3,284	--
1956	1,860	--	685	4,547	--	--	2,931	--
1957	1,956	--	--	4,241	--	--	4,890	--
1958	6,418	--	--	5,077	--	--	2,798	--
1959	7,654	--	--	4,921	--	--	4,234	--
1960	6,511	--	2,788	5,881	--	1,832	455	--
1961	5,938	--	--	8,556	--	2,998	4,308	--
1962	9,471	--	--	16,554	--	2,272	1,759	--
1963	8,724	--	1,713	13,807	--	4,334	1,705	--
1964	10,505	1,760	262	12,887	--	3,509	725	--
1965	10,529	1,905	--	10,983	--	3,220	1,137	--
1966	11,139	2,041	2,514	10,703	9,363	4,216	1,480	--
1967	13,352	1,941	--	14,770	10,507	3,474	3,298	--
1968	18,887	2,461	--	13,761	11,427	2,944	4,301	--
1969	22,528	3,566	--	12,098	12,442	2,994	3,436	--
1970	23,581	4,579	4,854	17,377	13,607	2,861	5,113	65,431
1971	24,356	4,870	2,518	32,978	16,345	5,051	6,355	56,174
1972	34,428	6,804	5	48,970	19,448	5,187	6,998	58,348
1973	34,772	7,610	--	42,651	15,767	3,744	5,944	47,551
1974	47,096	6,362	--	45,240	19,448	12,594	11,472	61,265
1975	43,761	8,131	--	55,611	19,448	74,183	13,205	70,230
1976	47,898	8,927	--	109,080	18,248	55,069	15,062	89,661
		7,672	--					

1. General and special fund expenditures. Interfund transfers have been eliminated to avoid duplication. Prior to 1970, cash capital improvements were allocated by function.
2. Debt service charges reimbursable from highway funds included in "highways"; from airport funds, in "utilities"; and from Sand Island receipts, land revolving, and veterans' home loan funds, in "miscellaneous."
3. Amounts not allocated to specific functions.

Source: Tax Foundation of Hawaii, A Compendium of Governmental Finances in Hawaii, 1949-1968 (November 1969), pp. 46-47, and Government in Hawaii (annual, 1971 to 1977).

TABLE 25.12 COUNTY OPERATING EXPENDITURES, 1941 TO 1976
(Thousands of dollars)

Year	All Counties	City and County of Honolulu ¹	County of Hawaii ²	County of Kauai ²	County of Maui ²
1941 ³	11,967	...	...	...	...
1942 ³	11,802	...	...	...	...
1943 ³	14,165	...	...	...	...
1944 ³	18,196	...	...	...	...
1945 ³	18,932	...	...	...	...
1946 ³	21,068	...	...	...	...
1947 ³	25,583	...	...	...	...
1948 ³	34,892	...	...	...	...
1949 ³	32,835	...	...	...	...
1949 ⁴	29,453	17,585	5,741	2,351	3,776
1950	32,036	19,778	6,020	2,434	3,804
1951	33,699	20,783	6,091	2,450	4,374
1952	35,680	21,877	6,566	2,682	4,555
1953	40,532	25,726	6,702	3,038	5,067
1954	40,259	25,574	6,691	3,024	4,971
1955	41,676	27,194	6,654	3,095	4,733
1956	44,259	28,090	7,359	3,464	5,346
1957	47,189	30,848	7,211	3,349	5,782
1958	55,262	37,282	7,942	3,866	6,173
1959	59,606	38,601	9,412	4,641	6,951
1960	69,416	47,992	9,550	4,328	7,546
1961 ⁵	48,427	23,478	12,704	4,574	7,671
1962	74,776	50,273	11,138	5,128	8,237
1963	79,929	53,539	12,708	4,980	8,702
1964	91,834	63,057	14,182	5,076	9,519
1965 ⁶	98,868	68,859	15,376	5,108	9,525
1966 ⁶	86,355	72,865	7,277	2,969	3,244
1967	103,405	77,637	13,003	5,085	7,680
1968	110,401	84,531	11,981	5,630	8,260
1969	125,887	96,351	13,562	6,333	9,641
1970	136,610	105,893	13,969	6,936	9,812
1971	160,862	125,709	15,680	7,625	11,849
1972	174,043	132,461	17,290	8,272	16,019
1973	184,678	141,166	21,063	9,053	13,396
1974	221,064	170,263	23,516	10,914	16,370
1975	259,674	195,818	29,523	12,324	22,009
1976	327,750	250,648	36,488	14,994	25,620

TABLE 25.12 (cont.)

1. Calendar years through 1960, six-month period ended June 30, 1961, and fiscal years ended June 30, 1962 forward.

2. Calendar years through 1965, six-month period ended June 30, 1966, and fiscal years ended June 30, 1967 forward.

3. "County government cost payments," not exactly comparable to data for 1950 and later years. Distribution by county not reported in source.

4. "County operating expenditures," comparable to data for later years but not to preceding years.

5. Six-month period for the City and County of Honolulu.

6. Six-month period for the Counties of Hawaii, Kauai, and Maui.

Source: Tax Foundation of Hawaii, A Compendium of Governmental Finances in Hawaii, 1949-1968 (November 1969), pp. 48-55, and Government in Hawaii for 1951 (p. 31) and 1970-1977 (annually).

TABLE 25.13 FUNDED DEBT, 1856 TO 1976
(Thousands of dollars)

Year ¹	Funded Debt ²	Year ¹	Funded Debt ²	Net Debt ³	Year ¹	Funded Debt ²	Net Debt ³
1856	22	1909	3,959	...	1945	26,278	11,897
1858	61	1910	4,079	...	1946	14,737	8,994
1860	109	1911	4,004	...	1947	10,996	7,760
1862	188	1912	5,454	...	1948	9,425	7,750
1864	167	1913	6,845	...	1949	8,044	6,960
1866	183	1914	6,844	...	1950	19,693	19,152
1868	121	1915	7,876	...	1951	32,582	32,145
1870	127	1916	8,913	...	1952	42,818	41,782
1872	178	1917	7,874	...	1953	41,224	40,135
1874	355	1918	8,749	...	1954	44,352	42,651
1876	459	1919	9,194	...	1955	47,875	46,508
1878	445	1920	10,894	...	1956	59,911	58,076
1880	389	1921	12,603	...	1957	82,636	81,182
1882	299	1922	14,649	...	1958	94,357	92,008
1884	899	1923	14,515	...	1959	116,957	114,791
1886	1,066	1924	18,585	...	1960	111,690	109,192
1888	1,934	1925	17,990	...	1961	105,618	102,158
1890	1,934	1926	22,021	20,861	1962	118,081	114,621
1892	2,314	1927	24,210	22,564	1963	120,544	117,084
1894	2,694	1928	28,585	26,154	1964	169,935	166,477
		1929	29,760	26,707	1965	194,287	191,094
1894	2,834	1930	31,705	27,954	1966	209,063	205,430
1895	3,585	1931	32,000	27,570	1967	217,255	213,622
1896	4,136	1932	32,405	27,161	1968	261,771	258,141
1897	4,489	1933	32,232	26,194	1969	325,837	322,632
1898	3,786	1934	32,075	25,131	1970	342,329	339,413
1899	4,214	1935	31,753	24,013	1971	434,895	432,299
1900	4,226	1936	33,153	24,732	1972	522,918	520,809
1901	940	1937	33,315	23,939	1973	689,764	687,501
1902	1,094	1938	36,342	26,456	1974	770,325	767,504
1903	2,185	1939	39,046	28,511	1975	810,021	807,625
1904	3,317	1940	38,288	27,335	1976	1,039,744	1,038,322
1905	3,861	1941	36,539	24,956			
1906	3,818	1942	34,201	23,351			
1907	3,718	1943	31,760	21,492			
1908	3,979	1944	29,019	19,733			

TABLE 25.13 (cont.)

1. Date unspecified, 1856 and 1858; March 31, 1860 to 1894; December 31, 1894 to 1899; date unspecified, 1900 to 1907; and June 30, 1908 and thereafter.

2. Total public debt, 1856-1886; bonded debt, 1888-1899; public debt, 1900-1907; bonded indebtedness outstanding, 1908-1931; funded debt, 1932-1952; and general obligation bond debt, 1953 and later years. Because of changes in definitions and accounting procedures, data are not always directly comparable from year to year. Variant figures exist for some years.

3. Funded debt less sinking fund assets and cash reserve for serial bonds.

Source: Thos. G. Thrum, comp., Hawaiian Almanac and Annual for 1912, p. 31 (data for 1856, 1858, and 1900-1907); Report of the Minister of Finance for 1860-1897 and 1899; Reports of the Minister of Finance and Auditor-General ... 1898; Report of the Auditing Department for 1906-1918; Report of the Auditor for 1921-1953; Department of Accounting and General Services, records for 1953-1976.

TABLE 25.14 PUBLIC BONDED DEBT OF STATE AND COUNTY GOVERNMENTS, 1949 TO 1976
(Millions of dollars. As of December 31.)

Year	Total Bonded Debt ¹	State Debt	County Debt			
			Honolulu	Hawaii	Kauai	Maui
1949	39.5	7.5	27.5	1.7	1.3	1.6
1950	63.9	25.1	31.4	3.2	2.0	2.2
1951	69.2	26.8	33.1	3.8	2.5	3.0
1952	84.0	29.5	43.6	4.2	2.5	4.1
1953	96.8	34.3	50.6	4.3	2.7	5.0
1954	102.2	38.6	51.8	4.5	2.5	4.8
1955	106.7	36.4	58.0	5.1	2.4	4.7
1956	143.2	60.0	69.4	5.5	3.0	5.4
1957	184.8	84.5	85.4	5.9	3.7	5.4
1958	214.4	98.0	98.9	6.7	3.5	7.4
1959	273.8	141.4	114.1	7.8	3.3	7.2
1960	285.6	143.1	120.8	10.0	3.2	8.6
1961	306.8	145.4	138.1	12.1	3.0	8.2
1962	312.7	149.1	141.4	11.6	2.8	7.8
1963	386.5	194.6	168.2	13.8	2.6	7.4
1964	423.6	220.0	177.6	13.0	3.9	9.1
1965	454.1	244.5	184.1	12.3	3.6	9.6
1966	412.3	205.6	182.8	11.4	3.4	9.0
1967	472.9	262.4	188.2	10.6	3.2	8.4
1968	533.8	317.9	191.6	9.7	2.9	11.7
1969	631.3	423.1	185.8	8.8	2.7	11.0
1970	742.0	536.1	172.5	17.9	5.1	10.4
1971	925.5	679.3	198.9	17.1	4.9	25.4
1972	1,080.4	804.1	215.8	26.3	9.6	24.6
1973	1,219.4	944.1	212.1	25.0	14.3	23.9
1974	1,274.4	1,005.2	198.5	33.6	13.9	23.2
1975	1,435.9	1,185.6	182.8	31.8	13.3	22.4
1976	1,667.2	1,385.9	211.0	36.9	12.4	21.0

1. Includes outstanding state and county bonds, both general obligation and revenue bonds. Bonds are classified under the governmental unit charged with the payment of debt service costs.

Source: Tax Foundation of Hawaii, A Compendium of Governmental Finances in Hawaii, 1949-1968 (November 1969), p. 71, and Government in Hawaii (annual, 1970-1977).

TABLES IN SECTION 26

- 26.1 Hawaiian armed forces, 1795 to 1976
- 26.2 United States armed forces and dependents (census data), 1900 to 1970
- 26.3 Department of Defense active-duty military personnel and military dependents, 1940 to 1976
- 26.4 United States armed forces, dependents, and families (DPED data), 1937 to 1976
- 26.5 War casualties of Hawaii residents in the armed forces, 1914 to 1976
- 26.6 Hawaii residents on active duty with the U.S. armed forces worldwide, 1941 to 1976, and veterans in civil life, 1959 to 1976
- 26.7 Defense expenditures, 1931 to 1976

SECTION 26

Armed Forces and Veterans

This section presents statistics on the Hawaiian armed forces prior to annexation, the Hawaii National Guard, U.S. Air Force, Army, Coast Guard, Marine Corps, and Navy personnel and dependents, war casualties, veterans, and defense expenditures.

Other sections contain related series. Section 1 includes annual estimates of island-based military personnel; section 3, data on the migration of military personnel and dependents; section 6, personal income estimates by source, including defense activities; section 12, acreage used for military purposes or controlled by the armed forces; section 17, annual totals on the number of national ships visiting Honolulu, 1824 to 1896; and section 25, annual estimates of defense employment and payrolls, civilian and military.

Although not classified as an "industry" by the Standard Industrial Classification (SIC) code, national defense has for more than a century been one of Hawaii's leading economic activities. Throughout the nineteenth century, warships and other national vessels frequently stopped at island ports for fuel, provisions, rest and recuperation, and diplomatic maneuvers. The promise of access to Pearl Harbor was an important factor in the foreign relations of the kingdom. After annexation, the construction and operation of new army and navy installations provided jobs and income to island residents. Defense expenditures overtook sugar as the leading source of outside income in 1941, and retained this position until 1972, when tourism moved into first place.

The earliest statistics on the armed forces in Hawaii go back to the late eighteenth and early nineteenth centuries. A number of early European visitors speculated on the size of Kamehameha's army or quoted estimates by Young or Marin. Not surprisingly, these figures are subject to great uncertainty. Contemporary estimates of battlefield mortality during Kamehameha's wars of conquest are even more questionable. The accuracy of these early statistics has been critically reviewed by John F. G. Stokes in the 45th Annual Report of the Hawaiian Historical Society for the Year 1936.

From the 1820s until annexation, the military establishment remained small and statistics on it were sketchy. The regular army, sometimes referred to as the King's Guard or Household Troops, fluctuated in size and organizational structure. There were also various volunteer forces, who were assembled and disbanded and then replaced with newer groups with some frequency; examples

include such official or semiofficial groups as the First Hawaiian Guard, Volunteer Corps, and Citizens' Guard, and nongovernmental military companies like the Honolulu Rifles. Statistics on both the regular troops and some of the volunteer groups appeared intermittently in the reports of the secretary of war to the legislature and occasionally in other sources.

The Hawaii National Guard was created by the provisional government in 1893 and, except for periods of active service in wartime (1918-1919, 1940-1946, and 1968-1969), has functioned continuously since that time. Statistics on the National Guard appear in the biennial and annual reports of the adjutant general through 1961 and the annual report of the State Department of Defense thereafter.

United States armed forces first became a permanent part of the population after annexation. Although visits by naval and survey vessels were relatively frequent during the nineteenth century (and sometimes culminated in armed forays ashore, to preserve the peace or menace a monarch), their statistical impact was relatively indirect. The same was true of the large body of U.S. troops that stopped over in 1898 while enroute to the Philippines. With the establishment of Schofield Barracks, the Pearl Harbor Naval Shipyard, and other important bases in the years after annexation, however, the U.S. military presence attained statistical as well as economic and political significance.

One of the earliest official sources on U.S. military personnel was the decennial census. From 1900 to 1940, the tables on gainful occupations included a line for "soldiers, sailors, and marines" (with coast guard personnel added for the 1940 count). These totals excluded commissioned officers, professional and clerical workers, and craftsmen, even though in uniform. Beginning in 1950, census tabulations on labor force reported the total number of members of the armed forces, by age, race, sex, and geographic area. Special tabulations of the 1960 and 1970 census counts, published by the Hawaii State Department of Planning and Economic Development (in Statistical Reports 33 and 34, 1965, and Statistical Report 105, 1974) provided further demographic and geographic detail, not only for the armed forces but also for their locally domiciled dependents. The census data through 1960 included servicemen ashore, plus ship crews in local ports or island waters. In 1970 the census included only ship crews homeported in Hawaii.

Intercensal data prior to World War II were limited to annual totals published by the Army and scattered figures occasionally released by the other services. In an effort to fill this gap, the Hawaii State Department of Plan-

ning and Economic Development (DPED) later combined the annual Army counts with retrospective quinquennial estimates by the Navy and Marine Corps, interpolating where necessary; the resulting annual estimates and underlying data appear in table 1.4 and DPED Statistical Report 36 (1965).

All-service totals have been available on a quarterly, semiannual, or annual basis since 1939. These data were initially limited to shore-based active-duty personnel, but in 1951 they were expanded to include personnel afloat and mobile, whether temporarily shore-based or afloat in Hawaiian waters. Since 1954, statistics have also been compiled, usually on a semi-annual schedule, on the number of dependents located in Hawaii. All four series are collected on a de facto (rather than usual place of residence) basis. These data are routinely tabulated by the U.S. Department of Defense and issued in various DOD reports.

Both the U.S. Bureau of the Census and Bureau of Economic Analysis (formerly the Office of Business Economics) make use of the DOD data, but in different ways. The Bureau of the Census regularly combines the June 30 DOD Hawaii total with an independent total for the Coast Guard (not included in the DOD figures) and the bureau's own civilian population estimates to arrive at total resident population. Since data first became available in 1951 on Navy crews afloat, this group has been included in the census estimates of military and total population. The Bureau of Economic Analysis (BEA), in contrast, prefers an annual average (calculated from the quarterly data), excluding all Navy crews afloat. The resulting estimate of military strength (which sometimes differs appreciably from the corresponding Census Bureau figure) is then combined with the civilian population estimate prepared by the Bureau of the Census, for use in computing per capita personal income. The census figures can be derived from the estimates of total and civilian population published since 1940 in Current Population Reports, series P-25; they are shown here in table 1.4. The OBE figures for 1939-1955 appeared in the 1953 report on Income of Hawaii and its annual supplements for 1953-1955. Although no longer published as such, later data on military strength used by BEA are available on request and are cited here in table 25.1.

Still another source on the numbers of military personnel and dependents in Hawaii is the survey of local commanding officers conducted by the Department of Planning and Economic Development. The DPED data differ from those supplied by DOD in that the former use a place-where-stationed (or homeported) definition rather than the de facto basis of the latter. The DPED statistics,

moreover, are published by service and islands rather than as a single state-wide all-service total. The DPED data include figures by island on military families as well as on individuals. The DPED survey was first conducted in 1959, but was later carried back to 1950. Results are published by the DPED in an annual report, Military Personnel and Dependents in Hawaii.

Official totals on war casualties of island residents in the armed forces have been provided by the U.S. Department of Defense for World Wars I and II and the Korean and Vietnam conflicts. These data refer to U.S. military personnel who reported Hawaii as their home of record or preservice residence. They apparently exclude most of the casualties incurred in the Pearl Harbor attack of December 7, 1941.

Statistics on the number of Hawaii residents on active duty with the U.S. armed services, either in Hawaii or elsewhere, have been compiled since 1940. Data for the World War II period usually referred to Selective Service registrants classified I-C (officers and enlisted men in regular service). After a four-year gap in the statistical record, annual reporting was resumed in 1950; from that time until 1969, the data referred to net credits for Selective Service registrants on active duty, cumulative since inception of the Universal Military Training and Service Act, as amended, September 1948. These totals were published in the annual or semiannual reports of the Director of Selective Service and also in the Statistical Abstract of the United States. Figures for 1970 and later years are unpublished estimates of the number of Hawaii residents on active duty worldwide, supplied by the Office of the Assistant Secretary of Defense.

Statistics on the number of veterans are available from the 1960 and 1970 censuses and on an annual basis since 1959 from estimates by the Veterans Administration (VA). The census questions were limited to civilian males but the VA data encompass all veterans in civil life. Both in 1962 and 1973, major corrections were made in the VA estimates to take account of newly released data from the decennial censuses, but except for 1970-1972 no revisions of previously published estimates were undertaken. Consequently, major discontinuities in the estimates appear between 1961 and 1962 and between 1969 and 1970.

Estimates of defense expenditures in Hawaii are incomplete or highly approximate for the years before 1950 and are generally unavailable prior to 1935. Published data for the 1920s and 1930s were for the most part restricted to scattered and noncomparable estimates for individual services. Beginning in

1939, however, annual tabulations on civilian defense payrolls, military payrolls, and transfer payments became available; these data were eventually published in Income of Hawaii, cited earlier, and were later used by the Bank of Hawaii in the preparation of rough estimates of total defense expenditures in the 1940s and earlier.

Comprehensive estimates of defense expenditures on a systematic annual basis were first developed during the 1950s. Beginning with data for 1950, the Bank of Hawaii initiated a series that not only included reported military and civilian payrolls and expenditures for supplies and services but also estimated payments to transients, dependents, and retired personnel. A similar series, based entirely on reported expenditures (and thus excluding retired military pay, dependents' allotments, and rest and recuperation expenditures), was begun by the First Hawaiian Bank in 1955. The more restricted definition adopted by the First Hawaiian Bank was accepted for official state use by the DPED in 1974. Annual and quarterly data on defense expenditures are published by the Bank of Hawaii in its midyear economic reports, by the First Hawaiian Bank in its monthly Economic Indicators, and by DPED in The State of Hawaii Data Book and other departmental reports.

Nationwide data on armed forces and veterans are given in Historical Statistics of the United States, Colonial Times to 1970, chapter Y, series Y849 to Y1031, and annual issues of Statistical Abstract of the United States.

TABLE 26.1 HAWAIIAN ARMED FORCES, 1795 TO 1976

Service and Year	Total Strength	Service and Year ¹	Active Strength	Active Strength			
				Year ¹	Total	Air National Guard	Army National Guard
Kamehameha's Army							
1795-96 ²	10,000	National Guard		1927	1,675	...	...
1802 ³	200	1893 ²¹	450	1928	1,683	...	...
1804 ⁴	7,050	1899 ²²	407	1929	1,639	...	...
1805 ⁵	700	1900	525	1930	1,649	...	...
1805 ⁶	6,000	1902	508	1931	1,716	...	...
1818		1903	491	1932	1,700	...	...
		1904	592	1933	1,677	...	...
		1905	574	1934	1,640	...	...
		1906	414	1935	1,632	...	...
		1907	529	1936	1,683	...	...
	200	1908	606	1937	1,738	...	...
	682	1909	619	1938	1,840	...	...
	62	1910	568	1939	1,895	...	...
	186	1911	611	1940	1,834	...	...
	60	1912	476	1941	2,660 ²⁵	...	...
	58	1913	NA	1942-46		...	...
	33	1914	851	1947	1,297	167	1,130
	50	1915	NA	1948	4,814	342	4,472
		1916 ²³	4,497	1949	5,623	349	5,274
		1917 ²³	3,353	1950	5,885	346	5,539
		1918	763	1951	6,011	645	5,366
	50	1919	NA	1952	5,910	695	5,215
	374	1920 ²⁴	673	1953	5,821	814	5,007
	390	1921	1,041	1954	5,920	870	5,050
	600	1922	1,370	1955	5,692	914	4,778
	915	1923	NA	1956	5,974	885	5,089
	1,043	1924	1,495	1957	5,624	893	4,731
		1925	1,481	1958	4,895	870	4,025
	690	1926	1,560	1959	4,846	913	3,933
	698			1960	4,739	899	3,840
Regular Army							
1825 ⁷							
1846							
1853-54 ⁹							
1858-60 ¹⁰							
1873 ¹¹							
1884 ¹²							
1889 ¹³							
1893							
Volunteer Forces¹⁵							
1852 ¹⁶							
1884 ¹⁷							
1893 ¹⁸							
1895 ¹⁸							
1896 ¹⁸							
1897 ¹⁸							
1942 ¹⁹							
1946							

TABLE 26.1 (cont.)

Service 1 and Year	Active Strength			Year ¹	Active Strength		
	Total	Air National Guard	Army National Guard		Total	Air National Guard	Army National Guard
National Guard (cont.)				1968 ²⁶			
				1969 ²⁶			
1961	4,625	938	3,687	1970	2,386	1,503	883
1962	4,817	1,052	3,765	1971	2,446	1,493	953
1963	4,651	1,230	3,421	1972	3,929	1,604	2,325
1964	4,858	1,232	3,626	1973	4,510	1,569	2,941
1965	4,968	1,285	3,683	1974	4,803	1,574	3,229
1966	5,201	1,245	3,956	1975	4,822	1,539	3,283
1967	5,427	1,300	4,127	1976	4,859	1,493	3,366
					5,062	1,554	3,508
					5,090	1,626	3,464

1. Unless otherwise specified, data refer to December 31 through 1922 and June 30 thereafter.
2. Young's estimate, as reported by Boit and Bishop and cited by Stokes.
3. Turnbull's figure (cited by Warfield) for Kamehameha's regular troops.
4. Young's estimate for June 1804, reported by Lisiansky.
5. Shafer's figure for men actually under arms during the late summer or early fall of 1805; Kamehameha told Shafer that "ten times the number" could be assembled in "a few days."
6. Marin's figure, reported by Golovnin.
7. Figure for "regular troops" early in the reign of Kamehameha III, cited by Warfield.
8. Official total for King's Guards and troops at the fort and on Punchbowl as of April 1.
9. Average for year ended April 1, 1854.
10. Average for biennium ended March 31, 1860.
11. Kuykendall's figure for the Household Troops, "the entire standing army," at the time of their mutiny, September 7.
12. Official figure for enlisted men in the King's Guard as of April 30. Total barracks occupants numbered seventy-five, including six officers, fifty-seven enlisted men, and twelve wives and children.
13. Kuykendall's figure for the King's Guard as of August.
14. Figure cited by Warfield for Household Troops in January 1893, immediately before the overthrow of the monarchy and disbanding of the Household Guards by the provisional government.

TABLE 26.1 (cont.)

15. Official or semi-official. Excludes the Honolulu Rifles, organized as a nongovernmental volunteer military company in 1884 and disbanded in 1890. According to Kuykendall, the Honolulu Rifles had 100 members in March 1887 and 300 in August 1887.
 16. The First Hawaiian Guard, organized November 13, 1852 and replaced by other groups in 1857, according to Warfield.
 17. Official total for Volunteer Corps as of April 30.
 18. Official totals for the Citizens' Guard, organized in June 1893 and disbanded after annexation. Data refer to strength soon after its founding, after the 1895 insurrection, and as of December 31, 1896 and 1897.
 19. Official totals for the Hawaii Territorial Guard as of May 31, 1942 and June 30, 1946.
 20. As reported by Warfield for April 1. The National Guard was created by the provisional government on January 27, 1893.
 21. As reported by Warfield for the end of March.
 22. As reported by Warfield for the end of the year.
 23. As of July 1. The Hawaii National Guard was called to active service on June 1, 1918 and released early in 1919.
 24. As of June 30.
 25. The Hawaii National Guard was called into active service in October 1940 (when its strength was 1,802) and reestablished in the territory by an Executive Order dated August 3, 1946.
 26. The 29th Infantry Brigade was called to active duty on May 13, 1968 and returned to state status on December 13, 1969.
- Source: John F. G. Stokes, "Dune Sepulture, Battle Mortality, and Kamehameha's Alleged Defeat on Kauai," 45th Annual Report of the Hawaiian Historical Society for the Year 1936, pp. 30-46, espec. p. 40; Charles Lamoreaux Warfield, History of the Hawaii National Guard from Feudal Times to June 30, 1935 (Honolulu, 1935), pp. 9, 11, 14, 15, 16, 26, 31, 39, 51, 53, 75, and 79; Urey Lisiansky, A Voyage Round the World in the Years 1803, 4, 5 & 6 ... (London, 1814), p. 133; Wm. Shaler, "Journal of a Voyage Between China and the North-Western Coast of America. Made in 1804," American Register, vol. III, part I, 1808, pp. 137-175, espec. p. 173; V. M. Golovin, Chapters on Hawaii and the Marianas in ... "Voyage Around the World ...", translated by Ella Wiswell (University of Hawaii, Pacific Islands Program, Miscellaneous Work Papers, 1974), p. 39; The Polynesian, January 9, 1847, p. 138; Report of the Secretary of War and of the Navy, to the Legislature of 1854, p. 18; Biennial Report of the Secretary at War to the Legislature of 1860, p. 18; Ralph S. Kuykendall, The Hawaiian Kingdom, vol. II (Honolulu, 1953), p. 259, and vol. III (Honolulu, 1967), pp. 350, 351, 403, 432, 465-466, and 606; Report of the Major Commanding the King's Guard and Volunteer Forces (April 30, 1884), pp. 1, 10, and 13; Archives of Hawaii, Departmental Manual (typescript), section on "The Citizens' Guard, 1895-1899"; Report of the Attorney General for 1896 (p. 58) and 1897 (p. 54); Report of the Commanding Officer of the First Regiment, National Guard of Hawaii ... Dec. 31st, 1902, p. 3; Biennial Report of the Adjutant General for 1911-1912 (p. 2), 1913-1914 (p. 2), 1915-1916 (p. 1), 1917-1918 (pp. 4 and 6-7) and 1923-1924; Report on the Operations of the Territorial Militia Department for the biennium ended December 31, 1922 and fiscal years ended June 30,

TABLE 26.1 (cont.)

1922 and 1924; Annual Report of the Adjutant General for 1925-1928, 1930, 1932-1942, and 1947-1961; Annual Report of the Military Department for 1929 and 1931; Annual Report of the Department of Defense, State of Hawaii for 1962 and later years.

TABLE 26.2 UNITED STATES ARMED FORCES AND DEPENDENTS (CENSUS DATA), 1900 TO 1970

Year ¹	Population of Military and Naval Installations ²	Armed Forces ³				Living Arrangements			Family Heads ⁶	Dependents ⁴
		Total	Soldiers, Sailors, and Marines ⁵	In		In Group Quarters				
				Households	In					
1900	...	...	245	...	...	...	...	...	...
1910	...	...	1,608	...	...	...	...	...	...
1920	5,942	...	4,366	...	...	...	...	...	...
1930	19,000	...	16,291	...	...	...	...	...	...
1940	29,831	...	26,233	...	...	...	...	...	...
1950	40,991	27,000	...	7,709	15,147	...	...	...	56,576
1960	71,672	22,856	...	20,628	26,639	...	...	19,442	61,261
1970	77,467	47,267	...	24,662	25,291	...	...	21,686	...
		49,953	...							

1. June 1, 1900; April 15, 1910; January 1, 1920; and April 1, 1930 to 1970.

2. Persons in housing units or barracks in military bases or aboard Navy or Coast Guard ships moored (1900-1960) or homeported (1970) at Hawaii bases. Includes military dependents and other civilians domiciled on base. Data for 1920-1940 limited to Oahu.

3. Members of the Air Force, Army, Coast Guard, Marine Corps, or Navy stationed in Hawaii or aboard ships moored (1900-1960) or homeported (1970) in Hawaii, whether living on base or off base.

4. Persons (other than household heads) in families headed by a member of the armed forces.

5. Excludes commissioned officers, professional and clerical workers, and craftsmen. Includes coast guards in 1940.

6. Limited to members of the armed forces living with their families.

Source: Honolulu Redevelopment Agency, Redevelopment and Housing Research, No. 5 (July 1956), pp. 33 and 36, and No. 12 (April 1958), p. 27; Hawaii State Department of Planning and Economic Development, Statistical Report 20 (July 27, 1964), pp. 11-12, Statistical Report 33 (July 26, 1965), p. 8, Statistical Report 105 (December 2, 1974), various tables, and Statistical Report 109 (August 22, 1975), table 5, as corrected.

TABLE 26.3 DEPARTMENT OF DEFENSE ACTIVE-DUTY MILITARY PERSONNEL AND MILITARY DEPENDENTS, 1940 TO 1976
(Excludes Coast Guard personnel and dependents.)

Year	Active-Duty Military Personnel, June 30			Dependents Located in Hawaii, ² March 31 ²
	Shore-Based	Afloat and Mobile ¹		
		Temporarily Shore-Based	Other ³	
1940	27,665	...	...	...
1941	...	...	...	...
1942	...	...	...	...
1943	194,300	...	...	...
1944	442,160	...	...	...
1945	322,372	...	...	...
1946	58,837	...	...	...
1947	34,900	...	...	...
1948	29,662	...	...	...
1949	22,553	...	...	...
1950	19,408	...	...	...
1951	27,603	7,588	7,671	...
1952	26,486	7,039	21,628	...
1953	24,785	8,595	12,437	...
1954	21,669	7,131	8,097	36,199
1955	39,611	6,623	9,074	...
1956	39,688	7,278	10,220	49,955
1957	38,523	9,850	9,171	53,654
1958	35,849	6,594	10,823	56,976
1959	37,536	7,034	10,446	50,882
1960	35,970	7,155	12,577	62,608
1961	37,681	6,384	13,524	63,172
1962	41,615	5,737	28,084	63,889
1963	41,018	5,966	10,449	66,425
1964	45,714	6,462	18,484	68,138
1965	40,184	4,170	8,862	72,981
1966	28,695	5,014	15,924	69,048
1967	34,370	5,374	13,118	57,253
1968	33,987	8,573	10,356	61,940
1969	33,739	5,400	7,375	65,925
1970	33,337	7,102	10,085	57,382
1971	28,352	3,848	9,677	57,816
1972	36,494	1,724	9,581	61,713
1973	43,315	2,188	8,681	60,206
1974	41,913	1,889	8,507	62,160
1975		47,010	9,416	66,092
1976		44,007	9,776	61,349

TABLE 26.3 (cont.)

1. Not available before 1951.
2. Except 1954, which refers to December 31, and 1956 and 1957, which refer to January 31. Includes dependents of Hawaii residents stationed out of state if those dependents remain in Hawaii; otherwise they are not included.
3. Navy personnel afloat, identified with the nearest port.

Source: Office of the Assistant Secretary of Defense, records.

TABLE 26.4 UNITED STATES ARMED FORCES, DEPENDENTS, AND FAMILIES (D.P.E.D. DATA), 1937 TO 1976

Year ¹	Armed Forces Stationed or Homeported in Hawaii										Military ² Dependents	Military Families
	All Services	Air Force	Army	Coast Guard		Marine Corps	Navy		Afloat	Afloat		
				Ashore	Afloat		Ashore	Afloat				
1937 ³	24,237		19,498	...	...	4	4,739	...	...	4	6,035	...
1950 ⁵	29,404	3,954	6,500	1,150	...	2,800	15,000	...	...	...	38,325	11,640
1957 ⁶	...	...	...	...	...	...	...	...	...	...	52,962	...
1958 ⁷	...	...	...	...	...	...	...	...	...	...	55,641	...
1959 ⁵	56,303	6,314	16,259	1,242	...	23,175	...	...	9,313	...	56,222	...
1960 ⁵	52,881	6,054	15,500	371	1,022	20,002	...	...	9,932	...	60,057	19,631
1961	56,348	6,919	16,353	540	1,076	20,343	...	...	11,117	...	62,033	21,007
1962	59,702	7,416	18,439	528	982	21,637	...	...	10,700	...	63,231	21,973
1963	57,093	7,646	17,000	564	955	10,327	9,817	...	10,784	...	61,495	21,651
1964	59,840	7,808	19,000	568	987	10,450	10,137	...	10,890	...	69,090	21,631
1965	56,113	9,217	20,000	543	970	3,346	9,854	...	12,183	...	65,816	23,156
1966	49,737	10,613	6,700	635	1,113	3,978	9,550	...	17,148	...	62,622	21,154
1967	51,002	10,841	11,000	615	1,083	5,936	10,512	...	11,015	...	61,301	20,854
1968	48,613	10,536	11,000	597	964	4,755	9,824	...	10,937	...	59,133	21,818
1969	56,282	11,265	10,100	694	899	6,498	9,944	...	16,882	...	59,697	21,623
1970	53,768	9,758	10,000	857	841	6,922	12,285	...	13,105	...	57,781	20,568
1971	50,762	9,043	10,000	609	703	6,996	9,176	...	14,235	...	62,181	23,184
1972	52,538	8,838	11,100	649	465	7,408	9,129	...	14,949	...	66,222	23,688
1973	57,783	7,851	18,000	1,134	492	7,932	8,147	...	14,227	...	70,299	25,264
1974	58,558	7,947	17,600	806	483	7,782	11,234	...	12,706	...	68,324	29,082
1975	58,205	7,006	18,496	667	506	8,542	10,878	...	12,110	...	63,706	26,122
1976	59,737	6,500	19,200	760	457	8,479	11,514	...	12,827	...	66,957	26,395

TABLE 26.4 (cont.)

1. July 1 data unless otherwise specified.
 2. Data for 1957 and 1958 limited to Oahu. In 1959, only 361 military dependents lived on the neighbor islands.
 3. Army data refer to December 1, 1937; Navy, to November 26, 1937.
 4. Marine Corps and Navy afloat apparently included with Navy ashore.
 5. As of April 1. The 1950 data are approximations.
 6. As of September 30.
 7. Air Force, Navy, and Marine Corps as of March 31; Army, as of May 31; and Coast Guard, as of January 1.
- Source: Data compiled by the Hawaii State Department of Planning and Economic Development from local commanding officers and published in the Department's Military Personnel and Dependents in Hawaii (annual or semiannual, 1959 forward); Stanley T. Olafson, The Territory of Hawaii, U.S.A. A Commercial Survey, 2d ed. (1938), pp. 29 and 31.

TABLE 26.5 WAR CASUALTIES OF HAWAII RESIDENTS IN THE ARMED FORCES, 1914 TO 1976

(Data refer to U.S. military personnel whose home state or pre-service residence of record was Hawaii.)

War	Personnel Serving	Battle Deaths	Nonbattle Deaths
World War I ¹	9,800		102
World War II ²	28,008	658	138
Korean conflict ³	NA	403	NA
Vietnam conflict	12,970	221	51

1. Data include nearly 200 Hawaii residents serving (and 22 dying) with the British armed forces, many prior to the U.S. entry into World War I. Of the 102 war casualties, only 14 occurred overseas prior to the armistice; 61 took place in Hawaii or North America or after the armistice, and the time or place of 27 is unknown.

2. The number serving represents the cumulative number of registrants from Hawaii inducted through Dec. 31, 1945. The cumulative number of Hawaii registrants, 18 to 37 years old and classified I-C, inducted or enlisted through August 1, 1945 was 22,210.

3. In addition, 923 wounded personnel gave Hawaii as their preservice residence.

Source: World War I data from Ralph S. Kuykendall, Hawaii in the World War (1928), pp. xvii-xix and 90; World War II personnel serving from Selective Service and Victory: 4th Report of the Director of Selective Service, 1944-1945, With a Supplement for 1946-1947, pp. 532 and 599; other data from Office of the Assistant Secretary of Defense, Comptroller (Systems Policy & Information), letters of Nov. 2, 1973 and Dec. 23, 1976 and printout, "List of Casualties Incurred by U.S. Military Personnel in Connection with the Conflict in Viet-Nam by Home State of Record: Hawaii."

TABLE 26.6 HAWAII RESIDENTS ON ACTIVE DUTY WITH THE U.S. ARMED FORCES WORLD-WIDE, 1941 TO 1976, AND VETERANS IN CIVIL LIFE, 1959 TO 1976

Year (June 30)	Residents on Active Duty ¹	Veterans in Civil Life	Year (June 30)	Residents on Active Duty ¹	Veterans in Civil Life
1941 ²	1,476	...	1960	13,389	63,000
1942 ³	6,446	...	1961 ⁶	12,209	62,000
1943 ⁴	8,002	...	1962 ⁶	12,422	51,000
1944 ⁴	8,372	...	1963	12,364	52,000
1945 ⁵	22,210	...	1964	12,614	48,000
1946	...	...	1965 ⁷	11,835	47,000
1947	...	...	1966 ⁸	12,651	61,000
1948	...	...	1967 ⁸	13,088	61,000
1949	...	...	1968	16,406	61,000
1950	5,176	...	1969 ⁹	17,645	64,000
1951	...	...	1970 ⁹	15,331	88,000
1952	14,120	...	1971	13,600	90,000
1953	14,343	...	1972	11,600	91,000
1954	13,957	...	1973	10,200	92,000
1955	14,678	...	1974	10,810	93,000
1956	15,540	...	1975	10,640	93,000
1957	16,455	...	1976	10,600	94,000
1958	15,514	...			
1959	14,807	62,000			

1. Selective Service registrants in Class I-C (inducted, enlisted, or commissioned), 1941, 1943-1945, and 1967-1969; total credits, 1942; net credits, cumulative since inception of Universal Military Training and Service Act, as amended (September 1948), 1950-1966; and Department of Defense estimates on unspecified basis, 1970 and later years.

2. May 31.

3. December 31; Army only.

4. March 31; Army only.

5. August 1; ages 18 to 37 only.

6. Estimate of veterans reflects availability of new benchmark data from 1960 census; earlier years not revised, and hence not comparable.

7. Increase in veteran population caused by passage of P.L. 89-358, Veterans Readjustment Act of 1966, under which former military personnel whose only service was after January 1, 1955 became eligible for various VA benefits and services.

8. Changed basis for counting residents on active duty; on new (1967) basis, the 1966 figure was 11,375.

9. Changed basis for counting residents on active duty; on old (1967-1969) basis, the 1970 figure was 13,780. The estimate of veterans reflects availability of new benchmark data from 1970 census; earlier years not revised, and hence not comparable.

Source: Report of the Director of Selective Service for 1940-1941 (p. 407), 1941-1942 (p. 588), 1943-1944 (pp. 575 and 618), 1944-1945 (p. 532), 1948-1950 (p. 257), 1965 (p. 71), 1966 (pp. 66 and 88), 1967 (p. 68), Jan.-June 1968 (p. 38), Jan.-June 1969 (p. 32), and Jan.-June 1970 (p. 21); Statistical Abstract of the United States for 1953 (p. 230), 1954 (p. 245), 1955

TABLE 26.6 (cont.)

(p. 231), 1956 (p. 241), 1957 (p. 245), 1958 (p. 251), 1959 (p. 253), 1960 (p. 250), 1961 (pp. 246-247), 1962 (p. 260), 1963 (p. 268), 1964 (p. 266), and 1965 (p. 268); Office of the Assistant Secretary of Defense, records; Annual Report, Administrator of Veterans Affairs for 1959 and later years; Veterans Administration, Office of Controller, Reports and Statistics Service, Veteran Population (semiannual, 1974-1976), and records.

TABLE 26.7 DEFENSE EXPENDITURES, 1931 TO 1976
(Millions of dollars)

Year	All Services ¹	Year	All Services ¹	Year	All Services ¹	Year	All Services ¹
1931	35	1938	30	1942	NA	1946	224
1932-35	NA	1939	35	1943	NA	1947	185
1936	35	1940	45	1944	800	1948	165
1937	30	1941	85	1945	NA	1949	157

Bank of Hawaii Estimates²

Year	All Services ⁴	Air Force	Army	Navy	First Hawaiian Bank Estimates, All Services ³
1950	147.0	17.9	45.4	77.6	NA
1951	213.5	25.3	55.3	126.4	NA
1952	245.1	35.5	63.4	137.1	NA
1953	251.1	36.0	53.1	153.7	NA
1954	237.2	38.5	47.5	141.4	NA
1955	272.5	38.0	65.4	158.5	262.393
1956	284.5	51.0	67.8	154.8	272.440
1957	307.9	58.8	83.2	154.8	289.339
1958	327.4	67.3	93.5	149.5	301.653
1959	338.0	58.1	108.7	155.6	315.957
1960	373.1	57.6	142.7	156.8	351.400
1961	401.9	54.0	165.2	166.5	379.851
1962	375.8	55.6	126.0	176.8	347.974
1963	368.6	53.1	112.6	183.9	347.489
1964	415.9	62.7	126.9	206.0	392.608
1965	459.6	79.5	143.6	214.7	430.216
1966	517.1	103.3	151.8	237.1	488.411
1967	584.8	108.3	193.7	258.1	561.362
1968	606.1	97.8	197.2	287.1	574.581
1969	657.9	100.4	212.4	319.4	625.948
1970	675.2	113.2	191.6	342.9	639.392
1971	722.2	120.5	208.3	366.3	708.766
1972	763.4	111.5	225.9	396.8	744.239
1973	872.2	103.5	307.7	429.6	840.855
1974	935.0	108.2	352.8	438.5	897.866
1975	1,027.5	120.0	380.5	487.7	982.779
1976	1,080.3	111.1	423.0	502.8	1,034.226

1. Rough estimates prepared by the Department of Business Research, Bank of Hawaii, and graphed in reports published in 1954, 1955, and 1956. When values scaled from these graphs differed (as for 1939, 1941, 1946, and 1948), the median value was selected.

2. Includes retired military pay, dependents' allotments and transients' pay. Military payrolls are adjusted for "leakage" out of state.

TABLE 26.7 (cont.)

3. Excludes retired military pay, dependents' allotments (except Army after July 1, 1971), and rest and recuperation expenditures.

4. Includes Coast Guard and National Guard expenditures, not shown separately.

Source: Bank of Hawaii, Department of Business Research, Hawaii and the Business of Defense (Dec. 1954), pp. 9 and 20, Hawaii, Growing Islands (1955), p. 16, Hawaii, Center for Services Throughout the Pacific (1956), p. 29, Hawaii '68 (Aug. 1968), p. 47, and Hawaii '76 (July 1976), p. 47; Bank of Hawaii estimates cited in Kyohei Sasaki, Military Expenditures and the Employment Multiplier in Hawaii (University of Hawaii, Economic Research Center, April 1961), p. 13; First Hawaiian Bank, Research Division, records.



INDEX

- Abortions, 50-51
Accidents, 54-57, 59-60, 424, 436-437
Agriculture, 326-362; acreage, 331-336, 343-344; crops, xix, 334-336, 341, 344, 346-347; farms, 329-336, 341-342; livestock, xvii, 329, 337-340, 345, 348. See also Earnings; Employment and labor force, industry; Family expenditures; Hours worked; Imports and exports; Land use; Pineapple; Prices; Sugar
Air pollution, xix, 290, 318
Air transportation, xviii, 427-428; aircraft and operations, 427-428, 457-459, 493; airports, 427-428, 457-459; cargo and mail, xix, 428, 462-463; carrier characteristics, 464-467; fares and flight times, 428, 468-471; passengers, 271-272, 428, 460-461; pilots, 427-428, 457-459. See also Deaths, catastrophic events
Alcoholic beverages, 509, 522, 523. See also Family expenditures; Taxation
Aliens, 37, 93-95
Aquarium, 260, 267-268
Areas, 285. See also Land use
Armed forces, 650-669; active-duty personnel, xix, 10, 616-617, 651-654, 656-664; dependents, xix, 652, 653, 660-664; expenditures, 162, 165-166, 654-655, 668-669; families, 660, 663-664; family income and expenditures, 173; land, 300-301; migration, 105-106; National Guard, 652, 656-659; payrolls, 618, 654-655; residents worldwide, 654, 666-667; veterans, 654, 666-667; war casualties, 654, 665. See also Employment and labor force, employment status; Land use
Arrests. See Crime
Assessed valuation, 287, 302-304
Automobiles. See Motor vehicles

Balance of indebtedness, 537, 555-557
Balance of payments, xix, 537, 555-556. See also Imports and exports
Bankruptcy cases, 234, 247-248
Banks, xviii, 573-574, 576-578. See also Earnings; Employment and labor force, industry; Hours worked; Mortgage loans
Beach pollution, xix, 290, 317
Bicycles, 424, 435
Birds, 292, 325
Births, xvii, 36-37, 39-40, 43-49
Boats. See Water transportation
Budgets, family, 144, 158-159
Building permits, xviii, 379, 383-385, 388-390
Business enterprise, xvii, xviii, xix, 558-569. See also Manufacturing; Mining; Retail trade; Services; Wholesale trade
Buses, 425, 438-440

Calculators. See Data processing
Cargo. See Air transportation; Water transportation

- Catastrophic mortality, 59-60
- Census: agriculture, xviii, 329, 560; business, xix, 508, 560; construction, 560; housing, xviii, xix, 379-380; mineral industries, xviii, 367, 560; manufactures, xviii, 405-406, 560; population, xv, xvii, xviii, 3-4, 652; tracts, xix, 2, 18-19, 380, 508
- Central business district, 508, 520
- Charities, 191, 204-205
- Church membership, 3, 35
- Cities. See Land use; Urban areas
- Citizenship, 87, 93-95
- Climate, xvii, 285, 291-292, 319-324
- Coffee, 154-157, 327, 330, 334-336, 341-344, 549-553
- Colleges, 208-209, 219-224
- Communications, 472-491. See also Newspapers; Postal service; Radio; Telegraph service; Telephone service; Television
- Community Chest, 191, 204-205
- Computers. See Data processing
- Construction, 381-390; cost index, 381-382, 387. See also Building permits; Earnings; Employment and labor force, industry; Hours worked
- Consumer income and expenditures, 170-188
- Consumer price index, xix, 143-144, 146-153
- Copyrights, 562, 570-571
- Corporations, 559-562, 564-565, 568-569
- Corrections, xviii, 234, 235, 253-256
- Cost of living, xix, 144, 158-159. See also Air transportation, fares and flight times; Construction, cost index; Family expenditures; Housing; Prices; Rents; Taxation
- Counting systems, xv-xvi, xx
- Courts, xvii, 233, 234, 235, 237, 238, 247-252
- Crime, 233-252; arrests, 234, 235, 244-245; convictions, xvii, 233; executions, 256; homicides, 54-57, 243; inmates of correctional institutions, xviii, 234, 235, 253-255; offenses known to police, xix, 234, 235-236, 237, 238, 239-243; value of stolen property, 238, 246
- Currency, xvii
- Customs, xvii. See also Imports and exports; Taxation
- Data processing, xvii, xix-xxv
- Deaths: age and sex, 39, 53; catastrophic events, 59-60; cause, 39, 40, 54-58, 80-84; epidemics, 58; executions, 256; homicides, 243; industrial, 116, 140-141; infant, fetal, and maternal, 50-51; leprosy, 72-75; life table values, 39, 40, 52; motor vehicle and traffic, 424, 436-437; reporting systems, xvii, xviii, 39-40; totals and rates, 36-37, 43-45, 187-188; tuberculosis, 80
- Deeds, 287, 305-306
- Defense. See Armed forces
- Density of population, 8
- Dentists, 41, 66
- Disasters. See Catastrophic mortality; Earthquakes; Floods; Tsunami; Volcanic eruptions
- Disease, 40, 72-77, 80-84. See also Deaths, cause
- Divorce, 41, 61-65
- Dogs, 260, 270
- Earnings, xviii, xix, 115-116, 126, 129-137, 168, 171-172, 218, 359-362. See also Family incomes; Payrolls
- Earthquakes, 288-289, 310
- Education, xvii, 206-230; colleges and universities,

208-209, 219-224; elementary and high school, 207-208, 211-218; enrollment or membership, 207-209, 211-217, 219-226; expenditures, 218; graduates, 216-217, 219-224; illiteracy, 209, 229; years completed, xix, 209, 227, 228. See also Taxation

Elections, xvii, 592-608; apportionment, 595, 606; elective offices, 593-594; legislators' party membership, 596, 607-608; plebiscites, 594, 602; registered voters, 595-596, 598-601; voter eligibility, 594; votes cast, 595-596, 597, 599-605

Electric utilities, xviii, 395-396, 493-494, 496-499. See also Family expenditures; Prices

Elevations, 285

Employment and labor force: agriculture, 328, 331-333; air carriers, 464-467; class of worker, 123-124, 612; employment status, xix, 111-115, 117-121, 566-567; government, 611-612, 616-617; hotels, 509-510; industry, 113, 122-125, 129-132, 561; interstate movement, 109; manufacturing, 408-411; migration, 105-106, 109; mining, 374-375; occupation, xviii, 105-106, 111-113, 122-124, 133-137; pineapple, 409-411, 417; retail and wholesale trade, 507-508, 513-519, 524-525; services, 507-508, 526-531; strikes, 116, 139; sugar, 359-362, 409-411; teachers, 211-217; union membership, 116, 138; unemployment insurance, xviii, 113, 192, 193, 198-199. See also Earnings; Hours worked; Payrolls

Energy, 492-505. See also Electric utilities; Family expenditures; Housing; Liquid fuels; Prices; Retail trade; Transportation

Environmental quality, xix, 290-291, 317, 318

Epidemics, 58

Ethnic stock. See Population

Expenditures. See Family expenditures; Government expenditures; Tourism

Exports. See Imports and exports

Families, 3, 34, 176, 660, 663-664

Family budgets, xvii, xix, 144, 158-159

Family expenditures, xviii, xix, 171, 172, 177-181

Family incomes, xviii, xix, 171-174, 176-181, 227-278

Farms. See Agriculture

Federal government. See Government

Finance. See Banks; Fires; Government, finance; Insurance; Mortgage loans

Fires, 59-60, 370-371, 575, 589-590

Fishing, xviii, 259, 266, 366-367, 372-373

Floods, 59-60, 289

Flowers and horticultural specialties, 334-336, 346-347

Food consumption and supply, 330, 349-356. See also Agriculture; Family expenditures; Prices

Forests and forest products, xviii, 334-336, 346-347, 365-366, 368-371. See also Land use

Fruits. See Agriculture; Prices

Fuels. See Liquid fuels

Geography, 284-324. See also Climate; Earthquakes; Floods; Land use; Tsunami; Volcanic eruptions

Government, employment, 611-612, 616-617; finance, xvii, 555-556, 612, 618-631, 634-650; retirement system, 192, 193, 202-203; welfare and social insurance programs,

191-197. See also Armed forces; Elections; Employment and labor force, class of worker; Land ownership; Land use; Postal service
Gross state product, 161-164

Health, xvii, xviii, 38-84, 116, 140-141, 191, 424, 436-437. See also Family expenditures; Prices
Highway mileage, 423, 429
Hospitals, xvii, 41-42, 68-79
Hotels, 261, 275-276, 293-297, 508-512, 526-531. See also Earnings; Employment and labor force, industry; Hours worked; Payrolls; Tourism
Hours worked, 115, 129-135
Households, 3, 33, 34
Housing, xvii, xix, 359-362, 379-384, 388-397, 400-402. See also Assessed valuation; Deeds; Electric utilities; Family expenditures; Households; Land use; Population, group quarters; Prices; Rents
Hunting, 259, 266

Illiteracy, 209, 229
Imports and exports, xvii, 327-328, 405, 534-557
Income, 160-188; consumer, 170-188; defense, 162, 165-166; family, xviii, xix, 171-174, 176-181; gross state product, 161-164; personal, xix, 161-162, 167-168; persons, 172, 175; pineapple, 162, 165-166; state, 160-168; sugar, 161-162, 165-166; taxable, xviii, 173, 182-186; visitors, 277-278. See also Agriculture; Earnings; Manufacturing; Mining; Payrolls; Retail trade; Services; Wholesale trade
Industrial safety, 116, 140-141, 191
Industry. See Employment, industry; Land use; Manufacturing
Insurance, xviii, 113, 116, 140-141, 191-193, 198-199,

574-575, 584-588

Jails. See Corrections
Judicial districts, 1, 12-15
Judiciary. See Courts

Labor, xviii, 110-141. See also Earnings; Employment and labor force; Hours worked
Labor force. See Employment and labor force
Labor unions, 116, 138
Land area, 285. See also Agriculture; Forests and forest products; Land ownership; Land use; Parks; Volcanic eruptions
Land ownership, xvii, 285-287, 298-300. See also Agriculture; Housing; Parks
Land use, xix, 285-286, 293-297. See also Agriculture; Forests and forest products; Housing; Parks
Land values, 402. See also Assessed valuation
Language, 29, 30
Law enforcement. See Corrections; Courts; Crime
Legislature. See Elections
Libraries, 209, 230
Life tables, 39, 40, 52
Liquid fuels, xviii, 424, 434, 493, 494-495, 504-505
Liquor. See Alcoholic beverages
Livestock, xvii, 329, 337-340, 345, 348
Mahele, 286-287, 298
Manufacturing, 404-421, 560-561. See also Earnings; Employment and labor force, industry; Hours worked; Imports and exports; Payrolls
Marital status, 31-32, 34, 49
Marriage, xvii, 41, 61-65
Migration, xvii, 36-37, 86-109, 271-272
Mining, xix, 367, 374-376
Mortgage loans, 398-399
Motion pictures filmed in

- Hawaii, 532
 Motor vehicles, xviii, 395-396, 423-424, 430-434, 493; deaths, 54-57, 59-60, 424, 436-437
 Mountains, 285
 Museums, 259, 260, 267-268
- National defense. See Armed forces
 National Guard. See Armed forces
 Newspapers, xviii, 473-474, 485-491
- Office holders. See Elections
- Parks, xviii, xix, 259, 263-265. See also Land use
 Partnerships, 559, 560, 564-565
 Passengers. See Air transportation; Public transit; Railroads; Water transportation
 Patents, 562, 570-571
 Pay rates. See Earnings
 Payrolls, xviii, xix, 114, 115, 127, 128, 374-375, 408-411, 417, 513-519, 524-531, 561, 566-567, 612, 618
 Performing arts, 260, 269
 Personal income, xix, 161-162, 167-168
 Physicians and other health personnel, 41, 66
 Pineapple, xviii, 162, 327-329, 341-344, 346-347, 405, 409-417, 546-550. See also Earnings; Employment and labor force, industry; Land use
 Plebiscites, 594, 602
 Pollution. See Environmental quality
 Population, xxxii-37; age, 20-24, 49; birth, place of, 87, 90-95; citizenship, 87, 93-95; components of change, 5-6, 36; de facto, 1, 5; density, 8; estimates, 3, 4-5, 7, 9, 10; ethnic stock, 2-3, 25-28; families, 3, 34, 176, 660, 663-664; geographic distribution, 1, 11-19; group quarters, 33, 34, 660; households and household relationship, 3, 33, 34, 660; language, 29, 30; marital status, 31-32, 34, 49; military installations, 660; naturalized, 87, 93, 99-103; number of inhabitants, xvii, 3-5, 7, 8, 9, 10; race, 2-3, 25-28; religion, 35; sex, 20-24
 Postal service, xvii, 473, 483-484, 489-491
 Prices, xvii, xviii, 142-159; consumer price index, xix, 143-144, 146-153; food, 143-145, 148-157. See also Air transportation; Construction; Electric utilities; Family expenditures; Housing; Rates for communications; Taxation
 Prison inmates. See Corrections
 Property conveyed, 287, 305-306
 Property values, xviii, 287, 302-306, 395-396, 402
 Proprietorships, 559, 562, 568-569
 Public transit, xviii, 425, 438-440
- Race. See Population
 Radio, xviii, 395-396, 475, 482
 Railroads, xviii, 425-426, 441-444
 Rainfall. See Climate
 Rates for communications, 489-491
 Real property. See Housing; Land ownership; Land use
 Recreation, 258-282. See also Family expenditures; Prices
 Religion, 3, 35
 Rents, 386, 395-396, 400-402. See also Family expenditures; Prices
 Retail trade, 424, 433, 507-509, 510-520. See also Earnings; Employment and

labor force, industry; Family expenditures; Hours worked; Land use; Prices; Tourism, expenditures
Retirement, xix, 192, 193, 200-203
Rural areas, 8. See also Land use
Salaries. See Earnings; Payrolls
Sandalwood. See Forests and forest products
Schools. See Education
Services, 507-509, 511-512, 526-531. See also Earnings; Employment and labor force, industry; Family expenditures; Hotels; Hours worked; Land use; Prices; Tourism, expenditures
Sex. See Births; Deaths; Population
Shopping centers, 508, 509, 520, 521
Social Security, xix, 192, 200-201
Social welfare and insurance programs, 190-205. See also Employment and labor force, unemployment insurance; Government, finance; Workmen's compensation
Statistical compendia, xxvii, xxviii, xxix-xxx
Statisticians, xxv-xxix
Street and highway mileage, 423, 429
Sugar, xviii, 327, 328, 330, 357-362, 405, 409-413, 418-421; employment, 111, 125, 359-362; exports, 539-540, 546-553; farms and plantations, 341-342, 357-358; income, 161-162, 165-166; land, 293-295, 334-336, 343, 357-362; physical capital, 357-358; production, xvii, 334-336, 344, 357-362; sales, 165-166, 334-336, 346-347; wages, 111, 359-362. See also Earnings; Payrolls
Symphony orchestra, 260, 269

Taxation, 612-615, 634-635; counties, 628-631, 639-640; federal, 632-633; general excise base, 386, 412-413, 511-512; income base, 173, 182-186; kingdom, republic, and state, 621-631
Teachers, 211-218
Telegraph service, 475, 480-481, 489-491
Telephone service, xviii, 395-396, 474-479, 489-491
Television, 395-396, 475, 482
Temperature. See Climate
Theater. See Performing arts; Services
Tobacco, 177-181, 509, 523. See also Taxation
Tourism, xix, 87, 88, 260-262, 271-282; characteristics of visitors, 261, 271-278; expenditures, xix, 162, 165-166, 261-262, 273-274, 279; number of visitors, xviii, 260-261, 271-274; promotion, 262, 280-281; resident travel, 271-272, 282. See also Air transportation; Hotels; Water transportation
Traffic accidents, injuries, and deaths, 59-60, 424, 436-437
Transportation. See Air transportation; Bicycles; Catastrophic mortality; Employment and labor force, industry; Family expenditures; Highway mileage; Liquid fuels; Motor vehicles; Prices; Public transit; Railroads; Water transportation
Trees. See Forests and forest products
Tsunami, 59-60, 289, 311
Unemployment. See Employment and labor force, employment status, unemployment insurance
United Fund, 191, 193, 204-205
Unrelated individuals, 34,

176
Urban areas, 1-2, 8, 16-17,
293-297
Utilities. See Electric
utilities; Public transit;
Telephone service; Water
supply and use

Vegetables. See Agriculture;
Prices
Veterans, 654, 666-667
Visitors. See Tourism
Vital statistics. See Births;
Deaths; Divorce; Marriage
Volcanic eruptions, 288, 307-
309
Voters. See Elections

Wages. See Earnings
Water quality, xix, 290, 317
Water supply and use, xviii,
289-290, 312-316
Water transportation, 426,
427; cargo, xvii, xviii, 427,
453-456; disasters, 59-60;

passengers, xviii, 87, 104,
271-272, 426, 451-452, 455-
456; registered vessels, 426,
445-446; ship arrivals, xvii,
426, 447-450
Wealthholders, xix, 174, 187-
188
Weather. See Climate
Weights and measures, xvii
Welfare and social insurance,
xix, 190-205. See also
Employment and labor force,
unemployment insurance;
Government, finance; Work-
men's compensation
Wholesale trade, 507-509, 524-
525. See also Earnings;
Employment and labor force,
industry; Hours worked; Pay-
rolls
Workmen's compensation, 116,
140-141, 191

Zoo, 260, 267-268

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