

(HAWAIIAN GOVERNMENT SURVEY (

1870 - 1915

Histories of the Hawaiian Government Survey were compiled by two long-term members of the Survey Office. First, William D. Alexander, Surveyor-General (1871-1901) wrote in 1889, "A brief account of the Hawaiian Government survey, its objects, methods and results," and later in 1903, C.J. Lyons (then the Director of the Weather Bureau and former head of the Office of Survey) wrote, "A History of the Hawaiian Government Survey with notes on land matters in Hawaii." These two works, along the Reports of the Surveyor-General to the Minister of Finance (1872-1878) and to the Minister of the Interior (1880-1899) and the Reports of the Surveyor (from 1900) provide good detailed information of the work they undertook during those years. The brief history that follows is drawn from the above sources.

The Office of Hawaiian Government Survey was established under the Interior Department in 1870, when the Minister of the Interior, F.W. Hutchison (who had the care of public lands and by law had the authority to have them surveyed), asked the Legislature for \$5,000 for "Government Surveying." Its organization was prompted by the increased public demand for additional grants of government land in the late 1860s and the government's corresponding ignorance of the amount or location of government land still available for lease or sale. It was also surmised that a survey and its resultant maps, besides determining the extent of remnant government lands, would prove useful to private individuals and other government agencies, especially tax assessors, boundary commissioners and the courts, since no district maps then existed and island maps were still based on the charts of Cook and Vancouver. Consequently, an Office of Survey was begun and its primary object was "to account for all the land in the Kingdom by its original title, and indicate such accounting on general maps, and while having no authority to settle boundaries, to require the surveyors to lay down such boundaries on maps to the best of their ability with the abundant information at their disposal." (C.J. Lyons, History, p.6)

Previous surveys in the Kingdom were predominately those initiated by the Land Commission (kuleanas) and the Interior Department (government grants). They were magnetic surveys each made individually with no boundary corners marked and no attempt to fit the many separate surveys into a larger context (i.e., a map of a district or an island). These surveys, because of inconsistencies in methods (non-permanent datum points), instruments and personnel, were often inaccurate and subsequently added greatly to the burden of the new Government Survey.

The new survey team planned to carry out a geodetic survey based on the U.S. Coast Survey methods. They would establish a primary triangulation station and base lines adding subsequent stations until all of a district, an island and ultimately the whole group would be set up under one system. (They succeeded in first triangulating Maui and adding Kahoolawe, Molokai, Lanai, Oahu and Hawaii.) While setting up the stations, they would sketch a map of the area putting in prominent topographical features (to facilitate relocating the stations) and record all of the surveyed kuleanas and Grants on a map of the district. These district maps would later be compiled into island maps. It was to be a survey of "landed property" rather than a purely scientific or a topographic survey.

During the year 1870, the Minister of the Interior appointed W.D. Alexander, Surveyor-General, and C.J. Lyons, assistant surveyor. Alexander (former President of Oahu College) was responsible for developing the methods, format, and procedures of the office of Government Survey. In 1871, work began and two men just out of Oahu College, J.F. Brown and J.M. Lydgate, were added to the staff. Those first two years were spent in procuring instruments and setting up the initial triangulation stations in central Maui and making a detailed survey of the district of Makawao "to exhibit to the coming Legislature the scope of the work, as well as to gain experience and establish precedents in what was then an untried undertaking." (C.J. Lyons, History, p.10) In its early years the Survey Office devoted time and energy to convincing the Legislature that their work was essential to straighten out complex land titles and that their appropriations should be increased to enable them to send additional personnel into the field. From 1871 to 1877 the Survey staff consisted of W.D. Alexander and C.J. Lyons, with occasional helpers. Finally in 1878, additional funding helped the survey office to expand their force. Field work often took more time and money than the Survey Office predicted or than the Legislature could fund because of the nature of the work, the necessity for accuracy, the weather, physical obstacles, the volume of kuleanas and grants to be located and resurveyed, and difficulty keeping field helpers. The "A" (6A-16A) and "E" (1E-4E) series of miscellaneous correspondence are mainly letters from field surveyors to the Survey Office and are filled with their progress and problems in the field.

During the 1870s and 1880s work concentrated on establishing triangulation stations, delineating government lands, drawing maps and resurveying kuleanas on Maui, Hawaii, and Oahu. During 1877 and 1878, Lanai was surveyed by J.F. Brown and M.D. Monsarrat. Molokai was surveyed by M.D. Monsarrat at intervals from 1885 until 1895. By the year 1890 the area of the whole group (with the exception of Kauai whose lack of then recognized government land delayed its detailed surveying) had been covered and elaborated on paper. The passage of the Homestead Act of 1884 (implemented in 1887) had initiated a change in the emphasis of the Survey Office. Between 1890 and 1900 the work of the office was "very largely surveys of homestead tracts, and other public land sub-divisions, re-surveys of tracts that needed much more minute work than was at first possible, and the carrying out of very important department work, viz., the city survey of Honolulu." (C.J. Lyons, History, p.16)

From 1900 to 1915 the office continued to conduct the more detailed surveys as well as providing much needed surveys and maps of lands in the Territory for other government agencies. (See Correspondence "B" series from Public Works, "C" series from Public Lands, and "D" series from Attorney General.)

The Survey Office, prompted by Prof. Alexander (himself an avid scientist), participated in scientific study--"during the survey collections have been made and facts observed, which it is believed, will add to our knowledge of the geology and botany of these islands." (W.D. Alexander, History, p.19) In 1882, the Office took charge of government time for the town of Honolulu. Meteorological service gradually grew into existence as part of the Survey Office with C.J. Lyons in charge of its operations. By 1883, they were systematically recording temperature, barometric pressure, rainfall, wind and weather data. The Legislature eventually recognized the costs of the Meteorologist to the Survey Office and appropriated funds for office expenses in 1895 and funds for a salary in 1898.

Annexation and the 1900 Organic Act authorized a surveyor appointed by the governor with the consent of the Senate to hold office for four years. He "shall have the powers and duties heretofore attached to the surveyor-general, except such as relate to the geodetic survey of the Hawaiian Islands." (Organic Act, section 78)

Below is a list of some of the early surveyors in the Hawaiian Government Survey. The approximate years they worked for the Survey Office are included. Unfortunately these dates are not completely accurate as the surveyors voluntarily (to work for more lucrative companies, to travel, etc.) and involuntarily (shortages of funding for surveys necessitating the withdrawal of field groups) suspended their employment for varied lengths of time and these terminations and reinstatements are not well documented. Some surveyors also contracted themselves to the Survey Office for specific jobs, so were not official employees of the Survey Office. During the course of their careers, most surveyors worked on all of the major islands (excepting Kauai).

- Alexander, W.D. (1871-1901) Appointed first Surveyor-General by the Minister of the Interior in 1871 and retained that position until he resigned in February 1901 to take charge of the U.S. Coast and Geodetic Survey's new Honolulu branch office.
- Baldwin, E.D. (1882-1908?) One of his first surveys was Manoa Valley, Oahu. Spent time surveying on Maui in the districts of Kipahulu and Kaupo. Later he took charge of the Hilo Town Survey and office.
- Bishop, S.E. (1880-1888) Surveyed in Waikiki, Oahu, Lahaina and West Maui.
- Brown, J.F. (1872, 1878-1886) Surveyed Lanai with M.D. Monsarrat from 1877-78. Left the Survey in 1886 to take charge of Public Lands, a branch of the Survey Office until 1895 when a Commission of Public Lands was created. He remained with Public Lands until 1901.
- Cabot, L. (1878-1879) Railroad surveys in Hilo and Kohala.
- Dodge, F.S. (1877-1898) Primarily city surveys. Resigned in October 1898 to take charge of Bishop Estate Lands.
- Emerson, J.S. (1878-1903) From 1880-1881 he executed a detailed survey of Waipio Valley, Hawaii. He spent a great deal of his career surveying on Hawaii, although he did work on Oahu. In 1904, he is mentioned as a Court surveyor.
- Jackson, Capt. G.E.G. (1881-1884) Employed to survey the different harbors in the islands.
- Kanakanui, S.M. (1890 -) Field worker, primarily on Maui and Hawaii. Still employed by the Survey Office in 1915.
- Kittredge, C.S. (1878) Compiled a map of Kauai.

Lydgate, J.M. (1872, 1878-1891) Field worker, primarily on Hawaii

Lyons, C.J. (1871-1896) From 1879 until 1896 he was in charge of the Survey Office with increasing interest in meteorological work in his later years.

Monsarrat, M.D. (1877-1911?) Surveyed Lanai with J.F. Brown from 1877-1878. At intervals from 1885-1895 he had a private contract with the government to survey Molokai.

Sorenson, O.L. (1898-) Came from the Public Lands Office to the Survey Office in 1898 and became assistant in charge. Still employed by the Survey Office in 1915.

Wall, W.E. (1884? -) Succeeded W.D. Alexander as Surveyor-General in 1901. Still Surveyor in 1915.

See also: Interior Department -- Survey Department
Public Lands

also: Additional records received June 18, 1980 from State Land Surveyor.
See page 13 of this record.