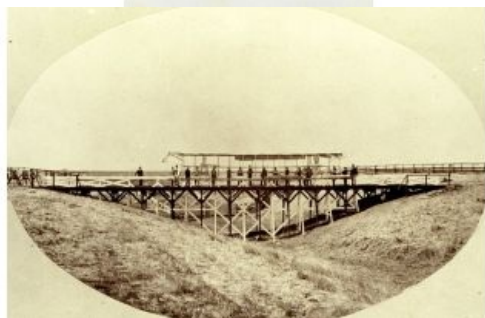


GEORGE DAVIDSON

Pioneer Surveyor



George Davidson, whose name is indelibly connected with the survey of the West Coast of the United States, spent most of the sixty-one years between 1850 and 1911 in service to the citizens of California, Oregon, Washington, and Alaska. He was born in Nottingham, England, on 9 May 1825 and emigrated with his parents to the United States in 1832. They settled in Philadelphia where a few years later he became a student of Alexander Dallas Bache, then principal of the Philadelphia Central High School. In 1843, Bache was appointed second superintendent of the United States Coast Survey. Two years later he selected Davidson to become his personal clerk in the Washington, D.C. office of the Coast Survey. Davidson was not happy with such a sedentary existence as he modified his address on many letters

home with the notation 'Washington D(reary) C(ity)'. It was obvious he was ready to head for the field.

In 1846, Bache sent him to serve with Assistant Robert Fauntleroy on the Gulf Coast of the United States. Fauntleroy befriended the young man and taught him the techniques of geodesy in the field. During the winter months he took Davidson to his home in New Harmony, Indiana, a colony of intellectuals and social experimenters seeking a utopian society. Here Davidson met his future wife, Ellinor Fauntleroy, although they did not marry until 1858. In 1849, Fauntleroy died of yellow fever while working on the Texas coast leaving George grief-stricken for his mentor. The same year, the Coast Survey had sent survey crews to California. Because of the gold strike, no labour was to be found on the



West Coast, and the first crews to arrive accomplished little work. Because of this, Superintendent Bache decided to send a crew of young men of great energy with 'record to make' to the West Coast. These men would undertake "for one year to do any duty, however hard or manual, incident to the survey on the western coast." George Davidson, James Lawson, and two others volunteered for this arduous assignment.

They arrived in San Francisco on 19 June and within three weeks were headed back south to begin their work. Point Conception, known as 'The Hatteras of the Pacific' was selected as their first location for which to determine an accurate astronomic position. Over the next year, he made astronomic observations near Monterey and San Diego in California, then north to Cape Disappointment at the Columbia River entrance. On the return from Cape Disappointment, Davidson was left off at Port Orford, Oregon Territory, where he conducted observations and remained until January 1852. While there he was "living on lean salmon until you feel scaly, turn colour and wag your tail." When returning to San Francisco he was assigned to the party of Lieutenant James Alden, USN, on the Coast Survey Steamer Active and proceeded south landing at nine locations to determine their astronomic positions. Upon return to San Francisco, he and Lawson, who had been working in the vicinity of San Diego, proceeded on the Active north to Neah Bay, near Cape Flattery in Washington Territory. The seeds of dissension between Davidson and Alden were sown on these trips and they came to hate each other over the next year, each heaping invective upon each other's heads in letters to the Superintendent of the Coast Survey. This resulted in Davidson acquiring a vessel which he named the Robert H. Fauntleroy in 1854.

After the Active discharged Davidson and his party of nine men at Neah Bay, his survey party encountered hostility from the Makah tribe and their relatives across the Straits of Juan de Fuca on Vancouver Island. Although the Makahs were afraid of retribution from the United States government if they attacked the survey party, their neighbours from across the strait did not share the same fear. A fleet of large canoes containing at least 150 Indians came across the strait and anchored in the kelp off Neah Bay. The Coast Survey party built breastworks and loaded all available weapons such that each man could shoot 60 rounds without reloading. No attack ensued as the Indian scouts always found an armed guard.

That Davidson and other members of the party were crack shots and courageous to a fault, sometimes exceeding foolhardiness, is illustrated by the following story told by James Lawson. A few years after the Neah Bay incident and when Davidson and his party were engaged in helping survey the boundary between Canada and the US in the Puget Sound area, he was in Victoria, British Columbia. While there they took to bragging about American marksmanship to the British colonial officials. The following day, while on a hunt with the

British, an American shot and wounded a mountain lion. Davidson, who had been running ahead, dropped a rifle cartridge in his shotgun, and, as the lion was dropping from the first shot, he shot it through the heart. In the elation of the moment, he took off his stovepipe hat and, placed it on the barrels of his shotgun, and then placed this in front of his face so that the brim of his hat just touched the crown of his head. He shouted to his fellow American to shoot at the hat. The other fellow did, piercing the hat and spitting the barrels of the shotgun about two inches above Davidson's head. Lawson reported that the "astonishment of the Englishmen was inexpressible" and upon coming up to Davidson "forgetting he was a superior officer" called him a "damned fool."

Besides the dangers of hostile natives and one's own foolhardiness, the work was dangerous. Davidson made over 40 small boat surf landings on a rock bound stormy coast during his career in spite of never learning to swim. Besides sounding out many of the channels and entrances to the small harbours of the West Coast, he also spent months in mountain triangulation work packing into places that had hardly been seen or visited by anyone prior to his work. All of this work had the potential for serious accidents as illustrated by at least six men drowning as boats overturned and were swamped between 1852 and 1867. Concurrent with this dangerous work, Davidson chose the sites for many Pacific coast lighthouses and in 1858 wrote The Directory of the Pacific Coast, the forerunner of the Coast Survey Coast Pilots. His 1889 edition of the Coast Pilot of California, Oregon, and Washington became the authoritative list of sailing directions for West Coast mariners as well as tracing the origin of numerous feature names on the coast and recording the history of exploration since the early Spanish adventurers. It also contained over 400 coastal views prior to the encroachment of civilisation. This document is considered one of the great historic works detailing the geography and early exploration of the western margin of North America.

Many consider the measurement of the Yolo Baseline in the Sacramento Valley and the Los Angeles Baseline to have been Davidson's crowning achievements. Both were over 11 miles in length and measured to the then unprecedented accuracy of better than one part in a million. The Yolo Baseline served as the starting point for the great geometric figures on the surface of the earth that became known as the Davidson Quadrilaterals upon which the primary triangulation of the Pacific coast states was based. This work overshadowed Davidson's earlier direction of the West Coast beginnings of the 39th Parallel Survey. The great triangle bounded by Roundtop in the central Sierra Nevada to Mount Shasta to Mount Helena had some of the longest lines ever measured in classical geodetic work including the 192 mile line from Mount Shasta to Mount Helena.

Davidson led an extraordinarily active professional life. He was associated with the University of California from 1870 until his death in 1911. He served as Honorary Professor of Astronomy and Geodesy, a Regent of the University from 1877 to 1885, Professor of Geography from 1898 to 1905, and Professor Emeritus until his death. He received an honorary degree of LLD from the University in 1910. He was elected president of the California Academy of Sciences in 1871 and served in that capacity for sixteen years. In 1867, he headed the party making a geographical reconnaissance of Alaska and his report helped sway Congress to purchase 'Russian America'. In 1872, he was appointed one of three Commissioners of Irrigation of California and became recognised worldwide as an authority on irrigation problems. He was instrumental in helping establish the Lick Observatory. He survived the San Francisco earthquake of 1906 and helped found and became the first president of the Pacific Seismological Society. Davidson became the most honoured American for his scientific work in the nineteenth century. He was elected to membership in such societies as the Royal Astronomical Society, the American Philosophical Society, the Bureau des Longitudes of France and the United States National Academy of Sciences.

Surprisingly, and to the shame of those involved, Davidson was dismissed from the Survey in 1895 by William Ward Duffield, an ignorant political appointee who was made head of the Coast and Geodetic Survey during the second administration of Grover Cleveland. The uproar that ensued from the scientific community forced Duffield's resignation in 1897.

George Davidson combined the skills of hydrographer, geodesist, geographer, astronomer, seismologist, civil engineer, hydrologist, historian, native American ethnographer and teacher for the citizens of his adopted land as well as the world scientific community. In 1900, at the age of 75, he commented "... I continue ceaselessly to work because I love it, because I have the constitution to stand it, and because I believe that I can add something to human knowledge and especially benefit the young." His services to the western coast are commemorated by Davidson Seamount off the California coast, the first undersea feature to be named with the generic term 'seamount'; Mount Davidson in San Francisco; Mount Davidson, Nevada; and Mount Davidson, Davidson Mountains, Davidson Inlet, Davidson Bank, and Davidson Glacier, Alaska. He was an extraordinary man, the likes of which few of us will ever see in our lifetimes.