

The Survey of the Philippine Islands

Following the Spanish–American War, the Philippine Islands became a US Protectorate. Consequently, the US Coast and Geodetic Survey commenced providing this vast archipelago with modern nautical charts. An assignment in the Philippines was the great, defining experience of a lifetime for many young officers and four future directors of the Coast and Geodetic Survey had at least one tour of duty there. A look into Pacific life is presented on these pages.

Nothing in their American background prepared the Coast and Geodetic Survey (C&GS) for the kaleidoscopic melange of cultures, terrain, flora and fauna that was the Philippine Islands. Over 7,000 islands were spread out over an area equal to half that of the USA. The northern islands were overlain with Spanish culture, while the Southern islands were predominantly Muslim. Besides these major cultural units, there were numerous tribes and over 170 dialects with which to contend.

The C&GS ships were based in Manila but sailed to all of the outlying islands, and even Sandakan in Borneo knew the ships. The *Romblon* and *Marinduque* were named for Philippine islands, the other ships had functional names such as *Research*, *Fathomer* and *Pathfinder* (the first C&GS vessel was named *Pathfinder*). They sailed over and charted the azure seas of the Philippines - the Sibuyan, Visayan, Bohol, Celebes and Sulu. The small ships braved the typhoons that regularly visit this corner of the world, sometimes with near-disastrous results. The *Fathomer* was blown aground during a typhoon in 1936, the eye of which passed directly over the ship, which endured winds approaching 150 miles per hour. After the backside of the typhoon had passed by, the captain reported: "Everyone was bruised and suffering from exhaustion and exposure. Fortunately the sick bay was on the port side, enabling first aid to be administered. Two quarts of brandy, stored in the sick bay, were rationed out to all hands, and undoubtedly resulted in no one developing a severe cold or pneumonia." Undoubtedly, the brandy calmed some nerves, too.

The shore parties encountered frequent earthquakes, the occasional volcanic eruption, mangrove swamps, razor-sharp coral rocks, head-high sawgrass, surf that up-ended launches and skiffs, and an endless succession of high mountains covered with dense jungle on all of the larger islands. The common feature of the local fauna was that most species wanted to jump on, bite, eat, poison or in another way harm the surveyors that entered their environment. Poisonous cone shells, sea snakes and various venomous fish frequented the reefs; king cobras approaching 18 feet in length could be found on the southern islands; pythons approaching 30 feet in length inhabited the jungles; and huge salt-water crocodiles posed a constant threat to the surveyors while they worked in the southern islands. At least one crewman was suspected of having been killed by a crocodile and one C&GS officer was attacked while standing on the side of a survey launch. The crocodile leaped out of the water and grabbed his leg, but fortunately also grabbed an intervening stanchion, which prevented it from dragging the man into the water. A member of the Philippine constabulary who was guarding the survey crew shot the beast and saved the officer. Malaria, typhoid fever, dysentery and other tropical diseases were constant companions of the surveyors. During the great influenza epidemic of 1918, the entire crew of the *Pathfinder* was sick and eight crew members died. Occasionally, a hostile populace would attempt mayhem on unsuspecting surveyors. On the eve of US entry into the Second World War, a C&GS officer was attacked on one of the southern islands by a Moro juramentado wielding a kris (wavy-bladed small sword) and eventually died as a result of the wounds he suffered.

It was not all sweat, hard work and danger, though. Upon return to Manila, the surveyors lived and relaxed in one of the great cosmopolitan cities of Asia. Golfers enjoyed themselves on a course outside the walled inner city of Intramuros, amahs (nannies and domestic servants) were hired to tend to their homes and children, and a constant round of social activities with members of the armed services, civil service and political figures made life enjoyable for the C&GS surveyors and their families. There were humorous events as well. As it was hopeless to eliminate the roaches that infested the ships, on one ship some of the younger crew members took to amusing themselves by painting the backs of large roaches various colours. While entertaining a visiting dignitary one evening on the *Fathomer* before US government vessels were declared alcohol-free, the somewhat tipsy dignitary looked to the water cooler and "Suddenly we saw our guest's eyes bulge, as he looked toward the cooler. He saw a pure white roach, followed by a yellow one, and an aluminum coloured one. He glanced at us. We acted casual and talked about things in general, suggesting that we top off the evening with a little nightcap. He rubbed his eyes, then his forehead, squirmed a little, then picked up his hat and said, 'Gentlemen, I must be going; it is getting late.'"

The C&GS laboured through all of this for the 40 years prior to the Second World War. On the evening of 24 December 1941, Manila suffered its first bombing raid from Japanese aircraft. Commander George Cowie of the C&GS was at the C&GS printing facility and was killed by a Japanese bomb. When the Philippines ultimately fell, C&GS officers and their families were incarcerated by the Japanese for the duration of the war. However, the bulk of C&GS work including charts, plates, coast pilots, tidal observations and other valuable intelligence information had been sent back to the USA. This information proved invaluable three years later in planning amphibious operations to liberate the Philippines. Following the war, the independent Republic of the Philippines came into existence on 4 July 1946. On 12 May 1947, an agreement between the Republic of the Philippines and the USA was signed regarding establishing a hydrographic and geodetic training programme for up to "twenty Filipinos each year prior to 1st July 1950". Fortunately, even before the war, the C&GS had been training native engineers and cartographers as well, so there already existed a large cadre of Filipino talent even prior to the advent of the training programme. Finally, in 1950, the C&GS departed the Philippine Islands after 50 years of almost continuous work broken only by the Second World War. A geodetic network had been established, a suite of about 200 charts had been produced, a network of tide stations had been established and, most importantly, a trained group of Filipino engineers, cartographers and technicians were able to smoothly take over the functions of a newly formed Philippine Bureau of Coast and Geodetic Survey. That organisation

continues today as the Department of Coast and Geodetic Survey of the National Mapping and Resource Information Authority (NAMRIA) and helps guide mariners of the world through Philippine waters.

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