USQUE AD MARE
A History of the Canadian Coast Guard and Marine Services by Thomas E. Appleton

The Weather Ships

When the meteorological work of the Department of Marine and Fisheries was transferred to Transport Air Services in 1936, few could have foreseen that within ten years it would be necessary to employ seagoing ships and that, within twenty years, these would rank with the largest in the Canadian Coast Guard fleet. This transfer of responsibility was made in recognition of the growth of passenger flight which had been extended to the trans-Atlantic route by the time that war broke out. It was shortly to be eclipsed by a tremendous upsurge of military flying.

With the resultant need for North Atlantic weather forecasting, the allied nations, chiefly the United States, provided naval craft to record meteorological data at selected patrol positions but, when hostilities ceased, their number was suddenly reduced. By that time the wartime military air traffic on the Atlantic had changed into the busiest commercial passenger stream in the world and a comprehensive meteorological service became necessary. In 1946 interested countries held a conference to plan these matters and a number of weather stations were allocated, of which Canada and the United States were jointly asked to operate station Baker.

As it happened, Canada had already experienced a similar operation in the Pacific where, in 1945-6, HMCS *Woodstock* had shared a patrol with United States ships some 500 miles to the westward of Vancouver Island. The *Woodstock* was a single screw corvette of the *Flower* class, one of the most sea-worthy types of small warship ever built; designed on the lines of a whale catcher, these vessels were arranged to suit wartime production and were fitted with rugged steam machinery which could be manufactured quickly. With the development of the second phase of the Battle of the Atlantic, when closely escorted convoys had to be further protected by long range anti-submarine groups, the corvettes were followed by twin screw frigates, vessels of modified destroyer type with two corvette engines. The last of the worlds warships to have steam reciprocating machinery, in this case four-crank triples, the frigates were big enough to keep the sea and to accommodate a fair sized complement and small enough to be reasonably economical in operation. It was to this class, rapidly becoming redundant in the post war navy, that the Department turned as the basis of an entirely new kind of vessel, the specially equipped deep sea weather ship.

CCG ships *Stonetown* and *St. Catharines*, weather ships converted from frigates.

The first of the line, HMCS *St. Stephen*, remained for a while as a weather ship under naval control. With a complement of some ninety officers and ships company, and a civilian staff of five Transport meteorological observers, HMCS *St. Stephen* served in the North Atlantic, on alternate patrols with a United States ship on station "Baker", from December 1947 till June 1950 by which time, for economic reasons, it was decided that Canada should abandon her half share in the Atlantic work and take full responsibility for station "Peter" in the Pacific, in position 50 deg. North latitude and 145 deg. West longitude. This position in 900 miles from

Vancouver.

Meanwhile, by way of preparation, the Department purchased two more frigates, *Stonetown* and *St. Catharines*, for convention at Sorel; the latter, towards the end of the war, had been under the command of an officer who would eventually become the marine superintendent of the Canadian Coast Guard, Lieutenant Commander W. E. Harrison DSC RCNR.

The International Civil Aviation Organization, known as ICAO, which by this time had been appointed as the body to lay down the agreed standards for the services required of weather ships, and the Canadian Government who required that certain additional scientific tasks be undertaken, jointly settled the role of the new vessels. This entailed the provision of services to support civil aviation, notably meteorology, search and rescue, navigational aid for aircraft in flight, and miscellaneous scientific and oceanographic pursuits. By the time that the frigates came out from Sorel in the colours of the Canadian Marine Service, buff funnels with black top, white superstructure and black hull, they looked very different from the lean and hungry U-boat killers of the North Atlantic. Gone were the rows of depth charge rails and throwers, gone in fact was the old wet quarterdeck and, with a continuous sheer from steam to stern these ships became firm favourites despite, or perhaps because of, the somewhat makeshift arrangements inevitable in all conversions.

Under the command of Captain J. S. Sleight, the *St. Catharines* sailed to take up her station in December 1950 to be followed, before long, by Captain J. H. Linggard in the weather ship *Stonetown*. The *St. Stephen*, which had been used as a standby vessel to support the others, was converted in the same way by 1955 but, as they were able to keep going without replacement, her services were never needed and she remained in reserve at Victoria. If rumour is to be believed, this was just as well for a cannibal diet of fittings and equipment had sustained life in her sisters at many an awkward moment.

Station P for "Peter", named in accordance with the phonetic jargon of NATO radio procedures, eventually became known as "Papa", a change which finally sacrificed the jolly and robust spirit of "Apples, Beer, Charlie . . . . ", the language of former yeomen and telegraphists, to the more sedate "Able, Baker. . . ." of their modern counterparts, the communicators. However, under any name, it was still 900 miles from Vancouver Island to position "P", a place which demands much of ships and men in the maintenance of a six-week rotation of patrol.

The two frigates remained in operation for some sixteen years, a truly remarkable feat which speaks highly for the quality of an emergency wartime shipbuilding programme, and even more highly for those who tended them faithfully in the intervening years of hard seagoing. By 1960 the Department began to consider the question of replacements and, in 1962, tenders were called for two very advanced weather ships to be named respectively, *Vancouver* and *Quadra*, which were put into service in 1966 and 1967.

These two ships are of steam turbo-electric twin screw propulsion and have an endurance of 8,400 miles at a cruising speed of 14 knots. Although they can steam at 18 knots, the work calls for a high degree of mobility at very low speeds and the vessels are therefore designed as stable, and very manoeuvrable, platforms with highly complex equipment. To obtain measurements of the temperature, pressure and relative humidity of the upper atmosphere, balloons are released at intervals of six hours. These balloons contain radio equipment which transmits the required information, the balloon itself being tracked by a radar installation which feeds azimuth, elevation and range into a computer which automatically produces printed charts of upper wind speeds and direction. In addition the weather ships maintain constant records of other meteorological and oceanographic phenomena, and provide radio beacon aid to trans-Pacific aircraft.

Operating in rotation with seven weeks at sea and five in their home port of Victoria, the *Vancouver*, Captain Linggard, and the *Quadra*, Captain Dykes, provide an unusual routine. The work at sea is constant and meticulous, ships and men must always be ready to provide search and rescue help in case of disaster to an aircraft or ship within reach, and all on board must be able to function efficiently and harmoniously within the confines of shipboard life, conditions which require high personal qualities. The weather in that area of the North Pacific is always trying, the prevalent conditions including a heavy swell or sea, low visibility, and a general lack of sunshine.

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