

on. The extent of inland completion of naval craft under construction frequently depended on the existing depths that could be assured in canals, dry docks and channels leading to the sea.

Internationally, the Hydrographic Service of Canada constituted a link in the chain of hydrographic services of the Allied Nations and, in consequence, there was a constant flow of standard and confidential data circulating between the Canadian Service and the Hydrographic Offices at London and Washington. Through this co-operation, the chart folios of the Fleets of the United Kingdom and the United States, like those of the Royal Canadian Navy, contained the latest Canadian hydrographic charts.

*Chart Production.*—At Hydrographic Headquarters, chart compilation and production surpassed all records. Charts furnished for war purposes may be divided into three categories: (1) standard navigation charts; (2) special strategic and plotting charts; and (3) wall charts. The standard charts were supplied principally to the Defence Forces for use on war vessels, and were furnished in very large numbers to merchantmen, including neutral vessels whose navigators were often strangers to Canadian waters. There was a heavy demand for charts from the fishing industry, especially from purchasers of previously Japanese-owned fishing craft on the British Columbia coast, who were, in many cases, unfamiliar with the intricate coastal waters. These marine charts were printed in colour to emphasize the gradations of water-depths; the shoals, banks and other dangers; and also the safe, navigable channels. Certain tints were used to provide maximum visibility under the peculiar red-lighting conditions used in ships' chartrooms.

The special charts compiled for strategic war purposes included secret route-charts; technical charts of world-wide scope to facilitate the plotting of radio direction-finding bearings; and many other sheets used for shipping control, convoy routing and sea- and air-operational purposes. In addition, a number of instructional charts were supplied and meteorological base charts were constructed, also sets of chartlets showing the monthly sea and air temperatures on various Atlantic lanes required in connection with the shipping of perishable products to Britain.

Complete sets of very large wall charts covering Canada and other parts of the world were prepared for the Navy and the Air Force. They were of uniform design and were used extensively throughout the various directorates of the Defence Forces for plotting the progress of ships at sea, for indicating reported positions and courses of enemy sea and undersea craft, and for the planning of important fleet and convoy operations.

A constant stream of standard navigation charts, special charts and wall charts were always in course of construction, revision and processing. The wartime demand is indicated by the fact that the output increased steadily each year from 19,850 charts in 1939 to a peak of 106,042 in 1944; a reduction to 101,633 was recorded for 1945.

*Legal and Map Service.*—Throughout the War, the activities of this Service were increasingly concentrated towards assisting in Canada's war effort. This work consisted in the compilation and printing of aeronautical maps and the supplying of maps and survey data. Upon the outbreak of hostilities, the Map Service was faced with the responsibility of furnishing air-navigation charts, not only for general operational use, but to meet the huge requirements of the training schools under the British Commonwealth Air Training Plan. Air-navigation charts became