

ORGANIZATION OF THE HYDROGRAPHIC OFFICE OF SWEDEN

The Hydrographic Office (Kungl. Sjökarteverket) is a central administrative office under the executive and financial supervision of the Ministry of Defence. The number of staff employees is about 100, including heads of divisions and sections, cartographers, draughtsmen, engravers and administrative personnel.

The head of the office is a Director General, and there are the following divisions :

1. Charts.
2. Surveys.
3. Nautical instruments, books and periodicals.
4. Terrestrial magnetism.
5. Technical service.
6. Administration and accounts.

1. *Charts.* The head of the division as well as the heads of its sections are civil servants with a university or technical degree. The sections are as follows :

- A) Geodesy, Photogrammetry, Tides ;
- B) Construction of new charts, and
- C) Correction, reproduction, and sale of charts.

Section A makes such triangulations as are necessary to complete the work of the Land Survey Office to suit the needs of nautical surveying. The section makes calculations for the construction of charts and other geodetic calculations (e.g. Decca-lines) and also carries out work on photogrammetry and on tidal data.

Section B carries out the construction of new charts. These are compiled from surveying sheets or from foreign charts and are, so far, drawn for direct photo-lithographic reproduction. Later most of them are reproduced by copper engraving. At present the questions as to construction and reproduction methods are being deliberated, as a result of the new processes developed by the U.S. Coast and Geodetic Survey.

Section C prepares current corrections to charts. Most of the corrections are derived from the nautical surveys, and as regards lights and beacons, from information given by the Royal Pilot Board. This section is also in charge of reprints of charts for stocking purposes, as well as for the wholesale office, which has about 125 agents within the country and abroad.

2. *Surveys.* This division is in charge of all nautical surveys. The head and assistants are naval officers, and the crews of the vessels are recruited from the navy, excepting a few officers from the Merchant marine, one draughtsman for each vessel, and some specialists in radio, echo-sounders and Decca. The surveys are made with the aid of echo-sounding, and for position-finding during off-shore sounding a special mobile Decca chain is established on the Swedish coast.

The surveying-vessels are seven in number with a total crew of about 200. To the surveying expeditions are attached about thirty motor launches for in-shore work, most of them with echo-sounding gear. The surveying season lasts as a rule from the end of April to the end of September, when the vessels are laid up for the winter. To the division is attached a small precision repairshop for surveying and other instruments.

3. *Nautical instruments, books and periodicals.* This division operates in two sections, viz. :

- A) Testing of navigation instruments.
- B) Notices to Mariners and Sailing Directions.

Section A is concerned with the testing of ships' navigation-lights and magnetic compasses, a compulsory requirement for all such instruments on Swedish merchant vessels. Testing takes place in one of the six branch offices established in the larger ports of Sweden. The head of the division is a civil servant with an honours degree in science, and the branch-offices are under the direction of master mariners with extra (teacher of navigation) certificates. The ships' navigation-lights are tested every twelfth year and the compasses every third or (in the case of coastal traffic) every fifth year. This division also, if so requested, carries out the testing of sextants, which is however not compulsory.

Preparations are made, in collaboration with other Scandinavian countries, for establishing identical testing specifications for all the countries concerned.

The Notices to Mariners mainly concern the coasts of Sweden and adjacent waters ; in the case of more distant waters only essential information is given for ocean navigation and landfalls. This periodical is issued once a week.

The Sailing Directions for the coasts of Sweden are published in five volumes, one giving general information, and the other four information concerning different parts of the coast. As a rule a new edition of each one of the volumes is issued each year, as well as correction pamphlets.

The editors of these two publications are both master mariners.

4. *Terrestrial magnetism.* This division establishes magnetic charts of coasts and coastal waters and also carries out general surveys of secular variation covering the whole country. For the determination of daily and seasonal variations the division runs a magnetic observatory near Stockholm and also makes continuous records at a station north of the Arctic circle.

The head of the division must have a university degree with honours in physics, the observatory head also has a university degree, and there is an assistant electrical engineer. To this department is attached a motor vessel 18 metres long specially built for magnetic surveys.

5. *Technical service. Vessels, material, and buildings.* This division supervises the technical equipment of the vessels and boats, as well as the buildings belonging to the Hydrographic Office. The head of the department is a mechanical engineer or naval architect.

6. *Administration and accounts.* This division consists of the administrative, economic and clerical staff of the Office. Its head is a civil servant specialized in accounting.

In addition to the staff mentioned above, the Director General also disposes of the counsels of an experienced law and administration specialist who is attached to the Ministry of Finance.

Outside interests connected with the work of the Hydrographic Office are represented by a Board, with one member from each of the following: the Board of Trade, the Royal Navy, the Royal Pilot Office, the Geological Survey (for terrestrial magnetism), and two from the Merchant Marine. This board is mainly concerned with the Office budget and has sessions as occasion arises during the year.

Historical: A paper on the development of the organization of Swedish hydrography from 1644 to 1944 is to be found in the *Hydrographic Review*, vol. XXIV, 1947, pp. 186-195.

