

Questionnaire

Describe the way the Hydrographic Office in your country handle depth related rules in populating databases and in the way to creating nautical products (bathymetric grid cell size, quality of the survey, position and depth accuracy, age of the survey, especially for the areas which are adjacent to your neighboring countries).

Estonia

We are using Sounding selection Tool in dKart Editor 2.4. Sounding distance criteria:

Distance criteria		
From	To	Distance (mm)
	5.000	8.000
5.000	10.000	12.000
10.000	20.000	16.000
20.000	50.000	18.000
50.000	200.000	25.000
200.000	1000.000	38.000
1000.000		50.000

We are drawing Depth contours with values: 2, 5, 10, 20, 50, 100, 200

About 20% of Estonia waters are covered by high quality measurements done from year 1995 till today. Other 80% are not so accurate measured during 1949-1985.

In adjacency with neighboring countries only 5% of measurements are accurate.

Finland

In Finland we edit the bathymetric data in one database and store it in one big database where all data for the products are taken. Our basic ENC cell size is 15'x15', age of survey is between 1-50 yrs. We have 3 different survey quality classes: A (multi beam full coverage) B (only minor, single beam) C (single beam and old surveys), position accuracy is handled using DGPS and RTK-GPS (Real Time Kinematic). C-class survey quality is based on handheld geodetic surveys. Depth contours are basically same for ENC and paper charts, but in ENC we don't represent 3m and 6m contours.

Depth related rules are the following (for contours): 0-3m, 3-6m, 6-10m, 10-20m, 20-50m, 50-100m, 100-200m, 200-500m. Note there are no 0-3m, 3-6m and 6-10m depth areas.

Germany

Normally the whole area is surveyed according s44 order 2 except for those areas that are defined by HELCOM to be surveyed in order 1 details see "Sollaufgaben Ostsee A3.pdf". Areas that are surveyed in order 1 are marked red. In areas that are surveyed according Order 2 sounding distance is 1/100 Maßstab (scale).

The file catzoc_neu.xls is a comparison between s44 orders and the s57 attribute catzoc.

A survey database is in preparation. By then paper charts and ENC's are updated by a file based system. So survey results are given regional as file to the chart designer. Some areas are updated in the HPD database and ENC and paper chart come out of the database but in most cases the charts are updated manually and ENC's are made out of the chart. In this case new edition of ENC's come later than corresponding paper chart. Paper charts and ENC's vary in extent.

Latvia

Starting from year 2001 all surveys are carried out in order 1, according to S-44. The surveys are carried out in the fairways, in ports and around, all HELCOM Routes. Prior that we have digitised old survey sheets starting 1975 - from coast to 4km in the sea, 1955 - farther from coast till territorial waters boundary, older data in deep sea are from old Russian navigational charts.

Surveys are gathered in the hydrographers database. When the data are required, hydrographers give us a local file-extract from the database. Further there are several local programs for filtering the data for sounding distance. The charts are updated manually by chart designer in dKart. When the ENC is ready, the paper chart is made in dKart Publisher. In paper chart some depths may be deleted by chart designer. Contour intervals and depth accuracy are not going well together with the neighboring countries, but we are working on it.

Lithuania

Bathymetric grid cell size is scale dependent. Quality of the survey is used only spec. Order and Order1 survey data according to S-44. Unfortunately, we do not have old survey fair sheets, so we do not use the age of survey.

Poland

Hydrographic Office of The Polish Navy collects bathymetric RAW data, which meets the IHO standards.

To collect and maintenance bathymetric data is used Caris Bathy DataBase ver.

2.1 SP1 – client version

Sweden

A new survey with higher quality override previous data in the Depth Database. Grid is created of the data points of the new survey, resolution adjusted to the scale of the chart. Depth contours and a dense sounding selection are created from the grid and this is used for updating the Chart Database. Normally the depth contours in the Chart Database has to be manually updated by overlaying the new to the existing in the chart and digitize. In some areas it works well to generalize the grid in order to directly get smooth contours and a sparse but appropriate sounding selection. Any contour can be created from the grid, but only the ones that exist in the chart of interest are saved in the Chart Database.

Normally the Chart Database is updated within a specific area where the new survey took place. But also larger areas (new editions) are updated, where data of various qualities is to be blended.

Denmark

All HELCOM Routes are surveyed in order 1A according to S44. The rest of the surveys are order 2 (marked blue, both for order 1A and order 2).

Some of the surveys come from private companies approved by our own surveyors (mainly in order 1A).

The old digital survey data are digitized from old source material in 1:20.000 survey sheets (marked red).

The rest of the data we are using (not marked) comes from various sources. A part of these data comes back from the 1850.

We receive data in a grid of 5 x 5 meter. Afterwards we are handling the data by using CARIS BASE Editor.

Today we are not using a database for the process data but store it all in CARIS files.

Additional questions from the questionnaire

	Does the Hydrographic Office in your country have any kind of inconsistencies related to depth contours and the density of soundings with some of your neighbouring countries overlapping paper charts or adjacent ENC's?	Does the Hydrographic Office in your country have any bilateral agreements with some of your neighbouring countries to avoid inconsistency related to the above question?	Does the Hydrographic Office in your country describe the depth contours and the density of soundings in the same way both for ENC's and paper charts?
Estonia	YES	YES	YES
Finland	YES	YES	NO
Germany	YES	YES	YES
Latvia	YES	NO	BOTH
Lithuania	NO	NO	BOTH
Poland	YES	NO	BOTH
Sweden	YES	NO	YES
Denmark	YES	NO	YES