

National Report of Finland

[15 August 2012]

Executive Summary

This Report gives an overview of the main activities of the Finnish Hydrographic Office (FHO) since the previous BSHC 16th Conference. The main issues are:

- During survey season 2011 the outsourced surveys on the Finnish EEZ area (*Bothnian Sea*) enhanced remarkably the HELCOM re-survey plan. This was continued by new procurements on the *Bothnian Bay* area in 2012. *Meritaito Oy* has produced significant amount contracted coastal and lake surveys
- Adequate ENC coverage was achieved in 2010. Additional Coastal ENC-coverage to cover all paper charts has been decided to be produced.
- The production of nautical charts and ENCs has been as planned
- The ISO 9000 based Quality certification for hydrographic activities was awarded in September 2011
- The Hydrographic Office has participated actively on the IHO, PRIMAR and HELCOM work.
- In 2011 Finland became as an Observer to ARHC.

1. Finnish Hydrographic Office

Administrative and Organisational Status

There have been no changes in organisation of Finnish Transport Agency in 2011. There have not been changes in the number of staff of the Finnish Hydrographic Office. Annually roughly 12 Million€ is used for hydrographic activities.

Strategic Plans

The Process Management System is operational and in use in all core and supporting processes. Main interface is shown in **Fig.1**. An official Quality Certification (by DNV) to the hydrographic processes was awarded in September 2011.

A voluntary IMO Audit Scheme which was carried out in November 2011 in Finland. The Project is managed jointly by the Ministry of Traffic and Communication and the Finish Traffic Safety Agency (TraFi). Finnish Hydrographic Office participated to the auditing and especially the processes for NtM and navigational warnings were audited. Main outcome was regarded to be on a good level. The main exception was that the competence specifications of the staff for these processes should be defined more precisely.

The web pages of the FTA are under revision and will in the future contain more relevant information also on hydrographic issues.

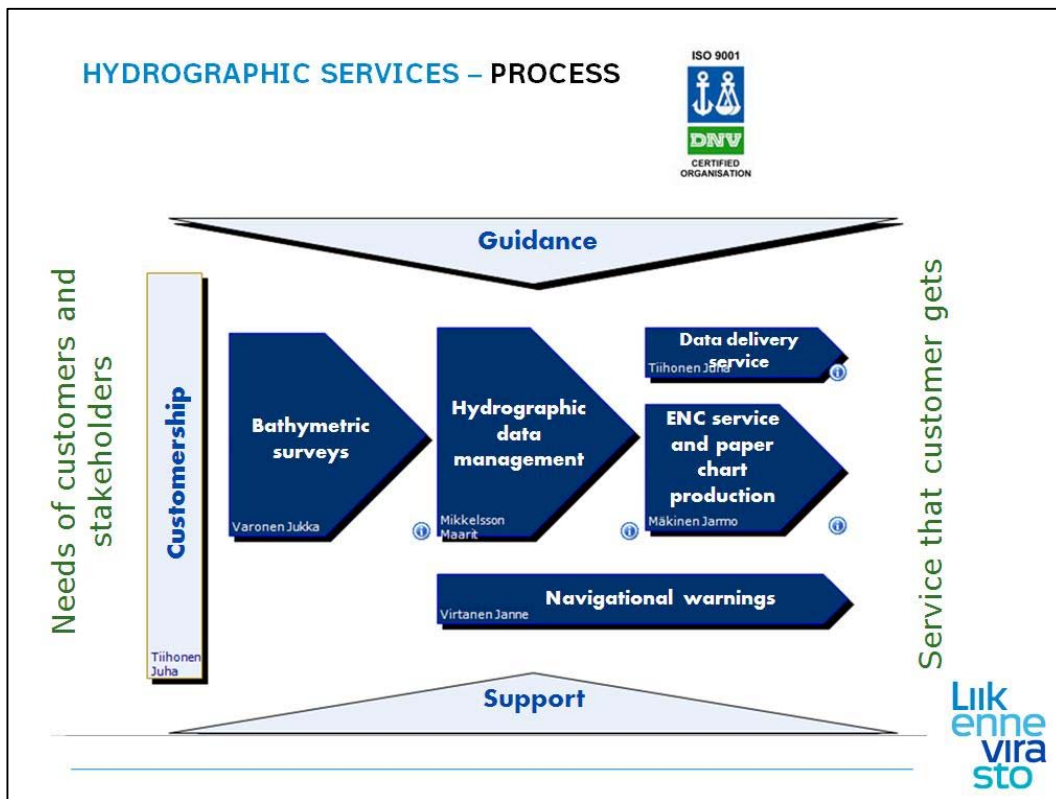


Fig.1. Main interface for the Process Management System for Hydrographic Services.

2. Hydrographic surveys

FTA has had no hydrographic survey fleet since 2010. According to a separate SGEI-legislation for the transfer period 2011-12 the FHO gave an order to *Meritaito Oy* for production of hydrographic surveys with 5,6 million € during 2011. A contract of value 1.5 million € was signed for the surveying of HELCOM-routes on the *Bothnian Sea* (see below EU TEN-T *MonaLisa* project). Survey contract of value 0.75 million € was made after tendering process for the surveys of Lake *Kallavesi* near Kuopio. Survey markets will be opened for competition from beginning 2013.

The main survey projects during season 2011 were

- HELCOM surveys together with Swedish Hydrographic Office in the *Bothnian Sea* was ordered from *Fugro OSAE GmbH*. Finnish EEZ areas 7074 km² / 1,55 M€.
- SGEI-legislation based order from *Meritaito Oy* in Finnish territorial waters, open sea surveys 1140 km², general surveys and fairway surveys 413 km² on the coast, fairway surveys of inland waters 70 km² / 5,6 M€.
- Lake *Kallavesi* inland survey 387 km² / 0,75 M€ was ordered from *Meritaito Oy*.

In total 2011 multi-beam surveys were 8867 km², and single beam surveys 216 km², see Fig.2.

The weather conditions were again favourable during the season 2011. Contracted surveying company continued their work even after New Year 2012.

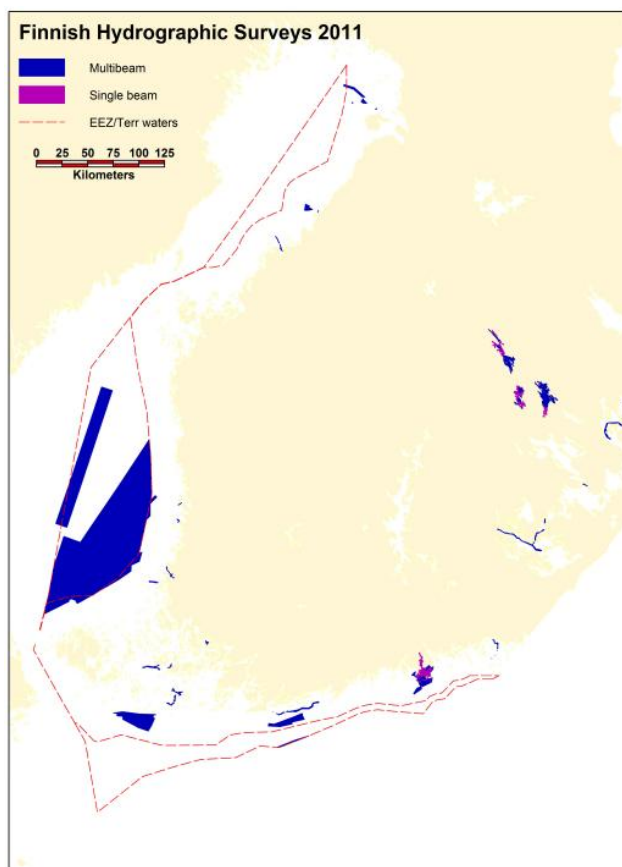


Fig. 2. Hydrographic surveys in 2011. Blue areas by multibeam, red areas by single beam.

The TEN-T project *MonaLisa* has been continued. A major sub activity related to hydrography is to speed up re-surveying of some Finnish and Swedish areas used for navigation. The estimated area is about 30.000 km² and the costs are about 15 Mill €. TEN-T is funding 50% of these. The project is for years 2011 - 2013. In Fig. 3 there are shown the planned re-survey areas. There are also sub activities to develop harmonised depth model and data set on the Baltic Sea and to make a pilot implementation of harmonised vertical reference. These are in connection with the relevant BSHC working groups.

Main survey projects in 2012 are

- Bothnian Bay EEZ-areas, 5934 km², contract 2,6 M€, *Marin Mätteknik*
 - Bothnian Bay territorial sea, 1400 km², contract 0,85 M€, *Fugro-OSAE*
- These contracts on the Bothnian Bay are for years 2012-13
- Lake survey, *Northern Saimaa*, 300 km², contract 1,0 M€, *Meritaito Oy*
 - Contract based on SGEI-legislation 3,9 M€ with *Meritaito Oy* includes
 - 1100 km² open sea surveys (Helcom)
 - about 370 km² general and fairway surveys on the coast
 - other specific survey tasks

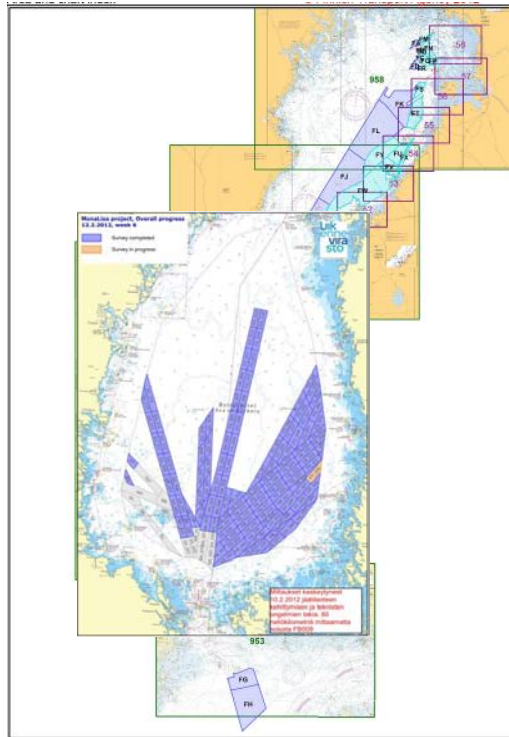


Fig. 3. Areas planned to be re-surveyed during the 'MonaLisa' project. Sea of Bothnia surveyed by Finland and Sweden in 2011, the rest of areas planned for Finland in 2012 – 2013.

The BSHC/HELCOM Harmonised Hydrographic Re-Survey Scheme has been updated with the survey results of the season. The revision of the scheme has been approved by HELCOM Ministerial meeting in Moscow May 2010. The BSHC is committed to the revision. A status report will be given to HELCOM Ministerial meeting spring 2013.

Hydrographic data processing and management

The soundings are stored as original soundings in the Sounding Database System (SYRE). In the **Fig. 4** there are shown full coverage areas that are processed to the chart database (Katiska) by end of June 2012 (approximately 68% of all soundings). However all critical observations are processed immediately.

A plan for processing bathymetric data to chart database during 2012-2016 was prepared in 2011.

The project for renewing the nautical chart processing and production system included the evaluation of ESRI Nautical Solution at the end of 2011. The project will continue in 2012.

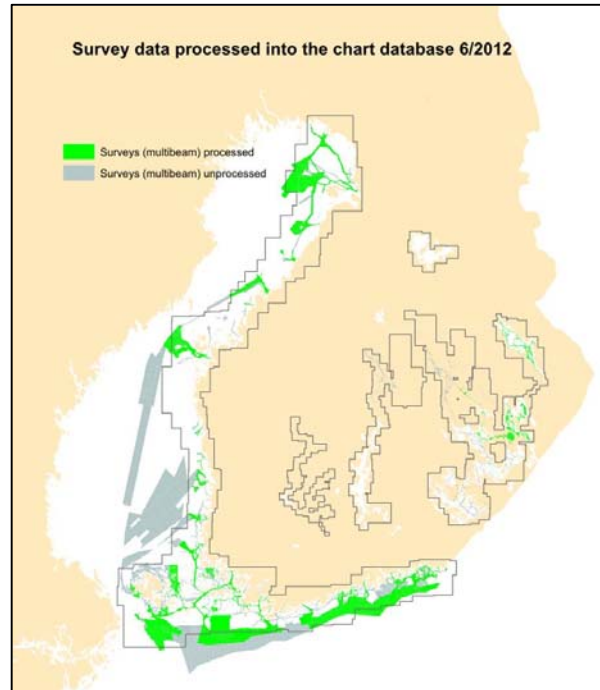


Fig. 4. Survey data processed into the chart database by June 2012.

3. Nautical Charts

Printed charts

The Hydrographic Office has adopted a long term plan for production of nautical charts (both printed charts and ENCs) has been updated twice a year. Plan covers years from 2012 to 2016 and describes what products will be published, when and why. Production plans are derived from the plans of other departments of the Finnish Transport Agency (e.g. plans to build new fairways, TSS's or changes of them). In **Fig. 6** there are shown the coverage for approach charts and chart series.

There are 78 nautical charts and 18 chart series for small crafts. Each series includes normally from 15 to 25 charts for public sale on both sea areas around Finnish coast and on main inland lakes. In 2012 new editions of 3 chart series (example in **Fig. 5**) and of 20 new charts/editions are/will be published. Some charts from minor inland lakes have been removed from portfolio. The amount of sold copies of printed charts is varying from 2009 to 2011 as 11.000, 12.000, 10.800 charts, and for chart series as 14.000, 18.500 to 15.600 chart series. See statistic is **Fig. 7**.



Fig. 5. New chart series L on Saimaa inland waterways.

A tendering process for printing and delivering paper charts is ongoing. (possibly including POD services). Study of harmonisation of national paper chart symbols with S-4 is also going on.

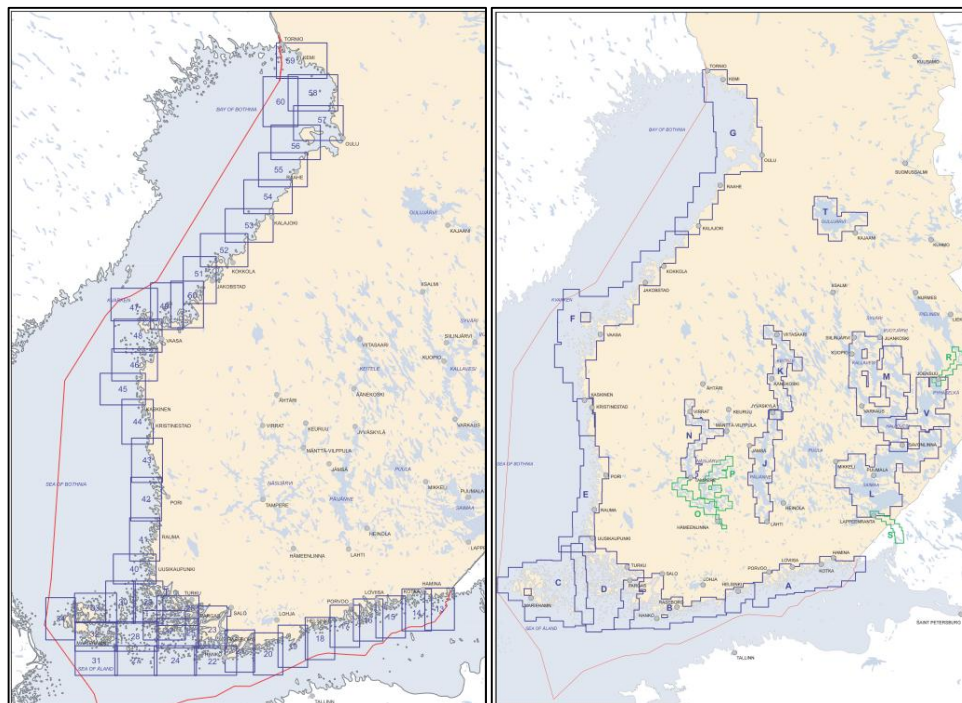


Fig. 6. Coverage for printed approach charts and chart series in 2012.

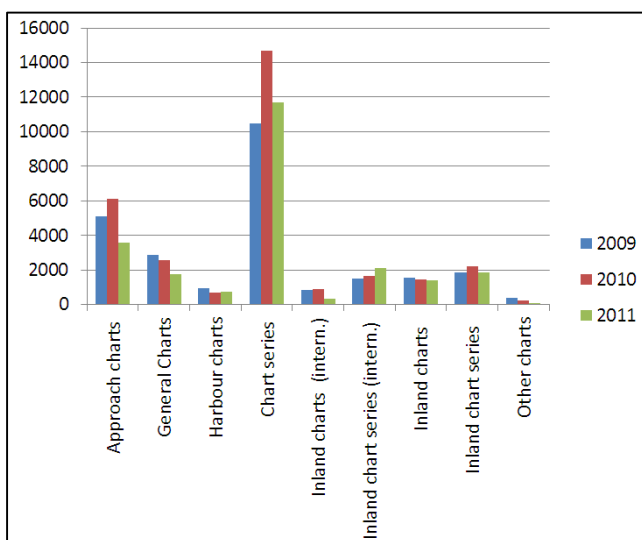


Fig. 7. Number of sold charts in 2009 – 2011.

ENC production and distribution

Adequate ENC coverage for commercial shipping routes and areas was achieved in 2010. These cells cover main fairways used by SOLAS vessels in sea areas, see Fig. 8. By end of 2011 there were 205 Finnish ENC cells on the market, see Fig. 9. In addition to that also Coastal ENC on the Finnish sea areas to cover all paper charts have been decided to be produced. In 2011 altogether 5 new cells, 23 new editions and 766 updates (ER) were

published. The distribution of the ENC is done via *PRIMAR*. The FHO is evaluating if ENCs (with update service) will be published in the future also for chart series or inland areas (or will this data be delivered as S-57 or other formats).

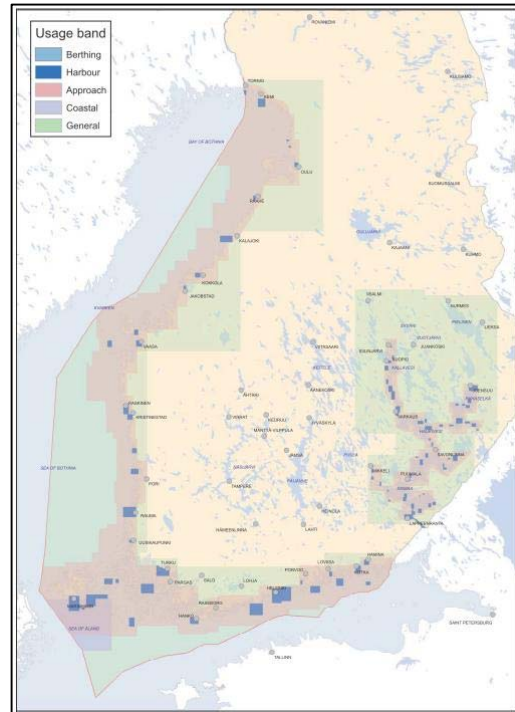


Fig. 8. ENC coverage 2012.

Usage Band	No of ENCs
General	14
Coastal	1
Approach	142
Harbour	46
Berthing	2
Total	205

Fig. 9. Finnish ENC cells on the market by 31 December 2011.

At the end of 2011 there were about 386 customers and about 1100 vessels using Finnish ENCs. The total number of active subscriptions is approximately 50600, see *Fig. 10*.

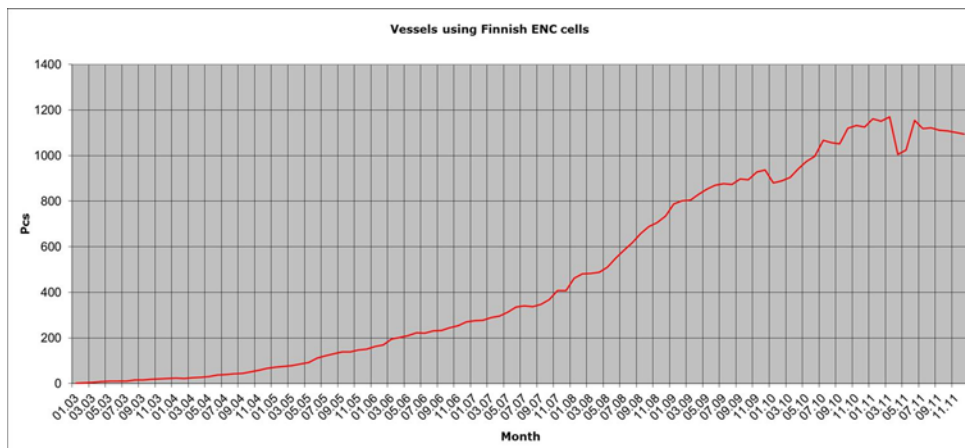


Fig. 10. The number of ships using Finnish ENCs from March 2003 to December 2011.

4. Nautical publications

Notices to Mariners are published every tenth day and are available also on the Internet. 36 NtM issues were published. ENC charts are updated once a week based mainly on the NtM material. Notices to Yachtsmen, which are compiled on the basis of the NtM, are published five times a year. A chart based correction service has been running smoothly since 2010. There are plans to develop NtMs to be more like an S-4 standard products.

A new edition of List of Lights for Inland waters was published in January 2012. A new edition of List of Lights for Lake Saimaa district will be published in 2012. The new sales Catalogue of Finnish Nautical Charts was published in February 2012.

5. MSI

Navigational Warnings. The FHO (Helsinki Co-ordinator) and the designated persons in the Maritime Districts maintain an up-to-date file for navigational warnings. Finnish navigational warnings (local and coastal warnings) are transmitted by VHF from *Turku Radio* (24h service) and by Navtex (coastal warnings) from *MSI SWEDEN*. The system is supervised and co-ordinated by The Hydrographer and Helsinki Co-ordinator, whereby the Finnish navigational warning practice constitutes a part of the international navigational warning system. 248 navigational warnings were published during 2011.

6. C-55

Updates (only minor changes) to C-55 were sent to the IHB in March 2012.

7. Capacity building

Nothing to report.

8. Oceanographic activities

FHO participated to the BOOS annual meeting in June 2012, Helsinki.

9. Other activities

Bilateral Arrangements

The FHO has started to supply chart repromats for the adoption programme of UKHO. At the same time chart adoption by Germany is increasing. The negotiations with Russia will be started again during the autumn. Bilateral Arrangements exist with Estonia and Sweden. The first Swedish INT chart is planned to be adopted in 2012.

Spatial Data Infrastructure and Services

Wide discussion is going on in Finland regarding Open data. The pressure to open hydrographic data without fees is increasing.

The FHO has participated actively National INPIRE network and on the implementing work of National Geodata Portal. The metadata of FHO data sets and services are available at the National Geodata Portal. The first stage viewing services are in operation and the download services will be opened shortly. See <http://www.paikkatietoikkuna.fi/web/en/>.

International activities

The Hydrographic Office has participated actively on the IHO work. Finland has had representatives in the HSSC Committee, and in its various Working Groups e.g. TSMADWG, CSPCWG, DIPWG, MSDIWG, DQWG, TWLWG (representing BSHC). Finland represents the BSHC on the IRCC WEND-WG. Finland is chairing the BSHC ChartDatumWG, Hydrographic Re-Survey Monitoring WG, and Baltic Sea INT Charting Coordinating WG. Within the NHC Finland is contributing to Data Quality issues (NDQWG), enhancing paper chart production (NCPEG) and hydrographic data transfer (IDEWG). Finland became as an Observer to ARHC. Finland has participated to the work of all the working groups of PRIMAR. The FHO has actively promoted hydrographic issues to HELCOM. In 2011 DQWG, CSPCWG and PAC meetings were arranged in Finland.

10. Conclusions

This report highlights the main activities of the Finnish Hydrographic Office since the previous BSHC 16th Conference in September 2011.
