National Report of Finland

[14 March 2011]

Executive Summary

This Report gives an overview of the main activities of the Finnish Hydrographic Office (FHO) since the previous NHC 54th Conference. The main issues are:

- The Hydrographic Office has moved into new premises in Helsinki area
- A new (10 - 15 staff) unit for inland hydrographic activities will be established by 2015 in town of *Lappeenranta*.
- During summer 2010 the hydrographic surveys have been progressed fluently.
- The production of nautical charts and ENCs has been as planned
- Adequate ENC Coverage achieved in 2010 for commercial shipping routes and areas.
- The Hydrographic Office has participated actively on the IHO, PRIMAR and HELCOM work.

1. Finnish Hydrographic Office

Administrative and Organisational Status

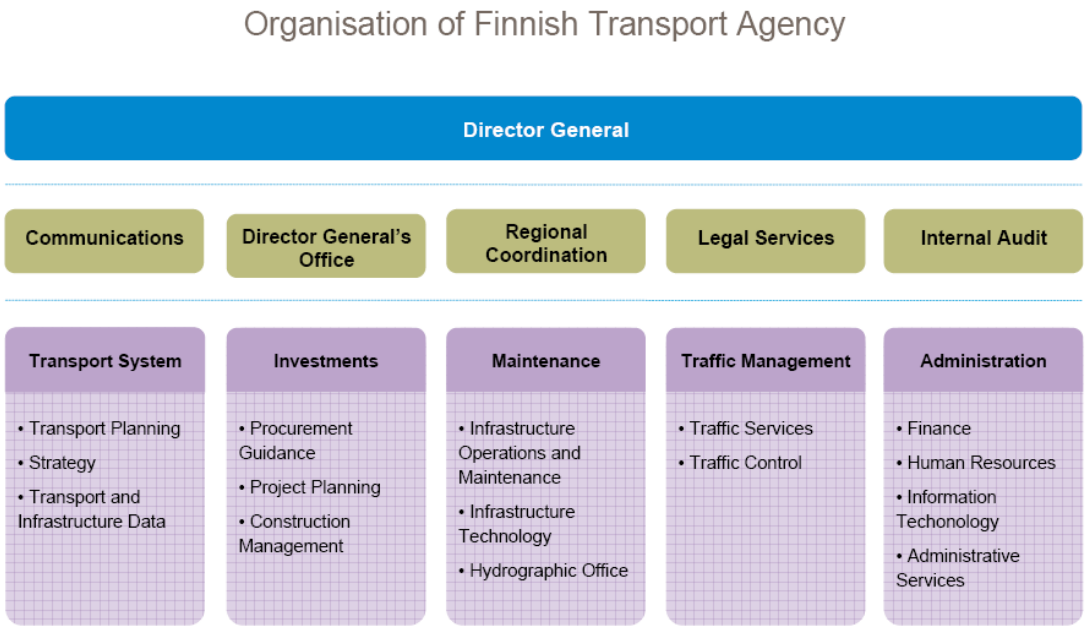

Fig. 1. ***The organisation of Finnish Transport Agency on 1 January 2011.***

The FHO moved December 2010 – January 2011 into new premises some 5 km north of the Helsinki main railway station. The FHO will de-centralise some 15 employees (25%) to the new inland hydrographic unit by 2015 into the town of *Lappeenranta* (some 230 km from Helsinki).

Finnish Hydrographic Office:

- The Director and Staff (5)
- Hydrographic Survey Unit (6)
- Nautical Charts Unit (28)
- Hydrographic Information Management Unit (22)

The annual budget of all these units is roughly 12 Million €.

Strategic Plans

The Process Management System (including Quality Management and Environmental Program) is operational and in use in all core and supporting processes. During 2010 the performance indicators were defined and taken into operational use. A process to get an official certification to the processes is underway and the going on (by DNV) is expected in early 2011.

Finland has applied to voluntary IMO Audit Scheme which will be carried out in late 2011. The Project is managed jointly by the Ministry of Traffic and Communication and the Finish Traffic Safety Agency (TraFi). Finnish Hydrographic Office is participating to the auditing process.

The Hydrographic Programme 2008 – 2018 will be updated during 2011.

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

2. Hydrographic surveys

According to a separate legislation for the transfer period 2011-12 the FHO has given an order to *Meritaito Oy* for production of hydrographic surveys with 5,6 million € during 2011. An agreement has been made about the survey areas and other technical requirements. A common procurement process is ongoing with Sweden for the survey of HELCOM-routes on the Bothnian sea (see below EU TEN-T *MonaLisa* project). Finland has reserved 1,5 million € for this contract. Another procurement process will be taken place in inland waters for continuing the surveys of *Lake Kallaves*i near Kuopio.

Survey results in total in 2010 (In-House order put to Meritaito Oy, value 8 million €) included 124 km^2 single beam echo soundings and 2342 km^2 surveyed with multi-beam method see ***Fig.2***. The weather conditions during the survey season were favourable and other technical drawbacks were avoided.

The main survey projects during season 2010 were

- HELCOM-surveys in the Northern Baltic, Open sea areas south from Archipelago sea and in the southern parts of the Bothnian Sea
- continuation of general surveys in the archipelago of eastern *Gulf of Finland*
- continuation of general surveys of the *Lake Kallavesi* in the *Saimaa Lake* area.
- smaller fairway surveys on different locations

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.

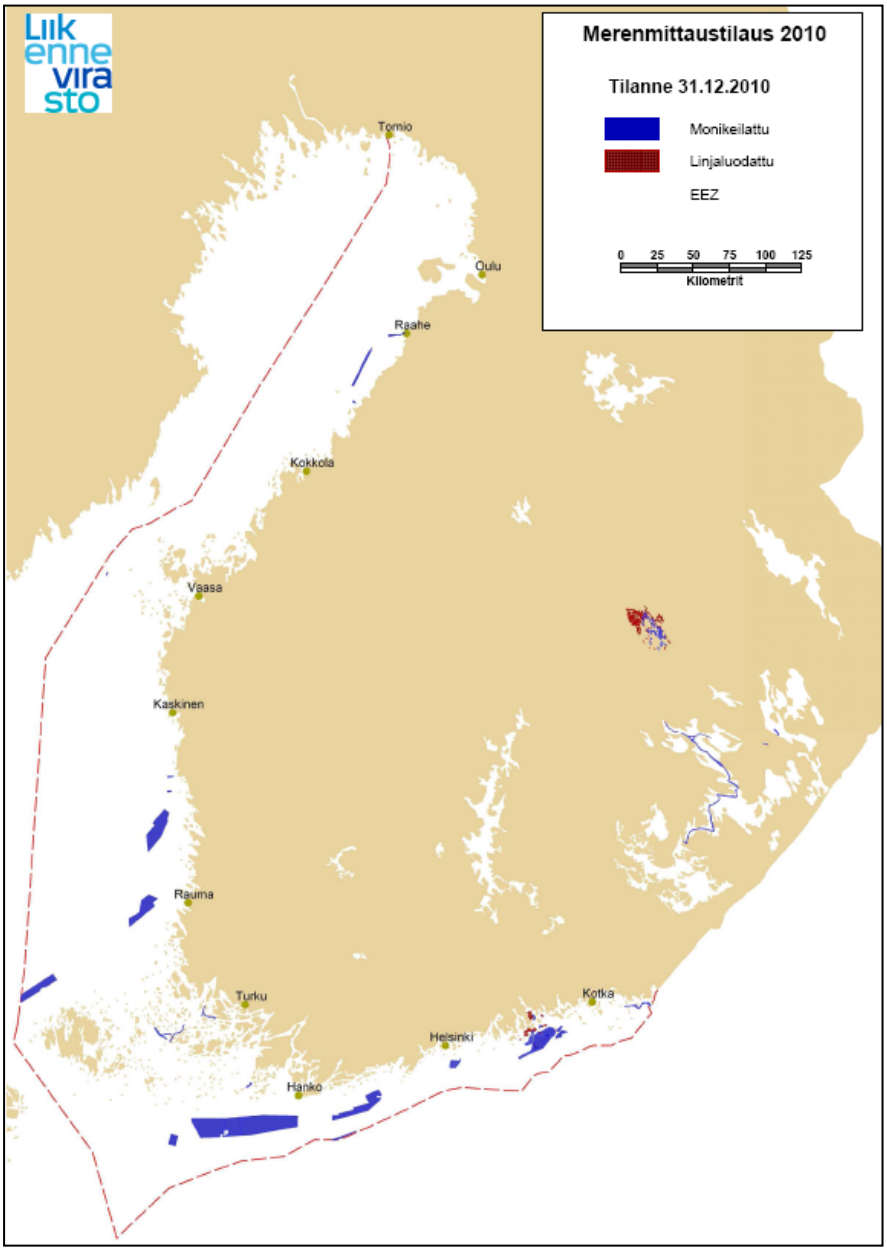

Fig2. Hydrographic surveys in 2010. Blue areas by multibeam, red areas by single beam.

The TEN-T project *MonaLisa* has been started. A major sub activity is to speed up re-surveying of some Finnish and Swedish areas used for navigation. The estimated area is about 30.000 km^2 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 BSHC working groups.

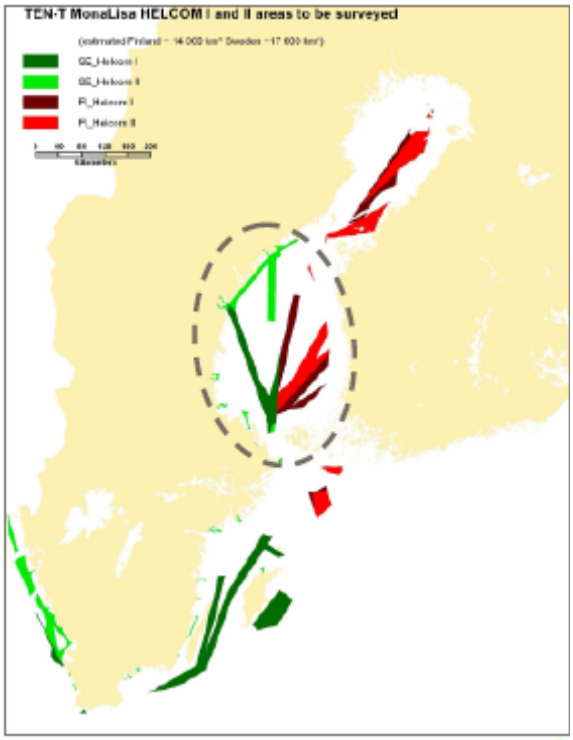

Fig 3. Planned re-survey areas in MonaLisa project 2011- 2013.

Hydrographic data processing and management

Survey data validation and quality checking against surrounding data as well as registration into bathymetric databases takes place in the FHO in Helsinki. The soundings are stored as original soundings in the Sounding Database System (*SYRE*). In the ***Fig 4*** there is shown the full bottom search survey coverage in the sounding database by the end of 2010. Approximately 50% of those are also processed to the chart database.

Geographic information of controlled areas and metadata of all survey projects are stored and maintained in the Controlled Area Database System (*VARE*). Data processing systems and databases are developed further and maintained by the FHO.

A study project for evaluating future technological solutions for nautical data processing systems has been done. Based on this evaluation, developing a project for renewing the nautical chart information management system will start in 2011. An evaluation project for technological possibilities to renew the existing depth data management system will start in 2011.

All incoming chart update data is stored on-line to hydrographic database. A management system for updates allowing handling chart updates in controlled and efficient way through the whole hydrographic process is in developing phase in 2011.

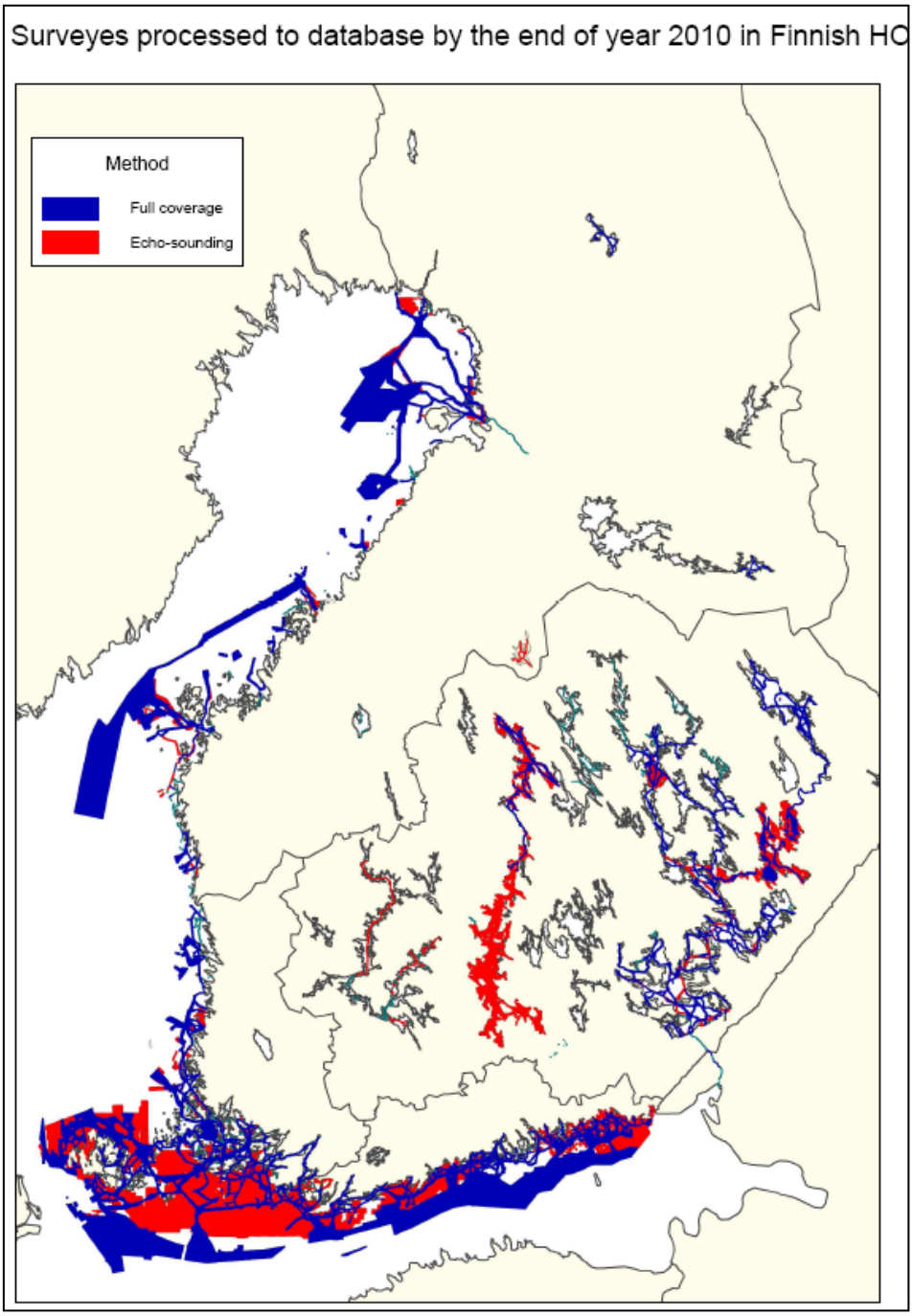

Fig. 4. ***Survey data processed into the sounding database by end 2010.***

3. Nautical Charts

Printed charts

The Hydrographic Office has adopted a long term plan for production of nautical charts (both printed charts and ENCs). Plan covers years from 2010 to 2016 and describes what products will be published, when and why. Production plans are derived from plans of other departments of the Finnish Transport Agency (e.g. plans to build new fairways, TSS's or changes of them). Long term plan will be updated at least twice a year. In ***Fig 5*** there are shown these plans for coastal charts and chart series.

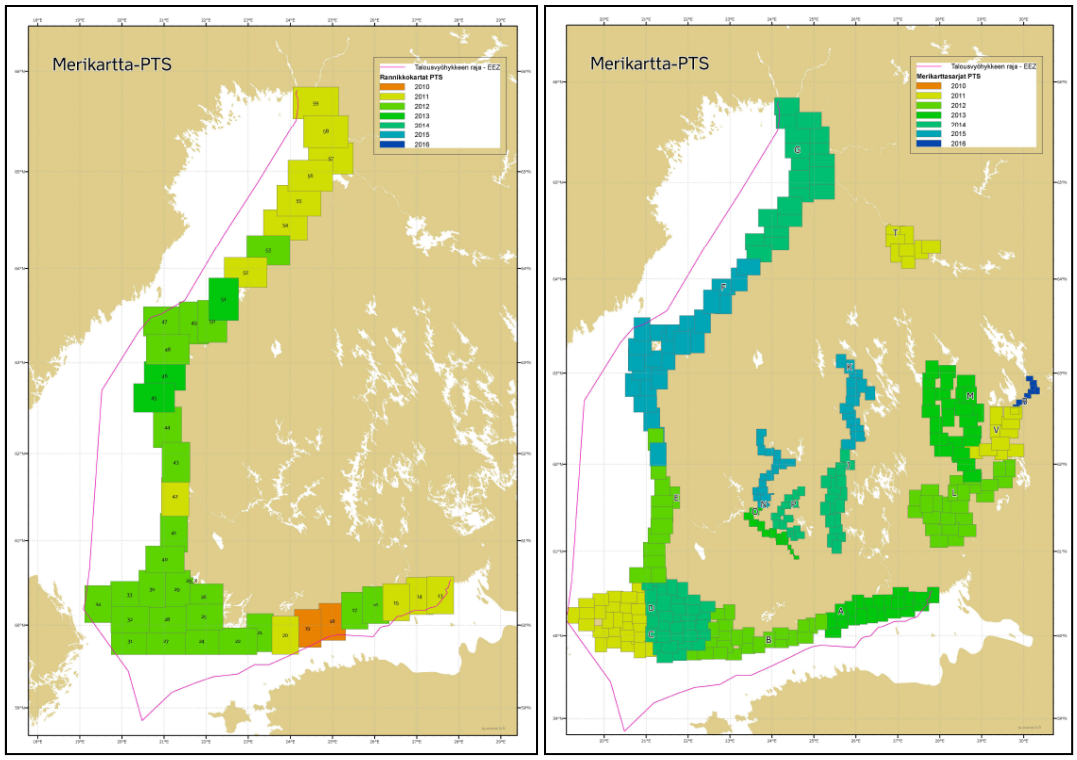

Fig. 5. ***Production plans for printed coastal charts and chart series for 2010 - 2016.***

There are 86 nautical charts and 17 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. Some charts from minor inland lakes will be removed from portfolio. In 2010 new editions of two chart series and of 21 new charts were published. The amount of sold copies of printed charts is increasing from 2009 to 2010 from 11.000 charts to 12.000 charts and from 14.000 chart series to 18.500 chart series.

A totally new chart series for inland area (V-series) based on new modern surveys will be published in March 2011.

ENC production and distribution

Currently there are 215 Finnish ENC cells on the market, see ***Fig 6***. These cells cover main fairways used by SOLAS vessels in sea areas. Adequate ENC coverage for commercial shipping routes and areas was achieved in late November 2010. In 2010 altogether 54 new cells, 23 new editions and 477 updates (ER) were published. The distribution of the ENCs is done via *PRIMAR*. The FHO is evaluating if ENCs (with update service) will published in the future also for chart series or inland areas (or will this data be delivered as S-57 or other formats).

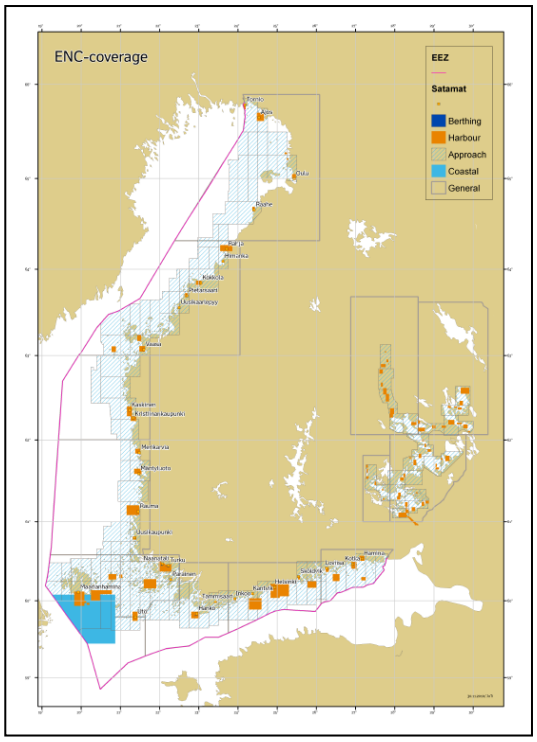

Fig 6. ***Current ENC coverage for general and coastal, and for approach and harbour usage bands.***

Currently there are about 330 customers and about 1100 vessels using Finnish ENCs. The total number of active subscriptions is approximately 52000, see ***Fig7***.

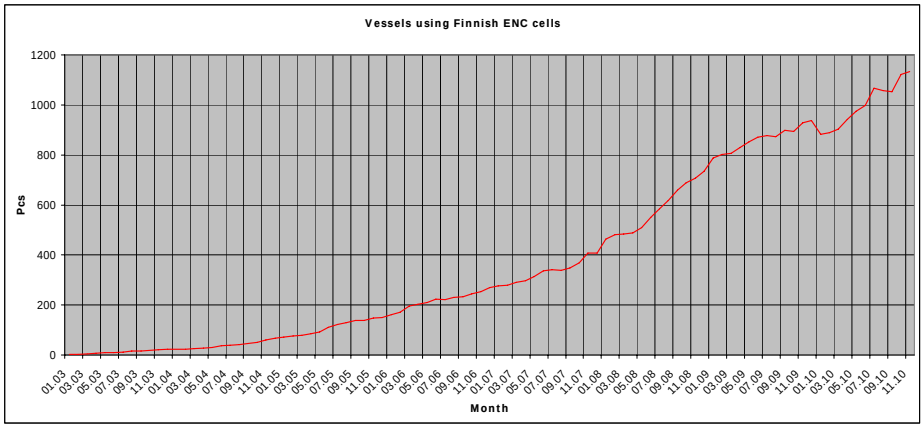

Fig 7. ***The number of ships using Finnish ENCs from March 2003 to December 2010.***

4. Nautical publications

Notices to Mariners are published every tenth day and are available also on the Internet. 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 since beginning of 2010. There are plans to develop NtMs to be more like a S-4 standard products.

The next edition of the List of Lights on the Finnish Coast was published in June 2010. The next edition of List of Lights for Inland waters will be published in 2011. The new sales Catalogue of Finnish Nautical Charts was published in February 2011**.** A new edition of Chart 1 was published in June 2010.

5. MSI

Navigational Warnings. The FHO (Helsinki Co-ordinator), *Turku Radio* and the designated persons in the Maritime Districts maintain an up-to-date file for navigational warnings. *Turku Radio* (24h service) is sending the Finnish navigational warnings based on this. The new Finnish VHF network has been in operation from 1st January 2010. At the same the old VHF and MF networks has been closed. Finnish navigational warnings (local and coastal warnings) are transmitted by VHF from *Turku Radio* 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.

6. C-55

The C-55 database has been updated in February 2011 (only minor changes).

7. Capacity building

Nothing to report.

8. Oceanographic activities

Nothing to report.

9. Other activities

Bilateral Arrangements

The FHO has continued bilateral co-operation with UKHO and Germany on chart adoption. The negotiations with Russia are going on. Bilateral Agreements are with Estonia and Sweden.

Spatial Data Infrastructure and Services

The non-navigational use of hydrographic data is increasing all the time. The FHO has participated actively on the implementing work of National Geodata Portal. The major tasks at the moment are to define the first stage services for view, download and transformation services. The WMS viewing services for FTA railway, road and hydrographic data is available by March 2011. At the same time the work for creating INSPIRE specific national spatial data sets is going on. The metadata of FHO is available at the National Geodata Portal.

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 TG. Finland is chairing the BSHC ChartDatumWG, Hydrographic Re-Survey Monitoring WG, and Baltic Sea INT Charting WG. Within the NHC Finland is contributing to Data Quality issues (NDQWG), enhancing paper chart production (NCPEG) and hydrographic data transfer (IDEWG). Finland has participated to the work of all the working groups of PRIMAR. The FHO has actively promoted hydrographic issues to HELCOM.

Printing-On-Demand

The technical study for the FHO has been made by the Technical Research Centre of Finland and the specifications for printing solutions are now available. A study of the needs to enhance the data management processes for the POD and to evaluate possible POD service providers will be done during 2011.

10. Conclusions

This report highlights the main activities of the Finnish Hydrographic Office since the previous NHC 54th Conference in 2010.

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