NATIONAL REPORT OF SWEDEN

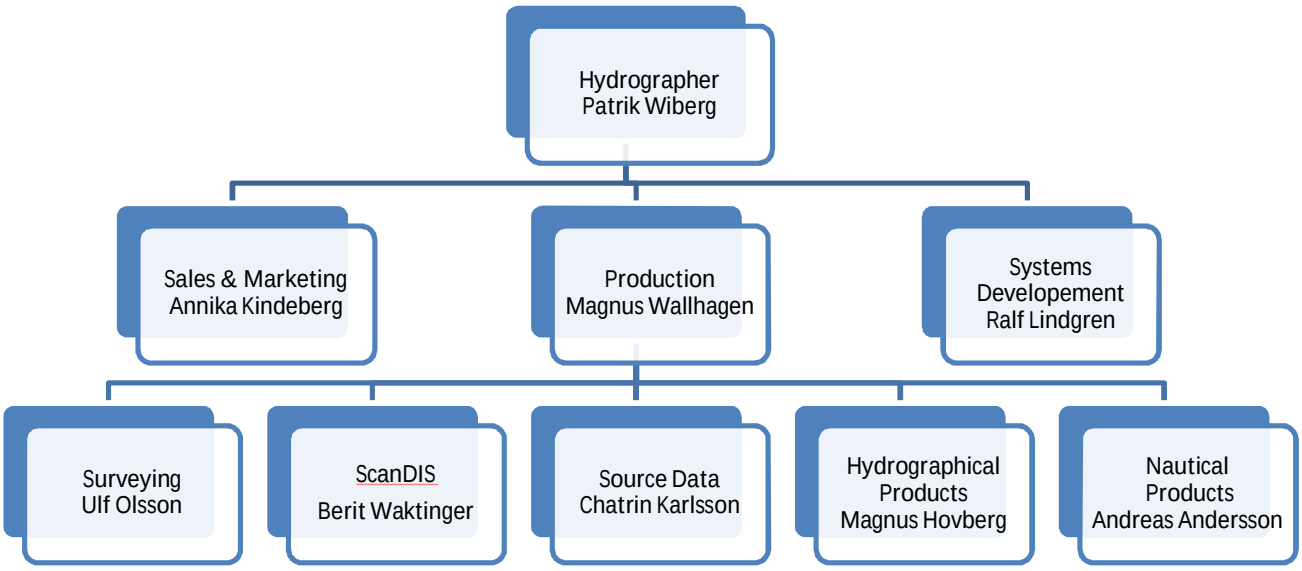
Executive summary

This report gives a summary of the main activities within the Swedish Hydrographic Office since the last report given at the 17th BSHC meeting in Helsinki in September 2012.

1. Hydrographic Office

At the time of compiling this report 115 persons are employed by the Hydrographic Office. The operations are certified by Lloyd´s register quality assurance in accordance with ISO 9001:2008. Yearly quality audits are conducted by Lloyds and internal auditors.

The Hydrographic Office organisational structure is described below. Since 2012 Andreas Andersson has become the new head of the unit responsible for Nautical products.



2. Surveys

Most Swedish waters are surveyed to some degree over the years. The long term objective is that all Swedish waters should be surveyed in accordance with the international standard S-44, which is now the case for most fairways used by SOLAS vessels.

Surveys and re-surveys now and in the coming years are focused on fairway areas in the *SMA Safe Seaways concept* (Säkra sjövägar), which is a part of the HELCOM Cat I and II areas Hydrographic re-Survey plan for the Baltic Sea. During 2012 SMA made a total review of the areas used by commercial traffic, as part of the work being done within the BSHC HELCOM Re-survey Monitoring Working Group. After the review Cat I and II now encompasses over 120 000 km² out of totally 165 000 km² within the Swedish EEZ.

2012 a total amount of 9950 km² were surveyed, 4580 km² by SMA vessels and 5 370 km² by contracted companies. The funding for these operations was partly through the EU TEN-T project MONALISA and the surveys were carried out in cooperation with the Finnish Traffic Agency. The area delivered from external hydrographic survey companies ordered by other parties such as harbours or local authorities amounted to 260 km² during 2012. The total amount of hydrographic surveys in Sweden 2012 was 10 200 km². See also image below. This means that 35% of Swedish waters are surveyed in accordance with the international standard S-44.

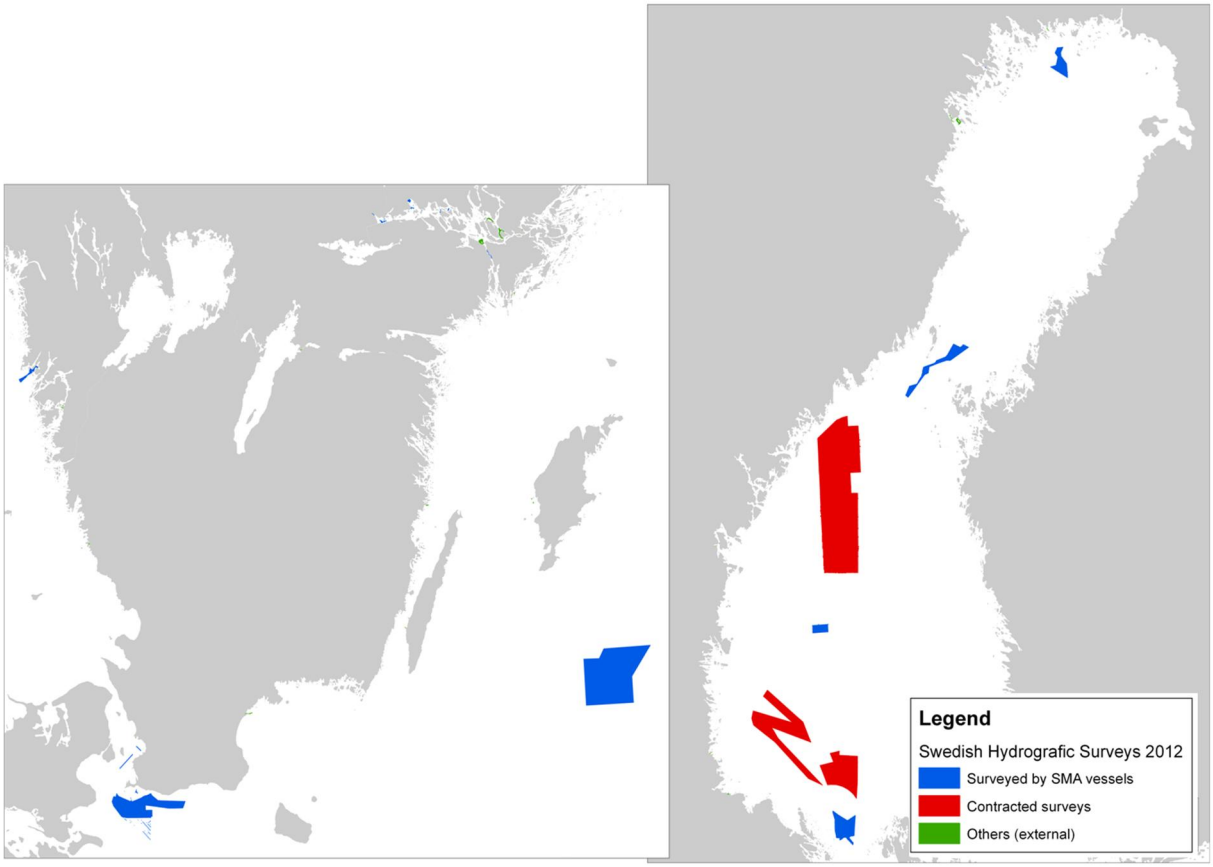


Fig 1 Swedish Hydrographic Surveys 2012

Fig 2 SMA Survey Vessels 2013

Surveying within the MONALISA project is continued in 2013. The areas marked in purple in the figure below will be surveyed 2012 – 2013 by MMT and Fugro OSAE, approximately 50% each. Planned surveys 2013 with our own resources are marked in grey below.

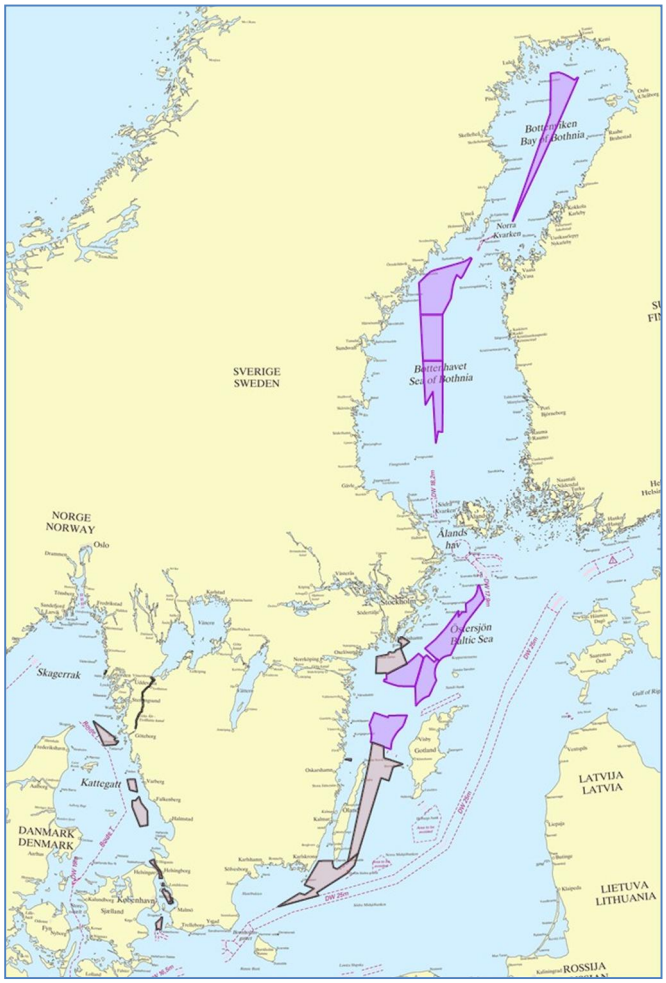


Fig 3 Planned surveys 2013. Grey – SMA vessels. Purple – contracted surveys.

Depth Database

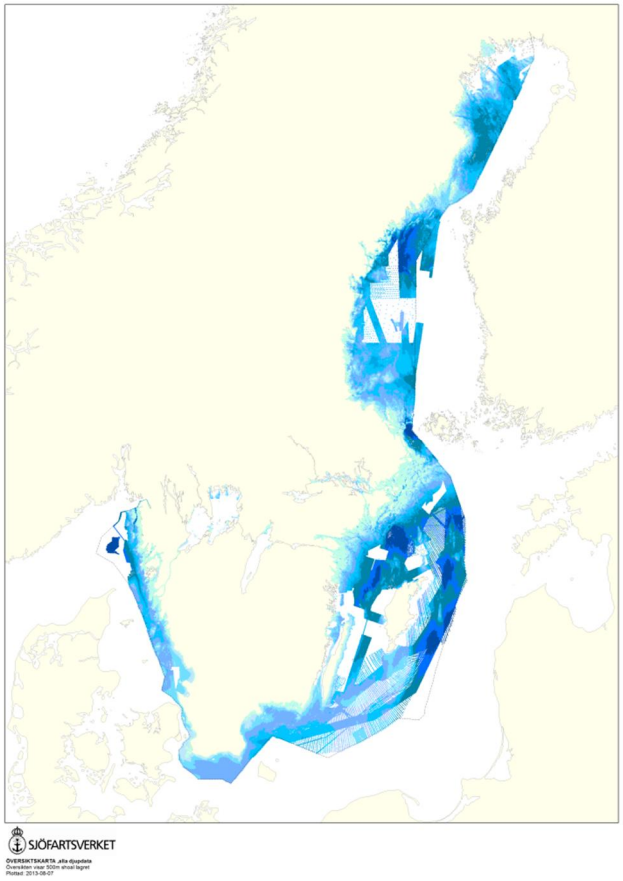


Fig 4 All data in the soundings database DIS including charts from ScanDIS in August 2013

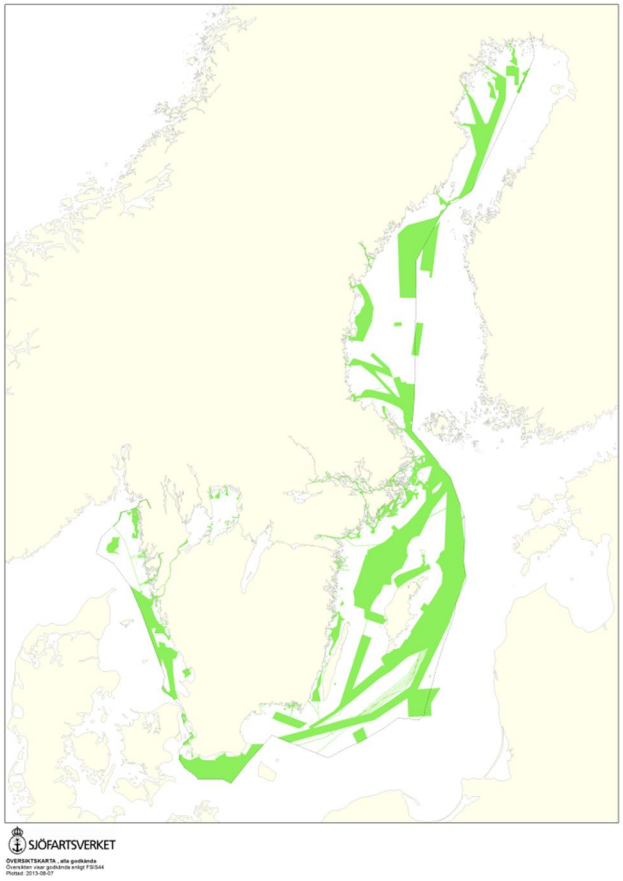


Fig 5 Data that fulfils IHO S-44 in August 2013

3. New charts and updates

Paper charts

The Swedish paper chart portfolio consists of approximately 120 charts and 14 series of charts for small craft. Special charts, tailored to the customer are also available as well as a service to provide chart images to mobile phones and PDA's.

During the period the following new charts were issued:

Chart	Scale	INT	Name
SE 4	1:500 000	INT 1025	Bottenviken
SE 742	1:50 000	INT 1326	Karlhamn – Ronneby

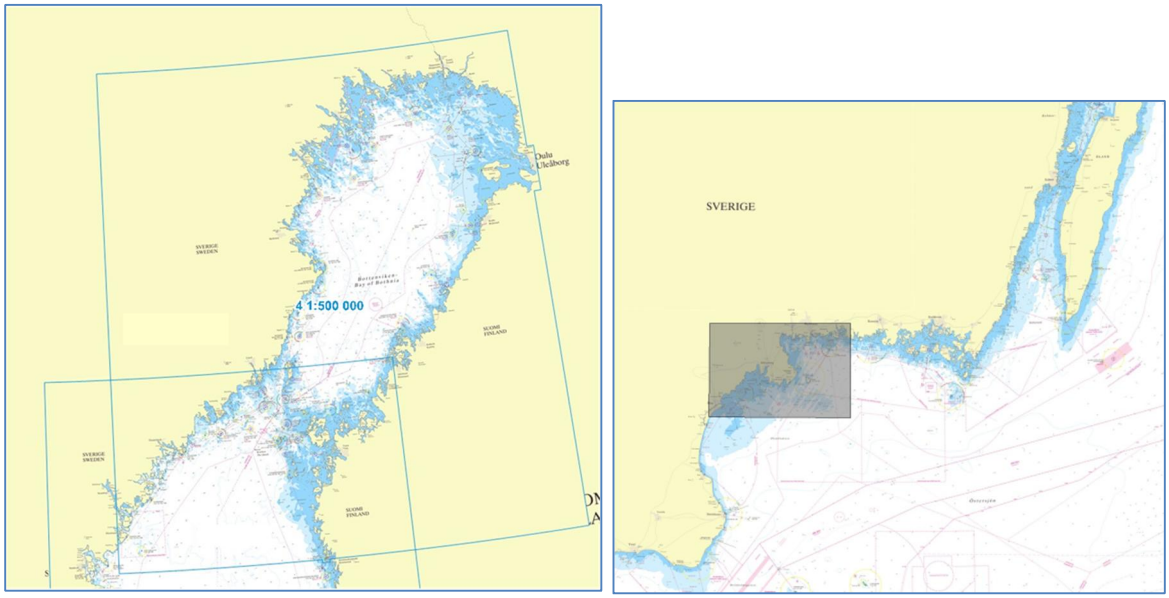


Fig 6 New Charts produced since last BSHC meeting.

During 2013 one new chart at scale 1:50 000 is under production, which is covering the archipelago outside Karlskrona. This chart is planned to be published early 2014.

ENC:s

The sales of Swedish ENCs continues to grow. From Q2 2012 to Q2 2013 the growth was 8%. We have approximately 2700 users with a total of 265 000 ENCs in use, 20% of these ENCs are for internal use (SMA ships e.g. pilots, icebreakers, survey vessels etc). The figures below shows external users.

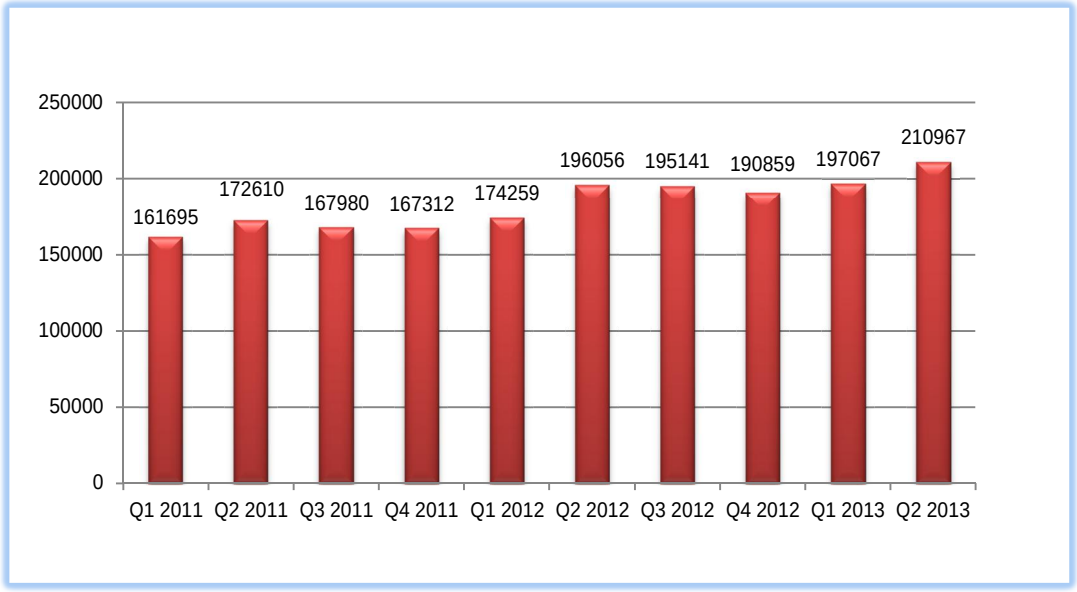


Fig 7 Number of Swedish ENCs (external users).

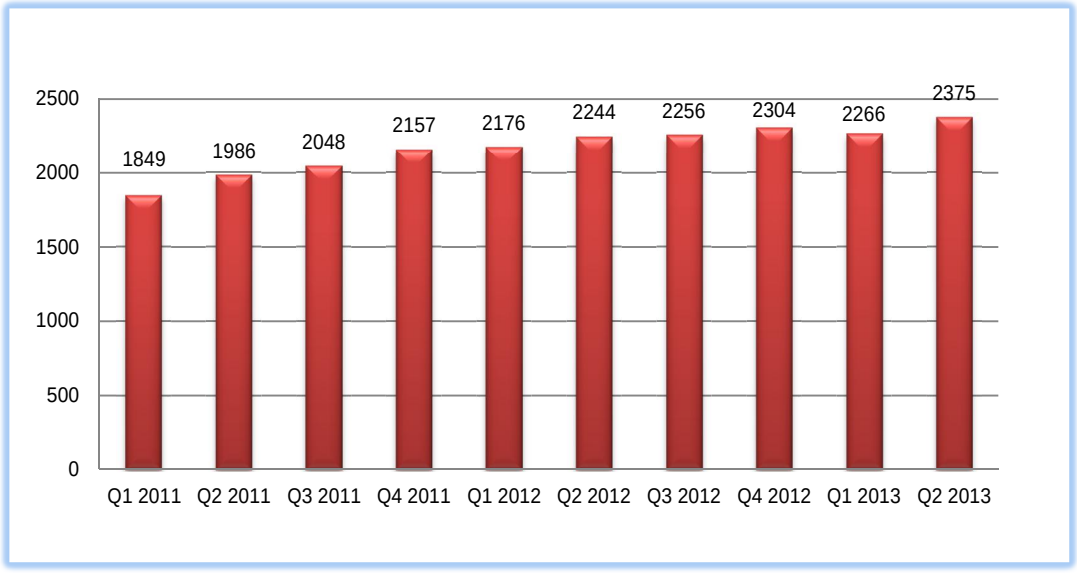


Fig 8 Number of users of Swedish ENCs (external users).

Small Craft Charts

Fig 9 The small craft chart serie of Stockholm N now also include some Finnish charts, covering Åland archipelago.

The sales of Swedish small craft charts are very important for our net result. For the 2013 season we have produced the following booklets in New Editions: Stockholm S, Stockholm M, Stockholm N, Bottenhavet S and Bottenhavet N. In Stockholm N we have included some Finnish charts, covering Åland archipelago, to make the product more complete for the end user.

2013 the Swedish small craft chart celebrated its 50th anniversary, which was celebrated at the biggest boat fair in Sweden, Allt för sjön, in Stockholm in March 2013.

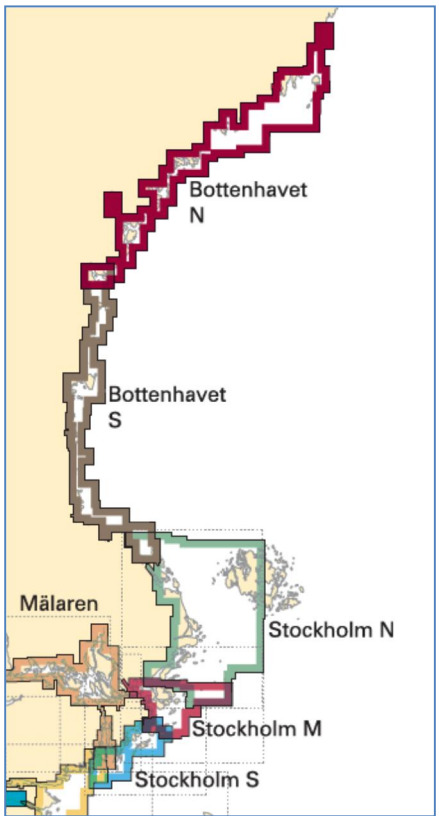


Fig 10 Small craft chart series in Stockholm archipelago and Bottenhavet

4. New publications and updates

The Swedish Chart Catalogue is published yearly and the Swedish Notices to Mariners, Ufs, is printed on a weekly basis with a pdf version also published on the SMA website. All notices are also published continuously, every night, at the NM database service provided at the website - http://www.sjofartsverket.se/en/Maritime-services/Hydrographic-Information/NtM---Notices-to-mariners/Search-the-database/. SMA has decided to stop issuing a printed version of Ufs (Notice to Mariners) from 1 January 2014. An improved pdf version in A4 format in one Swedish and one English version will be published weekly. The already existing webservice will of course also be available.

The publication “Ufs A” is issued in the beginning of each year and contains about 150 pages with general information for all categories of mariners.

The current version of the Swedish INT1 publication was published 2012.

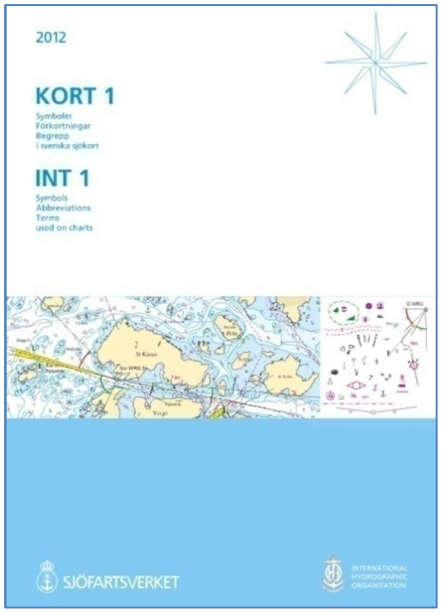


Fig 11 New Swedish Edition of INT1

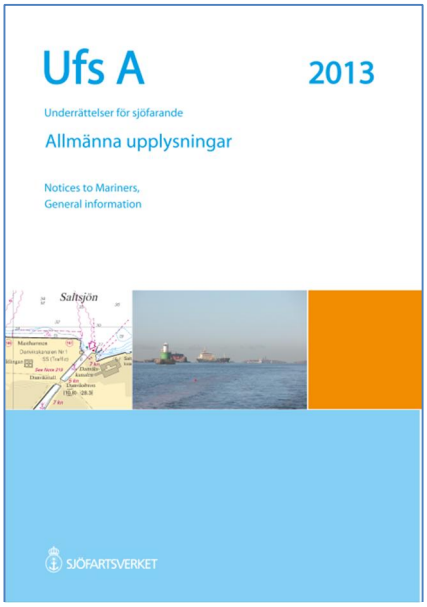


Fig 12 Ufs A. General information for all categories of mariners

5. MSI

Since February 2013 *MSI SWEDEN* is the station which is drafting and promulgating all Swedish navigational warnings. MSI SWEDEN is located at the VTS Centre in Södertälje.
MSI SWEDEN performs broadcasting of navigational warnings and meteorological information on VHF and NAVTEX.
The station is manned H24 all days of the year and may be contacted as follows:
Tel: +46 771 63 06 85
E-mail: msi@sjofartsverket.se
VHF: Call MSI SWEDEN on relevant VHF Channel

The NM Office at the Hydrographic Office retains its responsibility of international coordinaton of MSI in the Baltic Sea area, in the role as Baltic Sea Sub-area Coordinator.

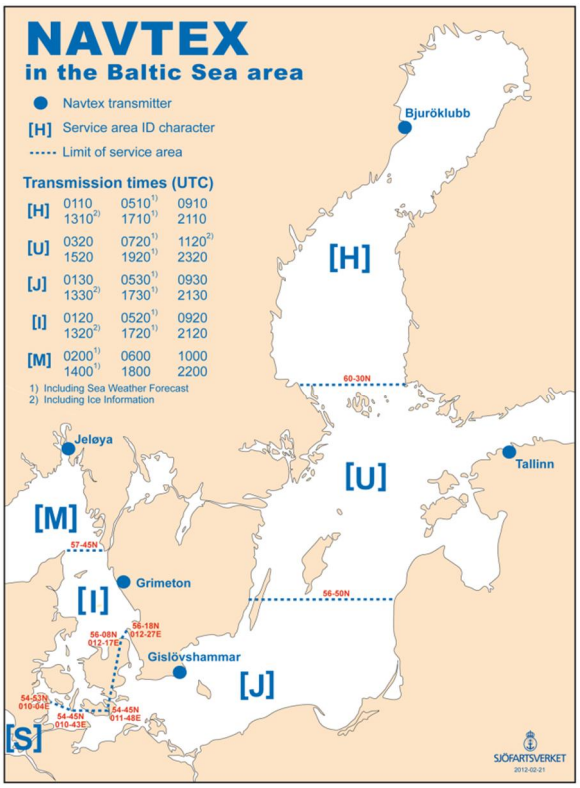


Fig 13 : Navtes Service Areas in the Baltic Sea region.

The table below shows the number of Navigational Warnings that have been transmitted on Navtex over the latest five years.

Nation	2008	2009	2010	2011	2012
Denmark	105	98	87	117	34
Estonia	5	3	7	5	91
Finland	13	28	91	53	11
Germany	71	73	99	92	49
Latvia	22	24	20	27	92
Lithuania	34	27	34	31	16
Poland	72	70	74	78	30
Russia, Kaliningr.	32	49	66	68	70
Russia, Petersb.	16	29	33	32	68
Sweden	97	97	117	156	120
TOTAL	**467**	**498**	**665**	**697**	**621**

The Baltico Meeting 2012 took place in Klaipeda, Lithuania 4-5 June 2012. Since 2004 biennial Baltico Meetings have gathered persons with responsible for and engaged in the national MSI services in the BSHC nations. Next Baltico Meeting will take place in Riga, Latvia, in May or June 2014.
For further information: http://www.sjofartsverket.se/balticomeeting

6. C-55

The latest update regarding Sweden in the C-55 database was delivered to the IHB in February 2013, but an updated version is missing at the IHO website.

7. Capacity building

Sweden has not been active in the area of capacity building during the period.

8. Oceanographic activities

The Swedish Maritime Administration (SMA) is responsible for a number of water level stations but it is the Swedish Meteorological and Hydrological Institute (SMHI) that has the main responsibility for the Swedish oceanographic activities. Other actors are the Swedish Geological Survey, universities and research institutes.

In conjunction with the MONALISA project a working relationship with Stockholm University department of Geological Sciences has been established. Especially worth mentioning here is the cooperation with Dr. Martin Jakobsson, professor of Marine Geology and Geophysics and also active in the GEBCO work.

9. Other activities

National Geodata Portal and Inspire

The Swedish HO continues to take part in the national activities to implement the Inspire directive of the EU and the establishment of the national SDI (Spatial Data Infrastructure) and a geodata portal. A national geodata portal is established and Swedish HO contributes with metadata according to the Inspire directive and some basic datasets. See also http://www.geodata.se/en/.

National Shore Line Data Quality Improvement

For a number of years the HO is involved in a joint project with the National Land Survey (Lantmäteriet) to manage and improve a national shore line data theme together. One fundamental aim apart from a need to improve quality is to facilitate products that are cross-shore-line for coastal zone management and other applications. For new and totally revised charts this data has been used for some years now. In 2010 we also started to do thematic updates in the chart database of the shore line based on this high quality data. In August 2013 the total update of this thematic update of the shoreline was completed from the Norweigan border, down the Swedish west coast and as far as Karlskrona on the south east coast. This is a major improvement for use together with absolute GPS navigation.

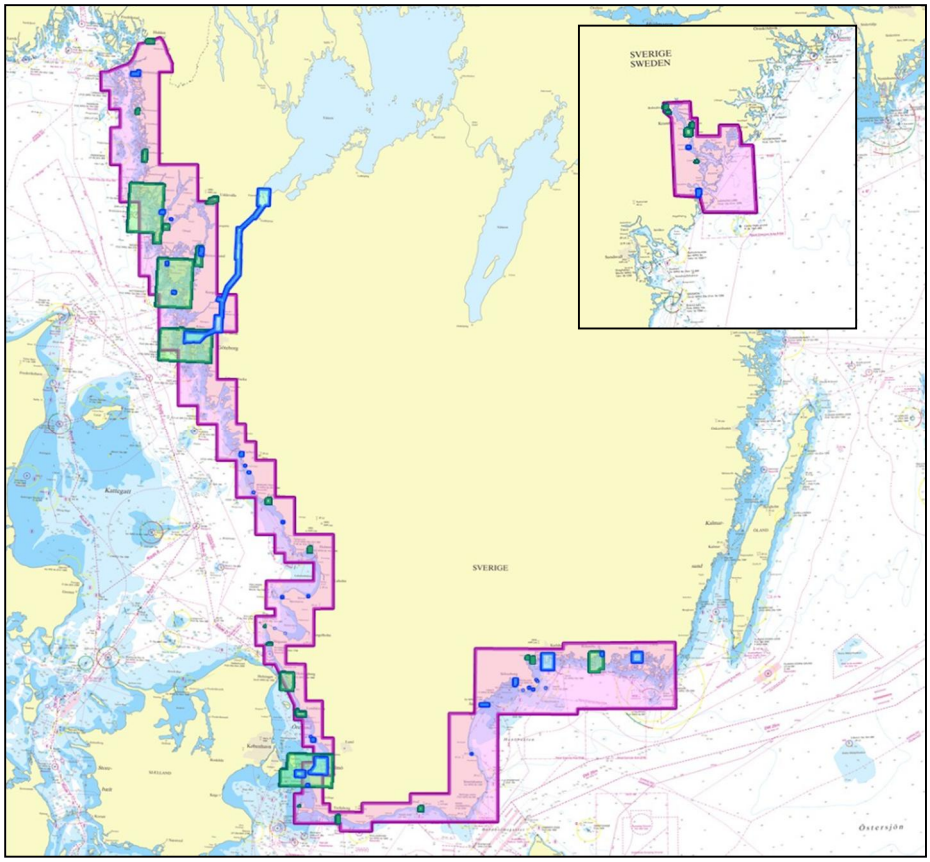


Fig 14 Areas where National Shore Line data have been implemented in Swedish ENC:s and paper charts. Blue – Berthing, Green – Harbour and Purple – Approach.

Converting fair sheet archive (ScanDIS)

The digitizing of soundings from fair sheets and similar maps in our archive continues with the overall aim of creating national coverage in the soundings database (DIS). For the Hydrographic Office in particular, this will enable more efficient production of chart information.

This operation is, since 2007, permanent in our organization and will continue at least until the end of 2015. The Swedish Agency for Marine and Water Management (Havs- och Vattenmyndigheten) is funding this project and SMA is co-operating with them in planning and prioritizing this work. So far we have processed approximately 6300 of an estimated 8100 sheets and maps in the archive.

The national commission for revision of maritime boundaries

After many years of lobbying towards our ministry for foreign affairs and other government bodies a maritime boundaries commission was started 2011. The task is to revise baselines and associated features and subsequently establish the territorial limits in an up to date fashion. The last revision of maritime boundaries was in the early 1960's and there has been considerable land uplift to take into account, erosion and also changes in legislation since then. The Swedish HO are currently working with identification and surveying of objects which will define the revised baseline and territorial sea limit. The possibility to establish a contiguous zone is also under discussion. Most of the field work should be finalized in September 2013. The result will be presented to the Swedish government in December 2014 for a subsequent decision on a new legislation.

Fig 15 Surveying a rock awash outside Öland in August 2012.

A bathymetry database concept for the Baltic Sea

The Swedish government has tasked the HO to develop a proposal for availability and distribution of bathymetry data for the Baltic Sea and to use the IHO regional network to achieve the result. The working group Baltic Sea Bathymetric Database Working Group (BSBDWG) within the Baltic Sea Hydrographic Commission has been formed to work on this. A test version of a webservice has now been available since January 2013. Further information will be presented in the BSBDWG Report and at the BSHC18 meeting.

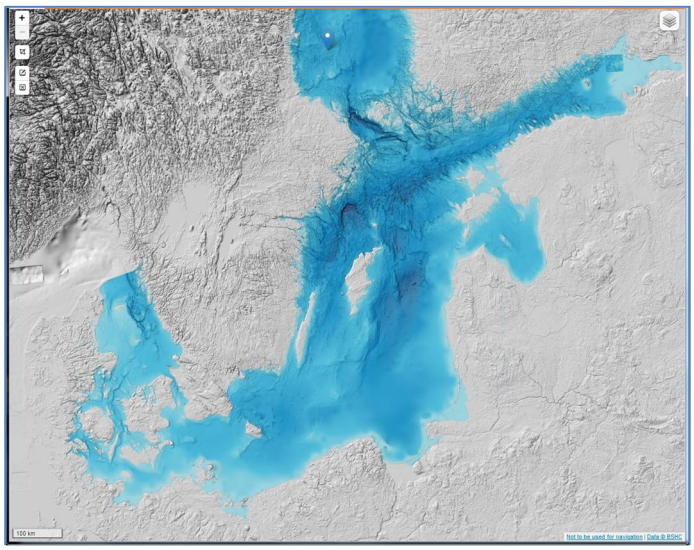


Fig 16 Screen dump from the test version of the Baltic Sea Bathymetric Database webservice.