NATIONAL REPORT OF SWEDEN

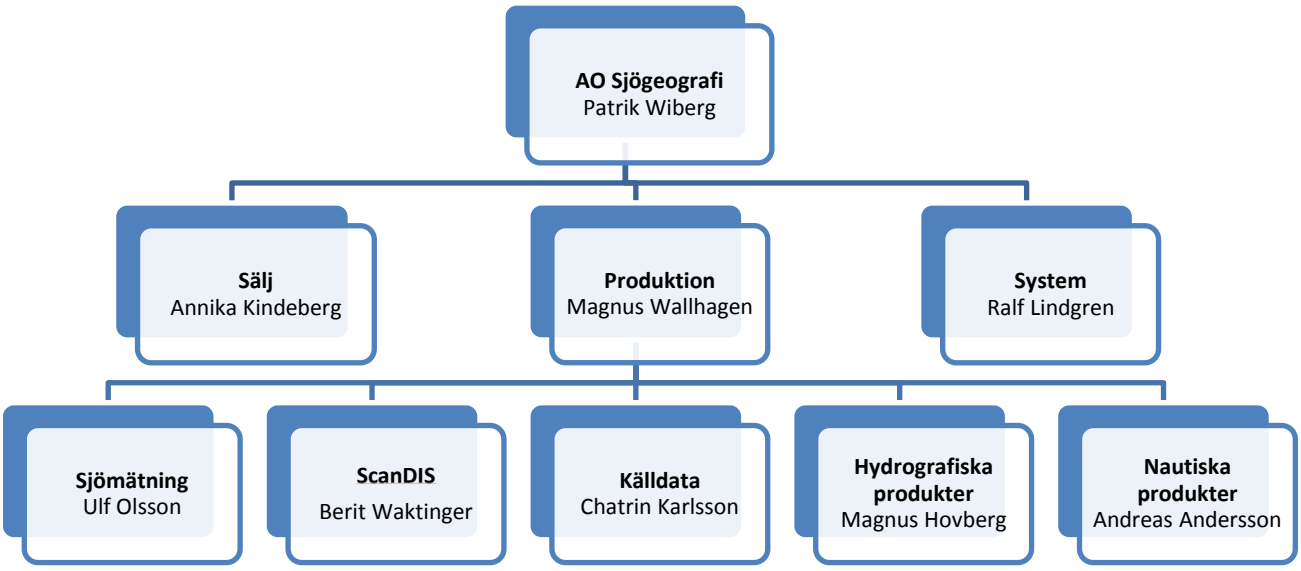
Executive summary

This report gives a summary of the main activities within the Swedish Hydrographic Office since the last report given at the 56th NHC meeting in Copenhagen in May 2012.

1. Hydrographic Office

At the time of compiling this report 119 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 and most of the areas, especially fairway areas, to a high standard. The long term objective is that all Swedish waters should be surveyed in accordance with the international standard S-44.

Surveys and re-surveys now and in the coming years are focused to 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 4 580 km² were surveyed by SMA vessels and 5 370 km² was ordered by SMA and survey by contracted companies. The funding for these operations partly come from the EU TEN-T project MONALISA and surveys are carried out in cooperation with the Finnish Traffic Agency. The area delivered from external hydrographic survey companies, ordered by others such as harbours or local authorities, was totalled 260 km² during 2012. The total amount of hydrographic surveys in Sweden 2012 was in total 10 200 km². See also image below. This means that 35% of Swedish waters are surveyed in accordance with the international standard S-44.

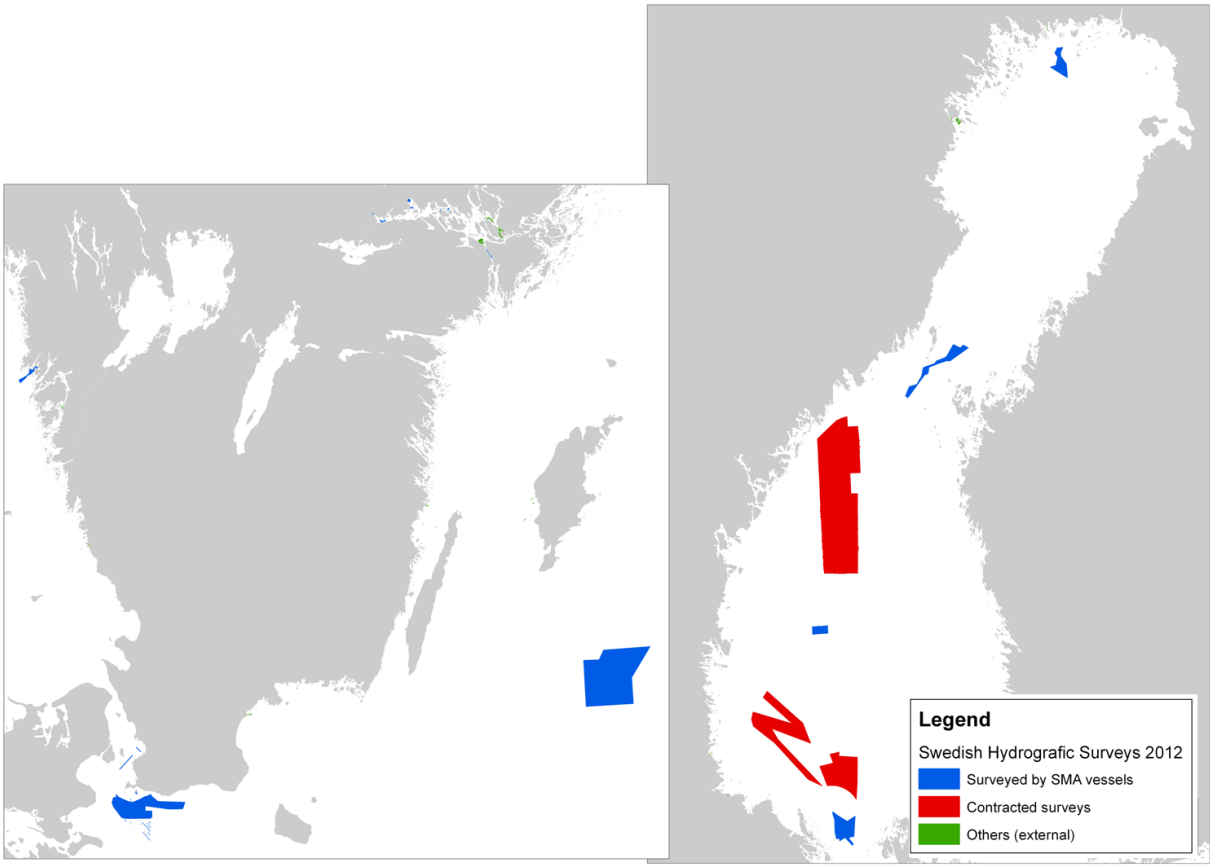


Fig 1 Swedish Hydrographic Surveys 2012

Fig 2 SMA Survey Vessels 2013

Surveying within the MONALISA project will continue 2013. The areas marked as 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 as grey below.

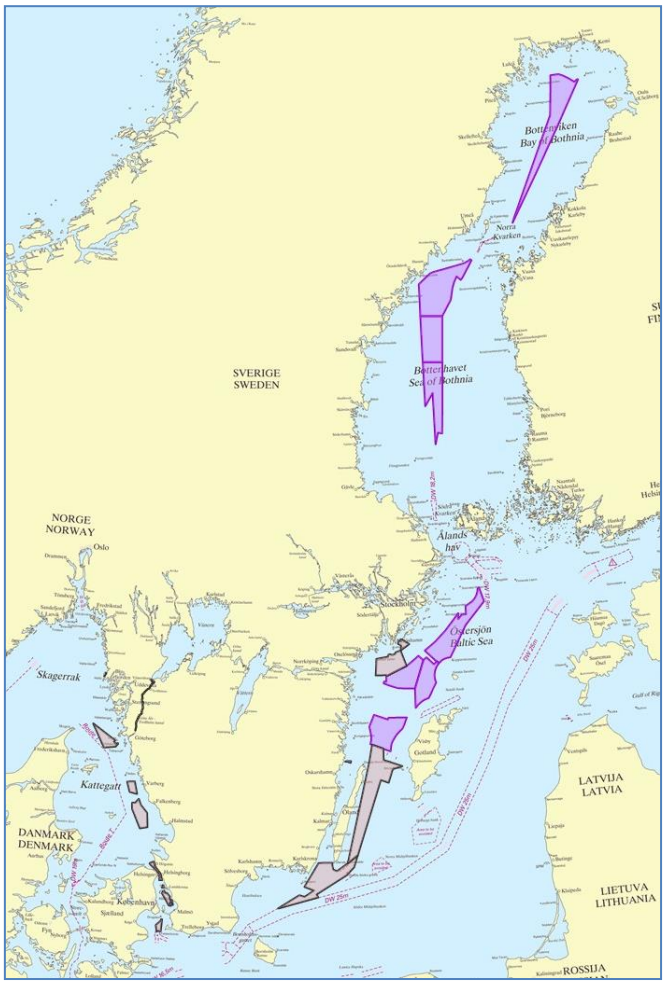


Fig 3 Planned surveys 2013. Grey – SMA vessels. Purple – contracted surveys.

Depth Database

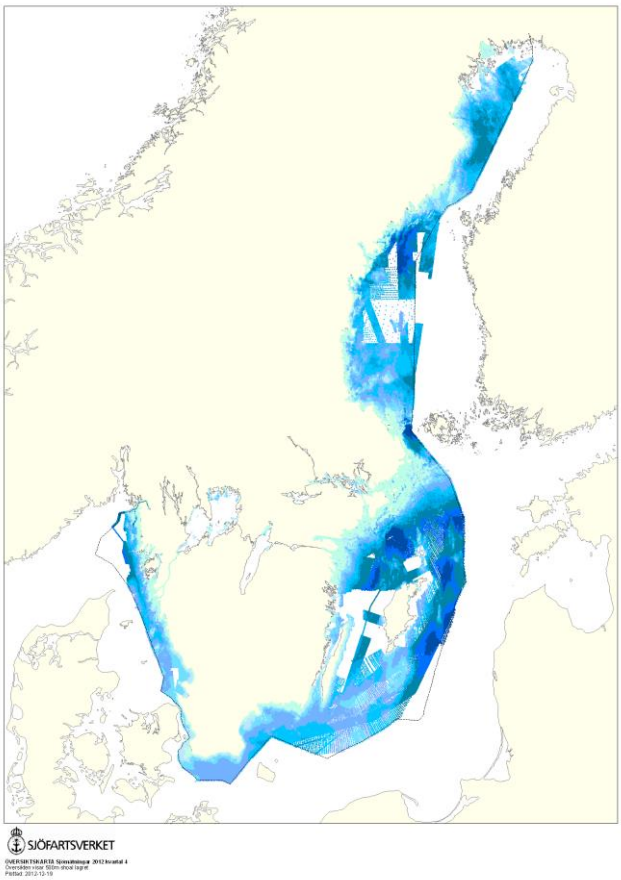


Fig 4 All data in the soundings database DIS including charts from ScanDIS in March 2013

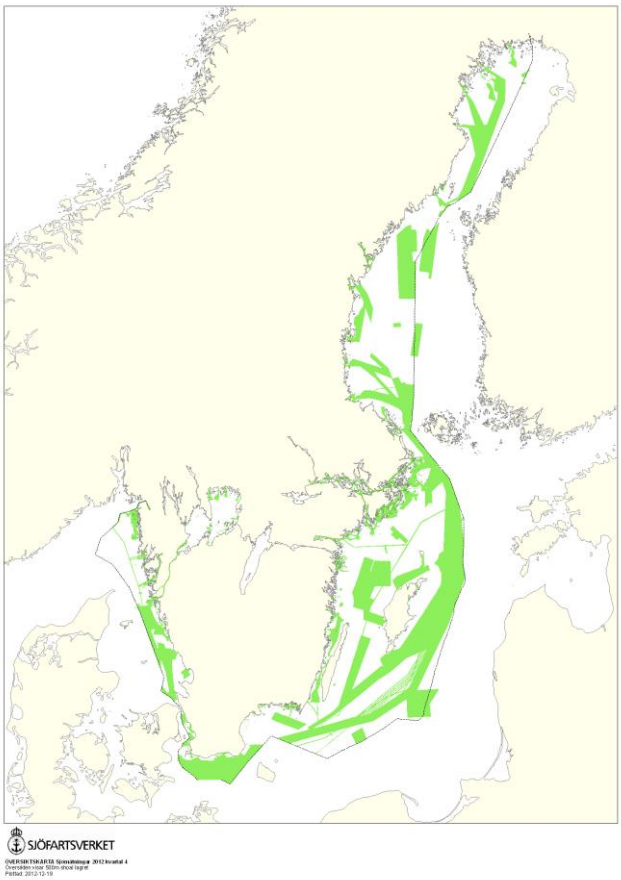


Fig 5 Data that fulfils IHO S-44 in March 2013

3. New charts and updates

The Swedish paper chart portfolio consists of approximately 120 charts and 14 series of charts for small craft. Special charts, tailored to the customer, such as "print on demand" charts 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 – Åhus

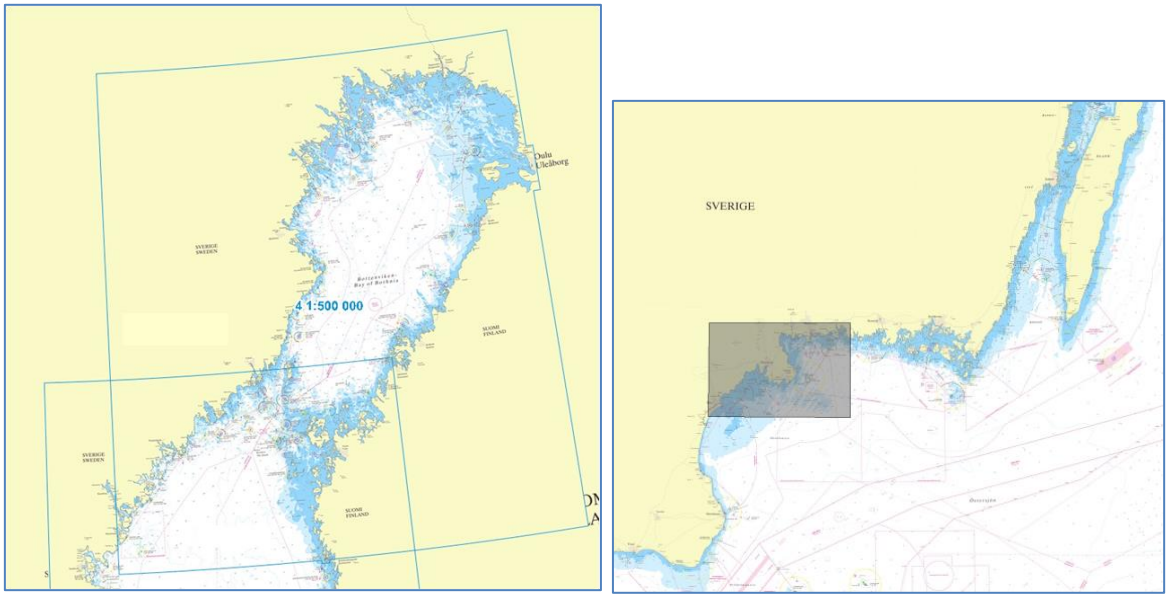


Fig 6 New Charts produced since last NHC meeting.

Report on NHC54 Action 2, Paper Chart Harmonisation

The implementation of the harmonising rules resulting from the work of the Nordic WG on Paper Chart Harmonisation is considered to be completed in Sweden. A few remaining issues related to harmonisation with S-4 are being corrected during 2012 and 2013. The magenta information in the Swedish paper charts has been separated into two colour bases (red and violet). It is worth mentioning that harmonisation to S-4 very much simplifies the procedure for adoption of Swedish charts by other HO's.

Report on NHC53 Action 9 and 10, Improved Data Exchange for Paper Charts covering the neighbouring Nordic country's area.

The status of these actions is in accordance within the agreements made by the NHC. All Swedish paper charts with scale larger than 1:300 000, covering neighbouring countries waters, are now based on the respective Nordic neighbouring country's ENCs. An exception though is the Norwegian General ENCs, which could not be used as source for the national Swedish paper chart 93, since there were severe problems with the positioning accuracy in the NO General ENCs.

ENC:s

The sales of Swedish ENCs continues to grow. We have approximately 2,650 users with a total of 246,000 ENCs in use, 22% of these ENCs are for internal use (pilots, SMA ships etc).

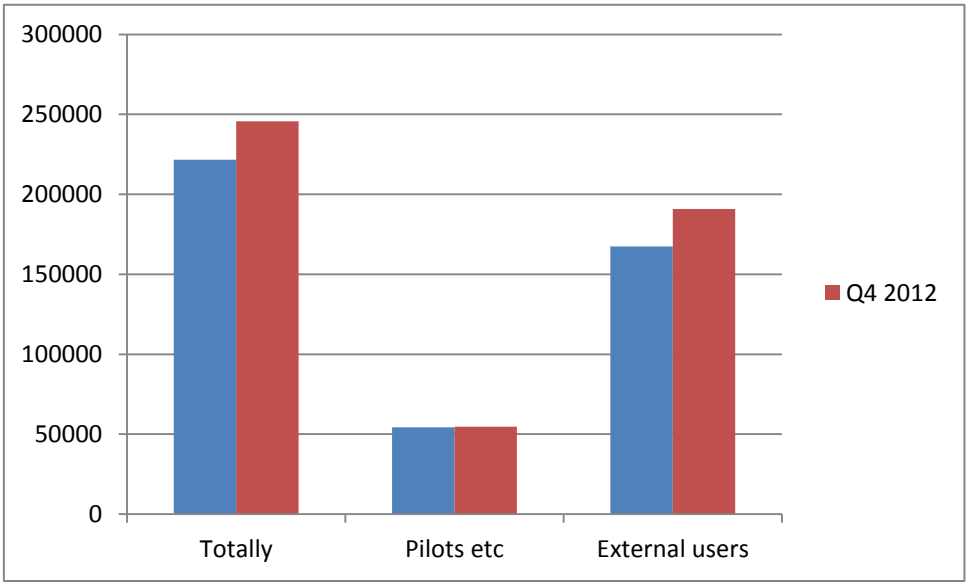


Fig 7 Number of Swedish ENCs.

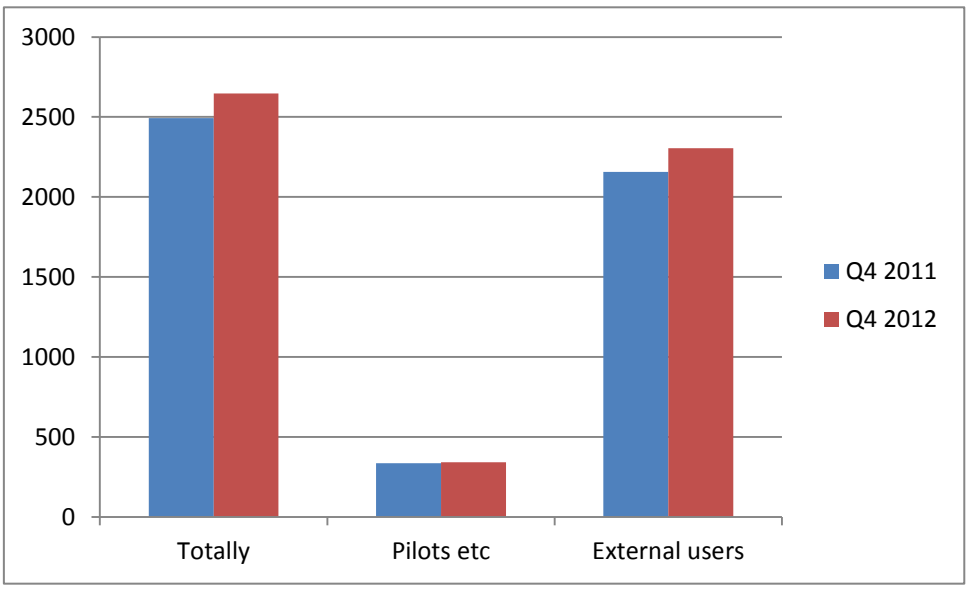
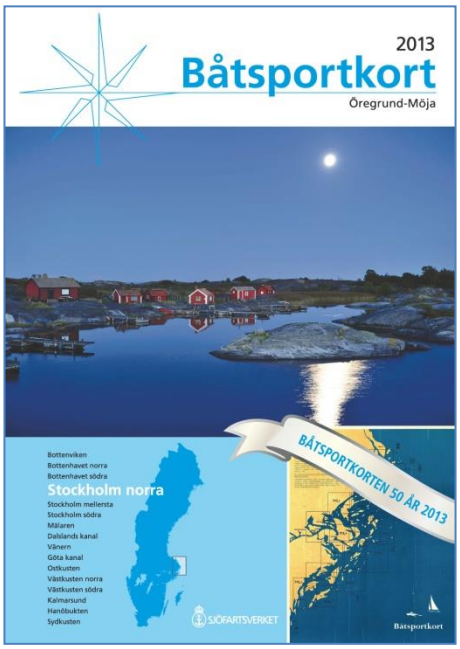


Fig 8 Number of users of Swedish ENCs.

Small Craft Charts



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 has 50 years anniversary, which was celebrated at biggest boat fair in Sweden, Allt för sjön, in Stockholm in March 2013.

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

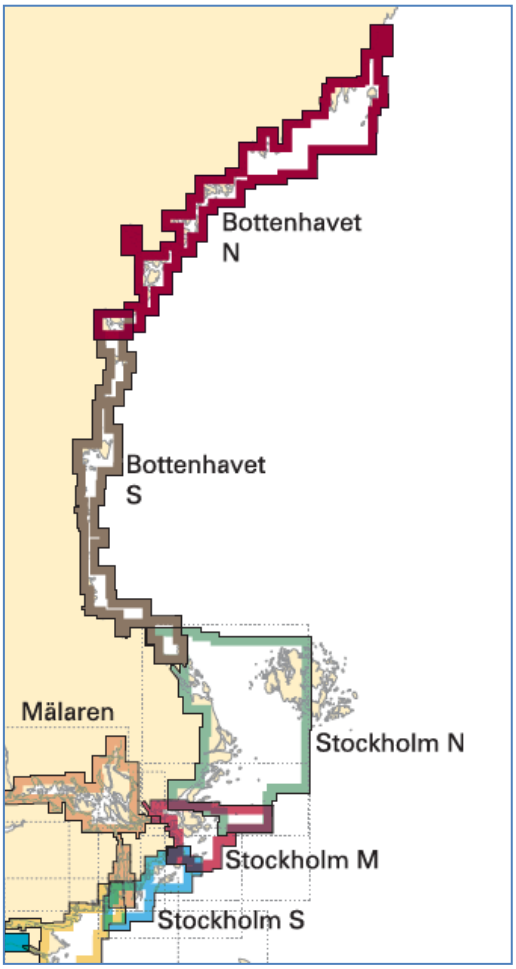


Fig 10 Small craft chart series in Stockholm archipelago and Bottenhavet

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 and a pdf version is also published at 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 is considering to stop issuing a printed version of Ufs (NM) from 1 January 2014.

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

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

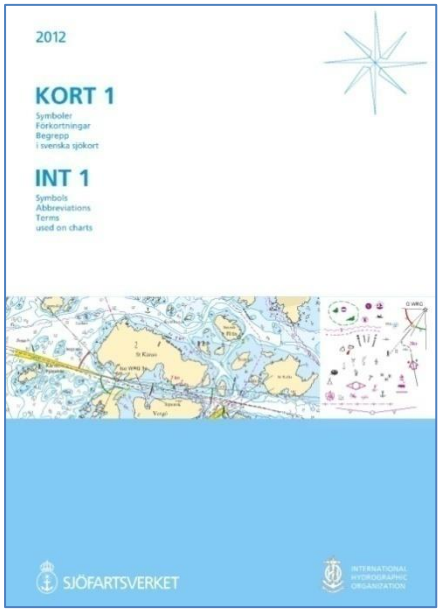


Fig 11 New Swedish Edition of INT1

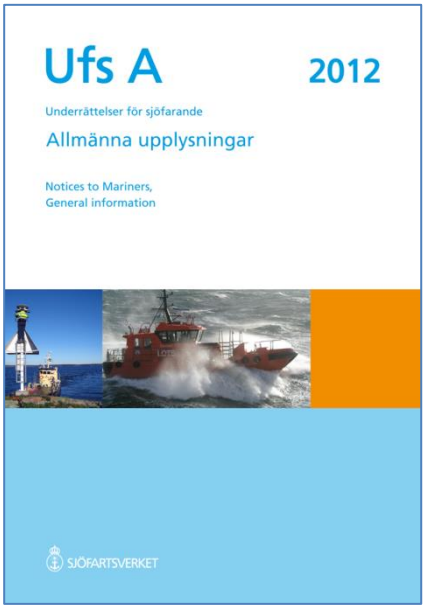
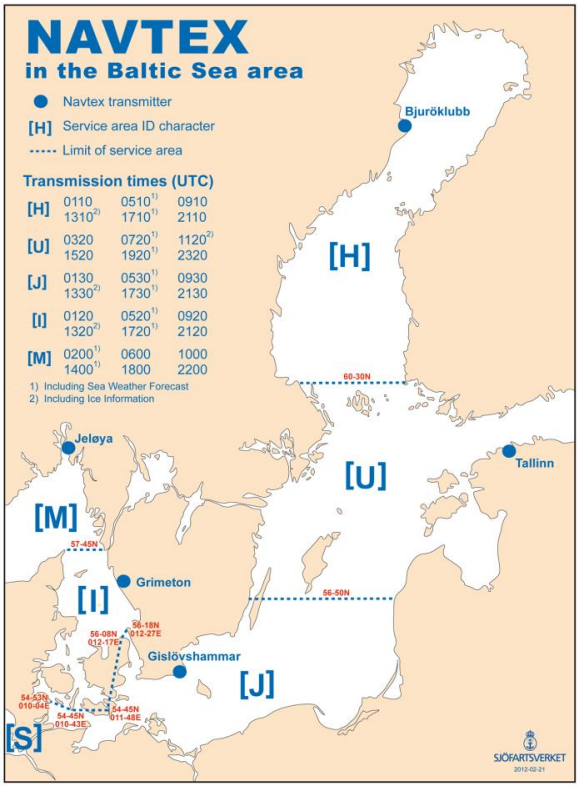


Fig 12 Ufs A. General information for all categories of mariners

5. MSI

To improve the NAVTEX coverage in Skagerrak the former service area "I" has been divided into two areas and a new NAVTEX service area with designator "M" has been established. Area M is covered by a transmitter at Jeløya in Norway, which is operated by Telenor. These changes took place 2 April 2012 and has proven to be successful despite the fact that the rocky coast on the Swedish side of Skagerrak imply severe conditions for the propagation of long radio waves.

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 responsibility of and engagement in the national MSI services in the BSHC nations. The 2012 meeting was kindly hosted by the Lithuanian Maritime Safety Administration. The meeting was attended by 25 persons from 10 nations and chaired by the Navarea One Coordinator from United Kingdom. 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 and 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 Professor Dr. Martin Jakobsson who is 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. During the beginning of 2013 the total update of this thematic update of the shoreline was finilized from the Norweigan border, the Swedish west coast and to Karlshamn on the south coast. This is a major improvement for use together with absolute GPS navigation.

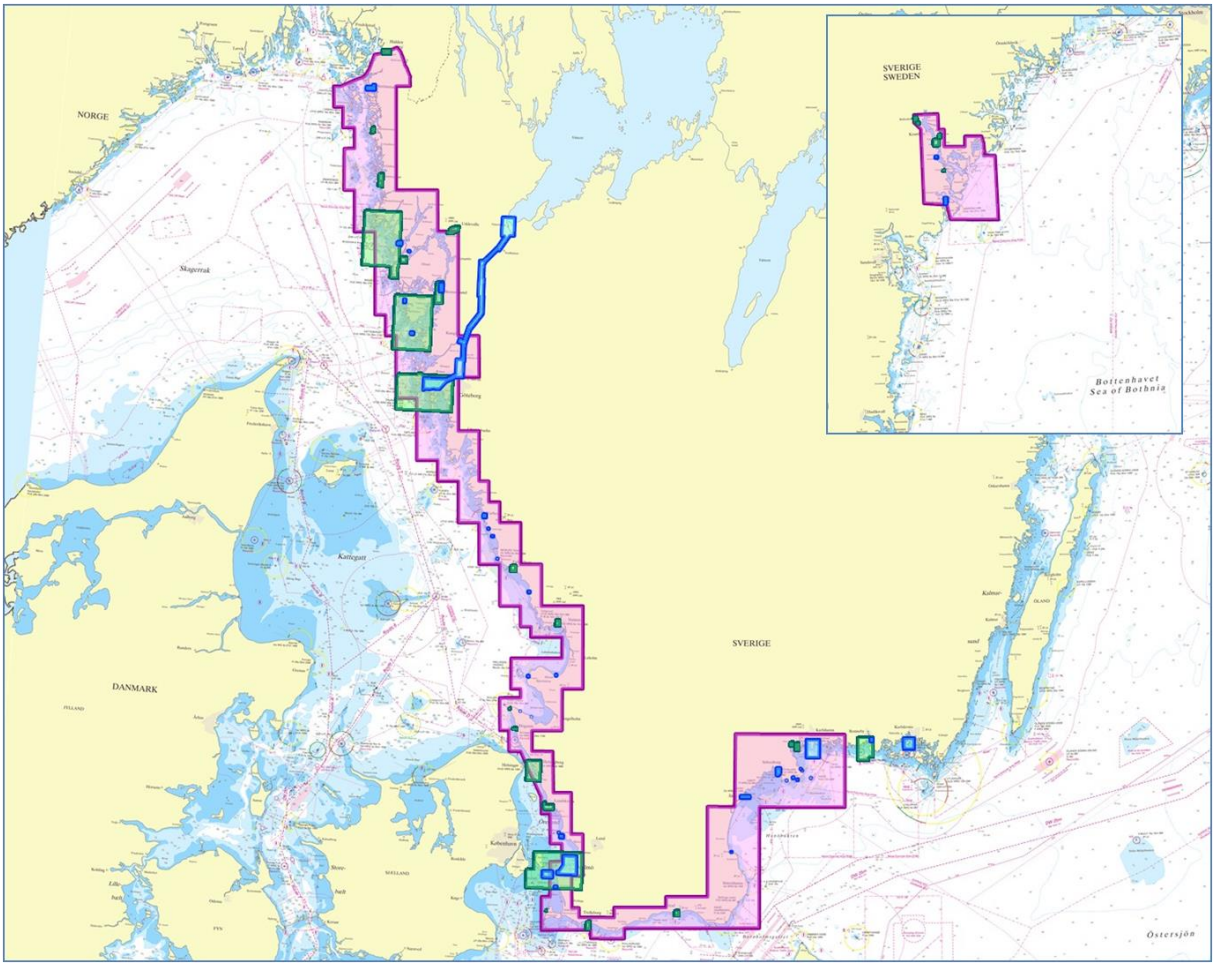


Fig 13 Areas where National Shore Line data have been implemented in Swedish ENC:s and paper charts. Blue – Berthing, Green – Harbour and Purple – Approach.

Converting fair sheet archive (ScanDIS)

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

This operation is since 2007 permanent in our organization and will continue at least until the end of 2013. The Swedish government supports us financially as a part of a special Baltic Sea programme. We co-operate with the Swedish Agency for Marine and Water Management (Havs- och Vattenmyndigheten) in planning and prioritizing this work. So far we have processed approximately 5800 of an estimated 8 000 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 consider, 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.

Fig 14 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. A working group within the Baltic Sea Hydrographic Commission has been formed to work on this. There is good funding for the activity as it is also included in the ongoing MONALISA project. Work will continue until the end of 2013 and all corner stones of a possible Baltic Sea Bathymetry SDI, governance, content and technology will be studied. The EU INSPIRE directive provides important requirements to include in the study.