

## NATIONAL REPORT OF SWEDEN

### Executive summary

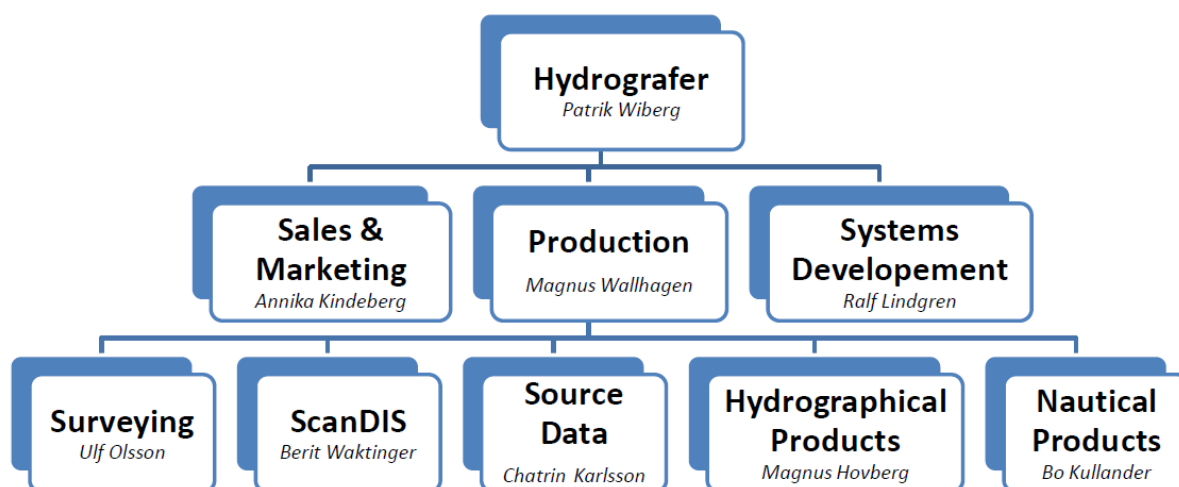
This report gives a summary of the main activities within the Swedish Hydrographic Office since the last report given at the 16<sup>th</sup> BSHC meeting in Norrköping September 2011.

### 1. Hydrographic Office

At the time of compiling this report 117 persons (106 by the last BSHC meeting) are employed by the Hydrographic Office. The increase of personal is due to the fact that several external assignments have been tasked to the Hydrographic Office. These are further described under chapter 9 – Other Activities.

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.



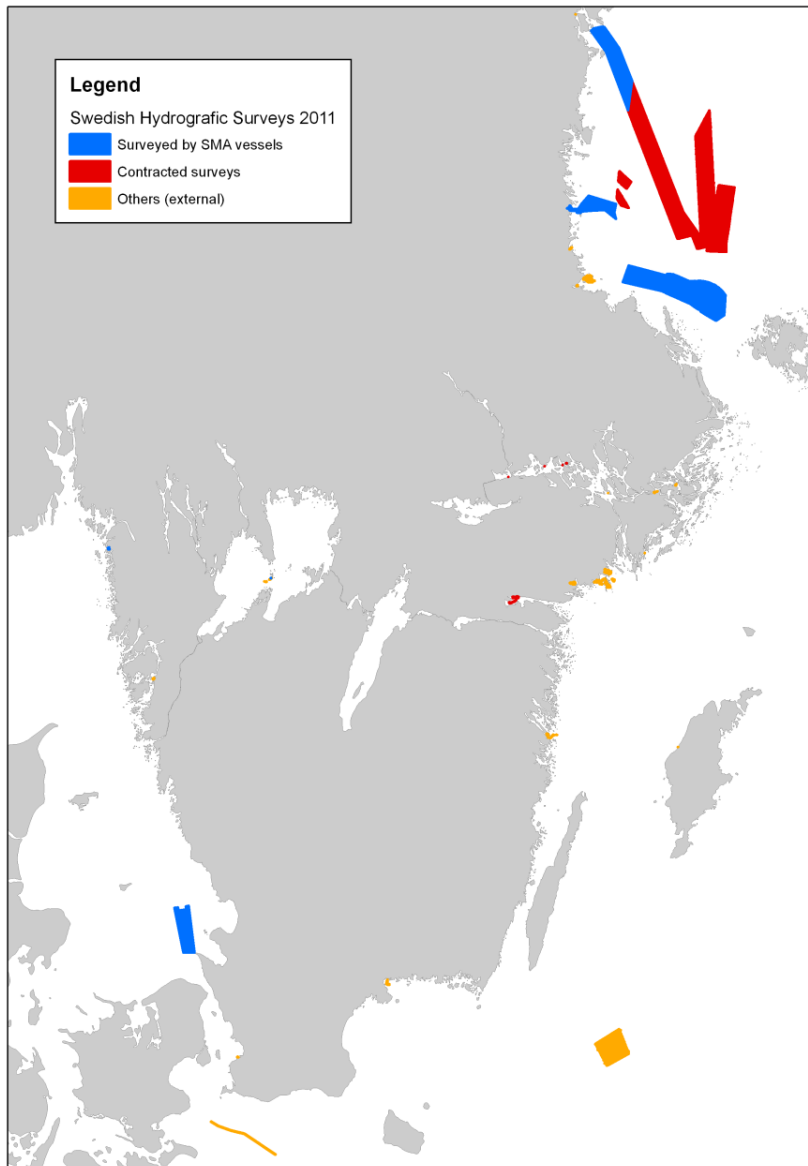
### 2. Surveys

Most Swedish waters are surveyed to some degree over the years and most of the 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 Hydrographic re-Survey plan for the Baltic Sea. This concept encompasses over 80 000 km<sup>2</sup> out of totally 165 000 km<sup>2</sup> within the Swedish EEZ. During 2011 a total amount of

3900 km<sup>2</sup> were surveyed by SMA vessels and 3000 km<sup>2</sup> 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 400km<sup>2</sup> during 2011. The total amount of hydrographic surveys in Sweden 2011 was in total 7300 km<sup>2</sup>. See also image below.

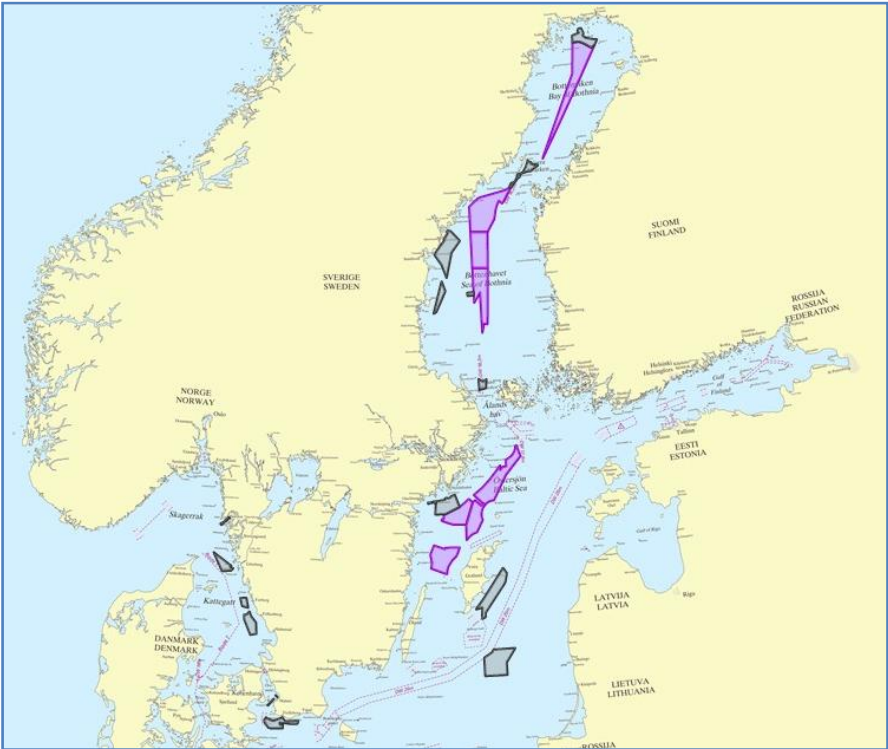


**Fig 1 Swedish Hydrographic Surveys 2011**



**Fig 2 SMA Survey Vessels 2012**

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



**Fig 3 Planned surveys 2012. Grey – SMA vessels. Purple – contracted surveys (2012 and 2013).**

## Depth Database

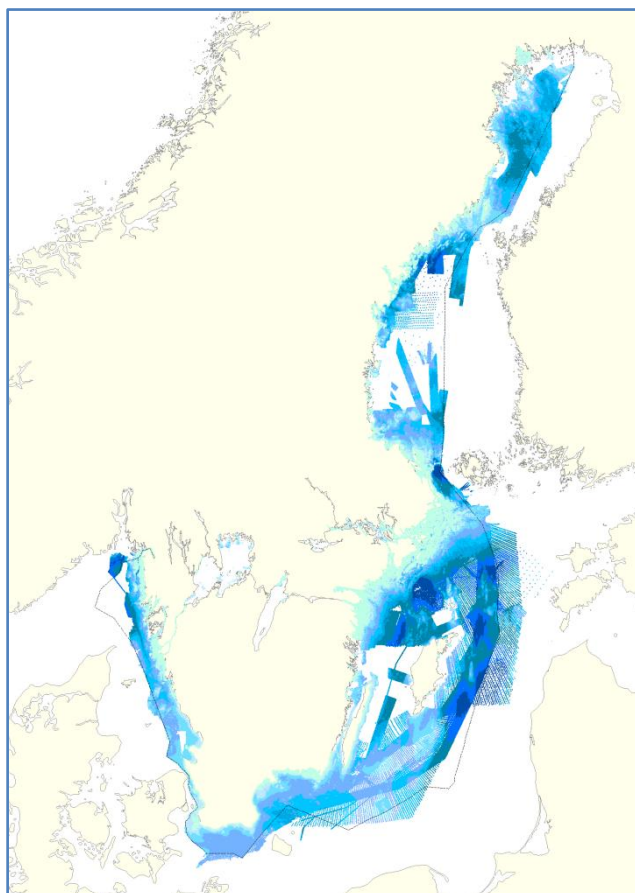


Fig 4 All data in the soundings database DIS, including digitized older fair sheets. Status in July 2012.

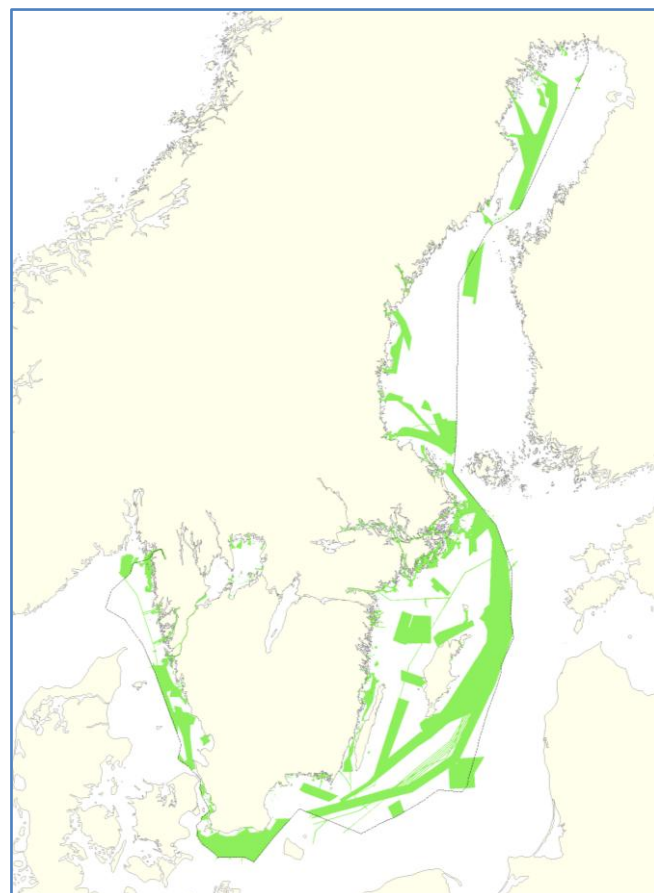


Fig 5 Data that fulfils IHO S-44. Status in July 2012.

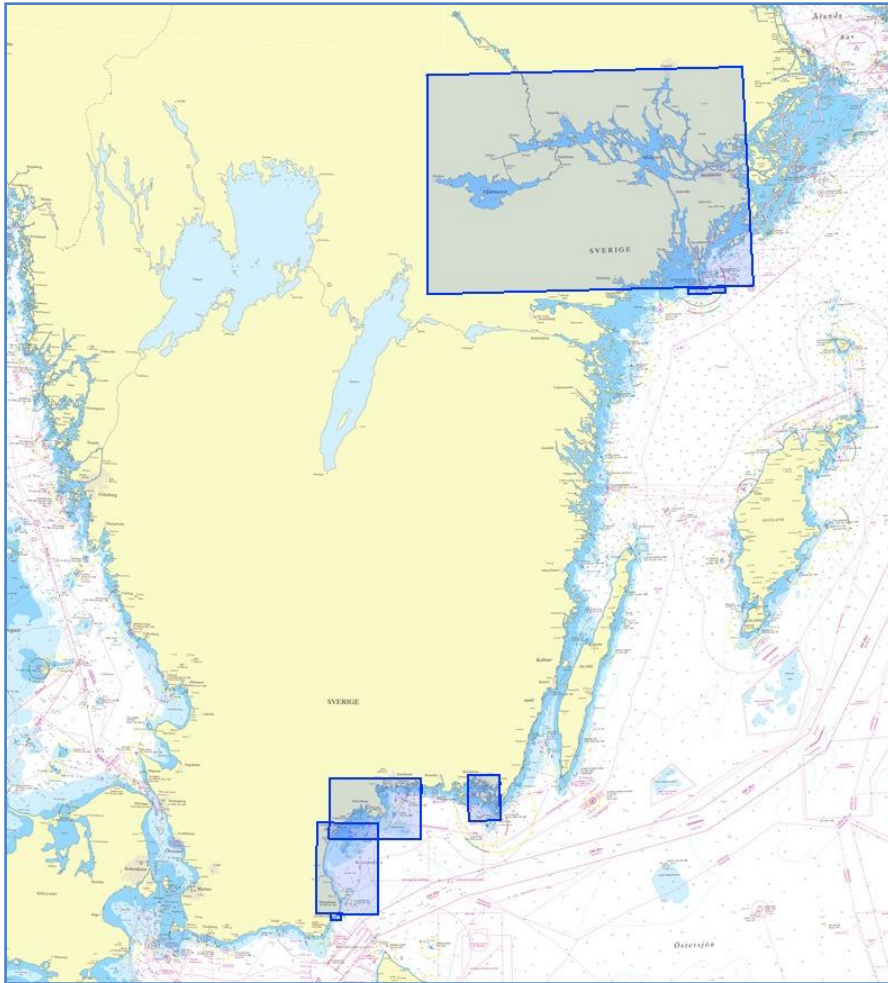
## 3. New charts and updates

### 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, 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:

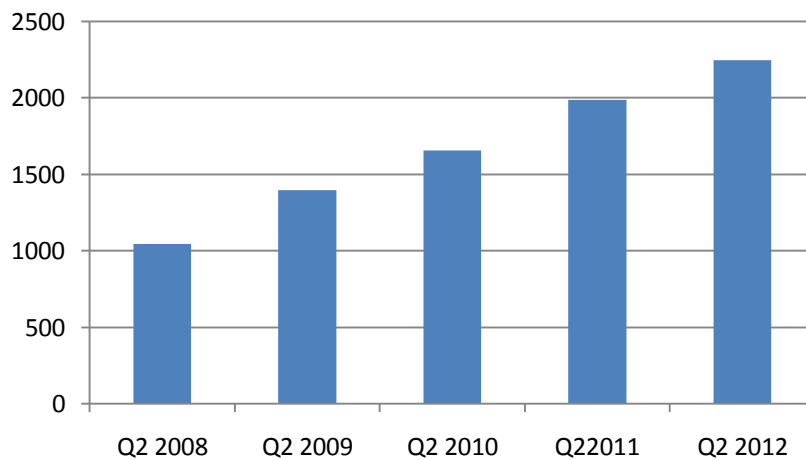
Chart	Scale	INT	Name
SE 10	1:250 000	INT 1770	Mälaren – Hjälmaren
SE 742	1:50 000	INT 1326	Åhus – Karlshamn
SE 743	1:50 000	INT 1325	Simrishamn – Åhus
SE 7411	1:25 000	INT 1329	Utlängan – Karlskrona



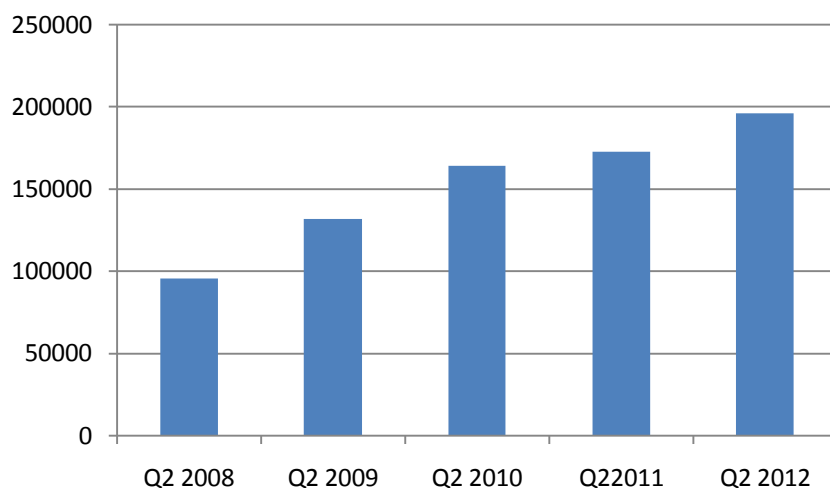
**Fig 6 New Charts produced since last BSHC meeting.**

### **ENC:s**

The sales of Swedish ENC:s continue to grow. We have approximately 2,600 users with a total of 250,000 ENC:s in use, 22% of these ENC:s are for internal use (pilots, SMA ships etc).



**Fig 7 Number of external users of Swedish ENC:s.**



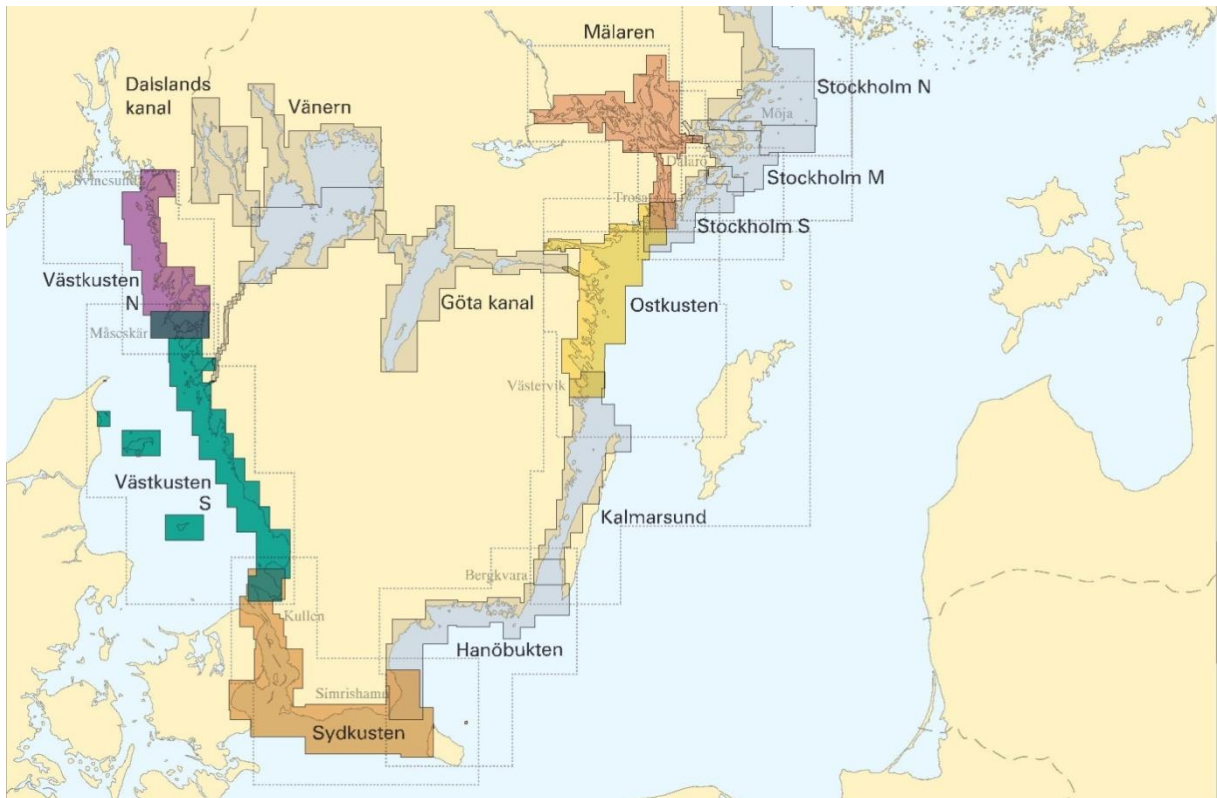
**Fig 8 Number of Swedish ENC's for external use.**

## Small Craft Charts



The sales of Swedish small craft charts are very important for our net result. For the 2012 season we have produced the following booklets in New Editions: Mälaren, Sydkusten, Västskusten N, Västskusten S and Ostkusten. In Sydkusten and Västskusten S we have included some Danish charts to make the product more complete for the end user. The design of the cover has been revised to comply with the new SMA profile programme.

**Fig 9 A totally new produced small craft chart covering the coast of Skåne and also contains some Danish charts.**



**Fig 10 Small craft chart series in southern Sweden**

#### **4. New publications and updates**

Early 2012 a new edition of INT1, symbols, abbreviations and terms used on charts, was published including all revisions made in the IHO standard for international paper charts (S-4).

The Swedish Notices to Mariners, Ufs, is printed on a weekly basis and is also published as a pdf-version at the SMA website – [www.sjofartsverket.se/ufs](http://www.sjofartsverket.se/ufs). At the website there is also a Notice to Mariners database service available where the users can search for updates in specific geographic areas within a specified time span. The Swedish Chart Catalogue is published yearly.

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.

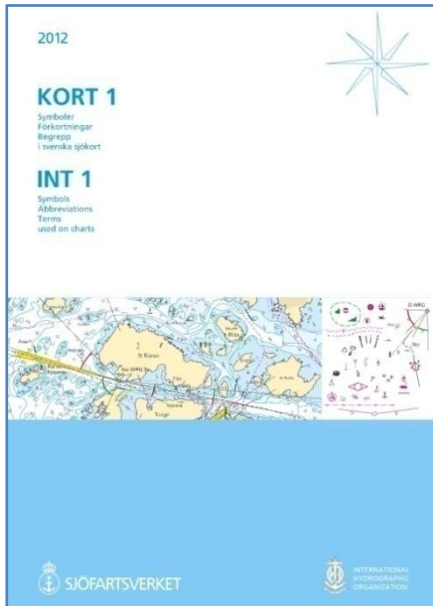


Fig 11 New Swedish Edition of INT1

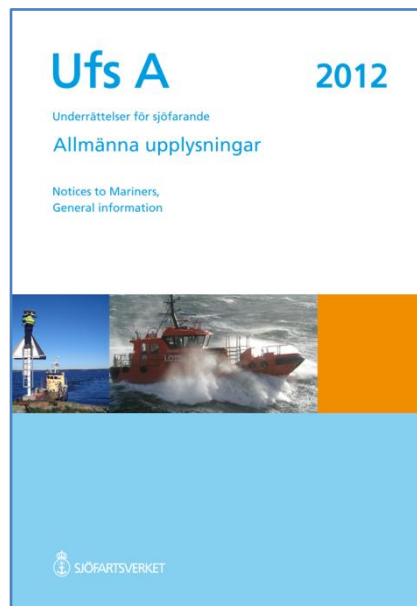


Fig 12 Ufs A. General information for all categories of mariners

## 5. MSI

Ships reports and field strength measurements have indicated that the NAVTEX transmitter in Grimeton has not been covering the Swedish part of Skagerrak sufficiently.

Discussions with Telenor Maritime Radio in Norway and the IMO Navtex co-ordinating panel took place in 2011 and resulted in changes to the NAVTEX pattern in the affected area. In the beginning of 2012 SMA and Telenor signed a financial agreement and consequently the NAVTEX map has the shown appearance since 2 April 2012.

The table below shows the number of Navigational Warnings that have been transmitted on Navtex over the latest five years. The increased number of Finnish, Swedish and Danish warnings in the last years is a result of the laying of the Nord Stream gas pipeline.

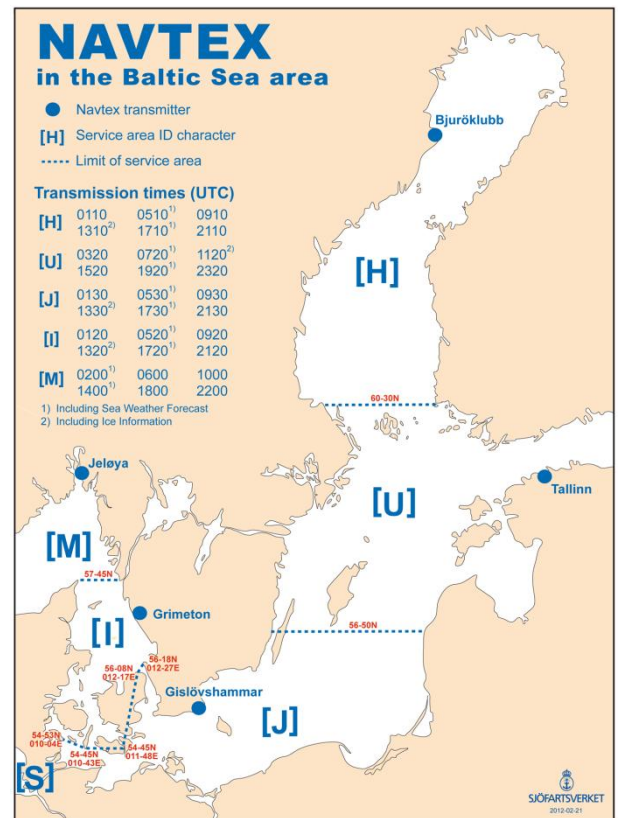


Fig 13 NAVTEX in the Baltic Sea area



Nation	2007	2008	2009	2010	2011
Denmark	123	105	98	87	117
Estonia	6	5	3	7	5
Finland	29	13	28	91	53
Germany	127	71	73	99	92
Latvia	17	22	24	20	27
Lithuania	32	34	27	34	31
Poland	86	72	70	74	78
Russia, Kaliningr.	151	32	49	66	68
Russia, Petersb.	5	16	29	33	32
Sweden	66	97	97	117	156
<b>TOTAL</b>	<b>642</b>	<b>467</b>	<b>498</b>	<b>665</b>	<b>697</b>

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. For further information: <http://www.sjofartsverket.se/balticomeeting>



Fig 14 Attendances at the Baltico Meeting in Klaipeda, Lithuania 4-5 June 2012

## **6. C-55**

The latest update regarding Sweden in the C-55 database was delivered in March 2011.

## **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.

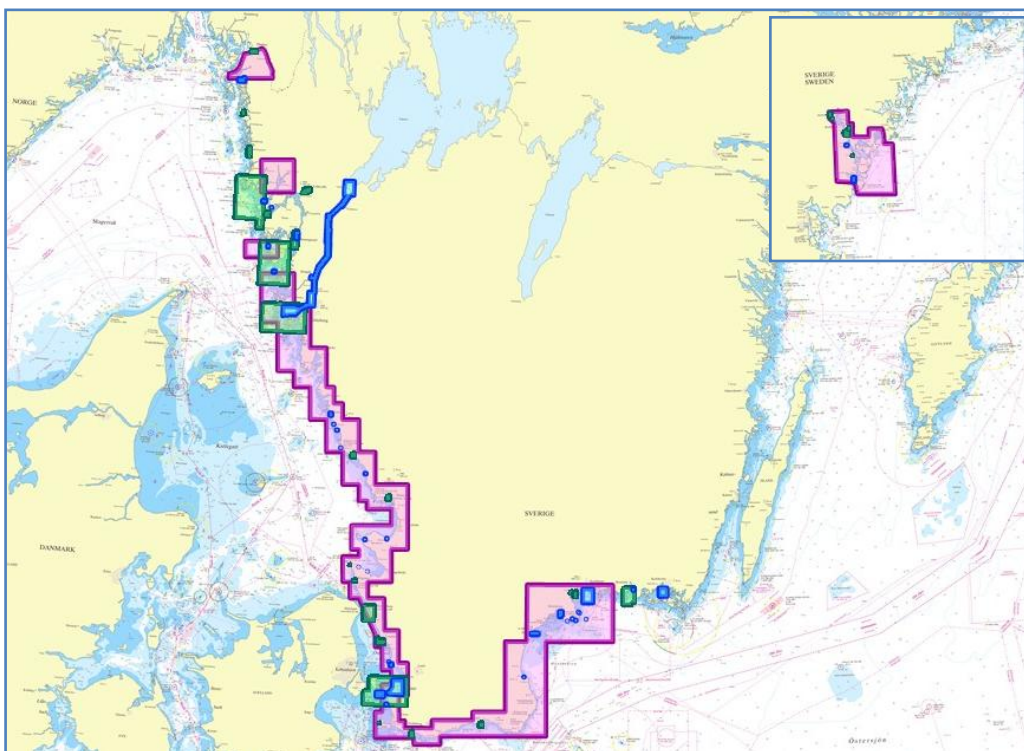
## **9. Other activities**

### **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 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 and this has also continued during 2011 and 2012. This is a major improvement for use together with absolute GPS navigation.



**Fig 15 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 2013. The Swedish government supports us financially as a part of a special Baltic Sea programme. We co-operate with the new established agency Swedish Agency for Marine and Water Management (Havs- och Vattenmyndigheten) in planning and prioritizing this work. So far we have processed approximately 5200 of an estimated 8 000 sheets and maps in the archive.

## **A new national commission for revision of maritime boundaries**

As announced at BSHC16 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 16** Surveying a rock awash at the Swedish west coast May 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 Baltic Sea Bathymetry Database Working Group (BSBDWG) 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.