11th MEETING OF THE IHO INTER-REGIONAL COORDINATING COMMITTEE
IHO-IRCC11
Genoa, Italy, 3-5 June 2019

BALTIC SEA HYDROGRAPHIC COMMISSION

BSHC report to IRCC11

1. Chair: Mr Thomas Dehling (Germany) from Sept 21, 2017
Mrs Pia Dahl Højgaard (Denmark) from August 29, 2018

Vice-Chair: Mrs Pia Dahl Højgaard (Denmark) from Sept 21, 2017
Cpt. Andrzej Kowalski (Poland) from August 29, 2018

2. Membership

Members: Members: Denmark, Estonia, Finland, Germany, Latvia, Poland, Russian Federation, Sweden.
Associate Member: Lithuania.
Observers: UKHO, US Navy.

3. Meetings:

Following BSHC meetings have taken place:
23rd Meeting - Aalborg, Denmark Germany, 27-29 August 2018
Next meeting: 24th BSHC meeting will take place 10-12 September 2019, Gdańsk, Poland

4. Current BSHC Working Groups:

a) Baltic Sea Bathymetry Database (BSBD)
b) Re-survey Monitoring Working Group (MWG)
c) Chart Datum Working Group (CDWG)
d) Baltic Sea INT-Chart coordination (BSICC)
e) Marine Spatial Data Infrastructure WG (BS-NSMSDIWG)
f) Baltic Sea MSI Working Group (BSMSIWG)

5. Status of IRCC actions relevant for the BSHC:

All relevant IRCC10 action items devoted to the BSHC chair have been processed accordingly. Details are provided in the list below:

N.	Action (Agenda item)	Responsible	Deadline	Status
3	to submit draft IHO Resolution 2/1997 as amended (Annex C) to the RHC Members for comments and report back to IRCC (6.2)	RHC Chairs	October 2018	Done

6. Agenda Items:

a) Baltic Sea Bathymetry Database (BSBD)
Bathymetry for the Baltic Sea is available in a resolution of minimum 500 grid space except for Russian Federation and Lithuania. Plans are ongoing to produce a higher resolution bathymetric model of the Baltic Sea. Several MS are already providing up to 50 m resolution.
Some might be able to provide a 300 m model.
Another action item is to regularly update the model.

b) Re-survey Monitoring and coordination
BSHC developed and operates a standing scheme of re-surveys for the region. Schedule and execution of surveys are provided in an updated web based interface maintained and operated by Sweden. Surveys are being regularly coordinated between neighboring countries. The BSHC re-survey monitoring working group liaises with the respective NSHC working group. Further developments of the common re-survey database as metadata repository are ongoing. Member States update the information for their waters of jurisdiction independently.
Link to BSHC RE-Survey Database: https://helcomresurvey.sjofartsverket.se/

c) Harmonized Chart Datum in the Baltic
BSHC developed the Baltic Sea Chart Datum 2000 as a joint height reference. It is based on the European Vertical Reference Frame (EVRF). The specification reflects the specific needs of surface navigation and hydrography in addition to EVRF conventions. The Chart Datum working group is monitoring and gives guidance for the implementation of the harmonized chart datum. BSHC members have widely committed to implement it. In some countries implementation has already started.
The CDWG has supported the implementation of the Baltic Sea Chart Datum 2000, reviewed the progress of implementation, promoted development of a common geoid model for the Baltic Sea, and cooperated with relevant international bodies. The work has been presented at several national and international conferences. All the BSHC countries have nominated members to the working group.

d) Baltic Sea INT-Chart coordination
The working group processes ENC and paper chart issues fully in parallel and to the same extent. The facilitation of the INT Chart Web Catalogue and continuous updating of S-11 Part B, have become inherent part of the chart publishing process in all member states. Monitoring of Baltic Sea ENC scheme and the identification of potential gaps and overlaps has been added to the standing agenda items of the Baltic Sea INT-Chart coordination working group.. The last meeting (Riga, Latvia 2019) discussed e.g. INToGIS operations, overlaps reported in WENDWG and possible need for common strategy and harmonization recommendations for S-100 products in the Baltic Sea region.

e) Marine Spatial Data Infrastructure (MSDI)
BSHC and NSHC see the importance to deal with MSDI from a regional approach. The respective WGs in both RHCs have been merged in 2016 to the NSHC and BSHC Baltic Sea North Sea Marine Spatial Data Infrastructure Working Group (BSNSMSDIWG). It will report to both commissions and cooperate with the respective IHO MSDI working group. Marine Spatial Planning was identified as being an important aspect that has been widely underestimated.

f) IHO-EU Network WG (IENWG)
Sweeden acts as representative from BSHC. BSHC member states have been active in participating in the IHO-EU network working group since its inception in 2012 with substantial cooperation and progress on one of the European Commission's flagship maritime projects European Marine Observation and Data Network (EMODNET) regarding the bathymetry portal. Latvia, Sweden and Germany contribute as consortium members to EMODNET derivation "High Resolution Seabed Mapping". The consortium was granted financing for the second phase of this project 2019 – 2020.

g) Baltic Sea MSI Working Group (BSMSIWG)

In March 2004, National Coordinators and other persons involved in the MSI service in the Baltic Sea Sub-area were invited to Norrköping, Sweden, to a meeting concerning MSI in the area. The meeting was named the Baltico Meeting. Since then, the Baltico Meeting has been held in one of the nations in the Sub-area every second year. The aim of these meetings is to harmonize and improve the MSI services to shipping by exchanging experiences and by learning from each other and from international bodies and organizations and from other regions in the world.

At the recent Baltico Meeting in Sankt Petersburg in April 2018, a proposal to formalize the Baltico meeting under BSHC was discussed. The meeting agreed upon that Sweden should forwards a proposal, to the BSHC23 Conference in August 2018.

At the BSHC23 Conference it was decided to make the Baltico Meetings more official and their authority, aims and procedures more formal, therefor it was agreed to make the existing forum to be organized as a permanent Working Group under the Baltic Sea Hydrographic Commission.

It was agreed that the name of the Working Group to be the Baltic Sea MSI Working Group (BSMSIWG). The BSHC23 Conference also agreed on the Terms of Reference and Rules of Procedure for the Baltic Sea MSI Working Group (BSMSIWG).

The members of the BSMSIWG consist of the National Coordinators and other persons involved in the MSI service in the Baltic Sea Sub-area.

7. BSHC cooperation with stakeholders (organizations, industry, etc.):

FAMOS

Several BSHC Member States (DE, DK, EE, FI, LV, LT, SE) and Working Groups are involved in the project FAMOS coordinated by Sweden. The project focuses on surveying areas relevant for commercial shipping in the Baltic Sea according to the BSHC-HELCOM re-survey scheme. Furthermore, it serves as a platform for implementing the common Baltic Sea Chart Datum 2000 as agreed upon within BSHC. It also deals with
developments in the field of data processing and producing nautical information.

The project receives EU co-financing from the CEF Transport programme.

The first phase of the project, FAMOS Freja, was successfully executed from 2014 to 2016. The second phase of the project, FAMOS Odin, is ongoing for the time 2016-2019 (June). Hydrographic surveying in the two FAMOS projects has been very productive and an area of almost 50 000 km^2 has been covered with multibeam surveys in accordance to the IHO S-44 standard.

Intelligent Marine Fairway – project

Project underway in Finland, topics related to studies about bathymetric surfaces, improved water level services, local services of sea conditions (currents, waves and ice) and tests of the services on pilot areas/fairways.

Workshop about processing of bathymetric data

The BSHC and NSHC decided at their last meetings to arrange a workshop about processing of bathymetric data. The goal of the workshop was to discuss and collect general requirements concerning high density ENCs using the current S-57 and concerning future S-102 gridded data.

The German HO BSH Nautical Information Service conducted a joint workshop of data producers and software developers in March 2019 to exchange technical potential and requirements regarding the processing of bathymetric data and thus to receive valuable input for the development of efficient solutions in data management and the production of nautical information products. The workshop was attended by 39 participants.

The workshop started with presentations of the NSHC and BSHC members of their current workflows on bathymetric data processing, their future plans and developments.

The representative of ECC/PRIMAR gave an overview of the current and future projects concerning the S-1XX products especially the upload, validation and distribution of S-102 data as well as the development of the S-102 demonstrator. The representatives of the software developing companies

introduced the functionalities of their tools and explained the processing of the BSH sample data.
The chair of the ENC WG, presented the IHO activities on HD ENCs at the beginning of the second day. The HSSC has tasked the ENC WG with an action to create best practice instructions for creating ENCs with additional bathymetry. The information will form a new annex to IHO S-65 (ENCs: Production, Maintenance and Distribution Guidance) advising HOs on how to produce ENC data which will contain additional contours. The aim of this agenda item was to discuss and draft the required content. The status and content of S-102 and bathymetric data processing were discussed.
The third day of the workshop was concluded by a review of the new S-65 and a summary of general requirements for the S-102.

8. Conclusions:

The BSHC Statutes have been reviewed and updated and the amended version of the Statutes was signed at the BSHC24 Conference in Aalborg.

9. Achievements and lessons learned:

The cooperation within the BSHC is very productive. The Baltic Sea can be seen as a test bed for hydrographic developments. Several projects have led to joint databases and results provided in the web. The outreach of the hydrographic work in the region and beyond has improved even further. Member states have continued to contribute extensively to the work of the IHO and have been active participants of working groups.
There has been substantial cooperation between commission member states and other European States and the EU on information sharing and shared projects.

10. Actions required of IRCC:

The IRCC is invited to:

a. take note of the BSHC report

Pia Dahl Højgaard
BSHC Chair