

Report to CHIS20 meeting

ENC Harmonisation in the Baltic Sea

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Juha Korhonen



**Finnish Maritime
Administration**

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Background:

June 2007 the BSHC established the **Baltic Sea ENC Harmonisation Working Group (BSEHWG)** to

- **identify and analyse existing inconsistencies**
- **propose solutions to avoid inconsistencies**
- **develop concrete actions for harmonising the ENCs.**

August 2008 the BSHC approved the BSEHWG report and recommendations.

Full BSEHWG Report with Annexes is available at IHO Web site:

BSHC → BSHC13th Conference → Documents

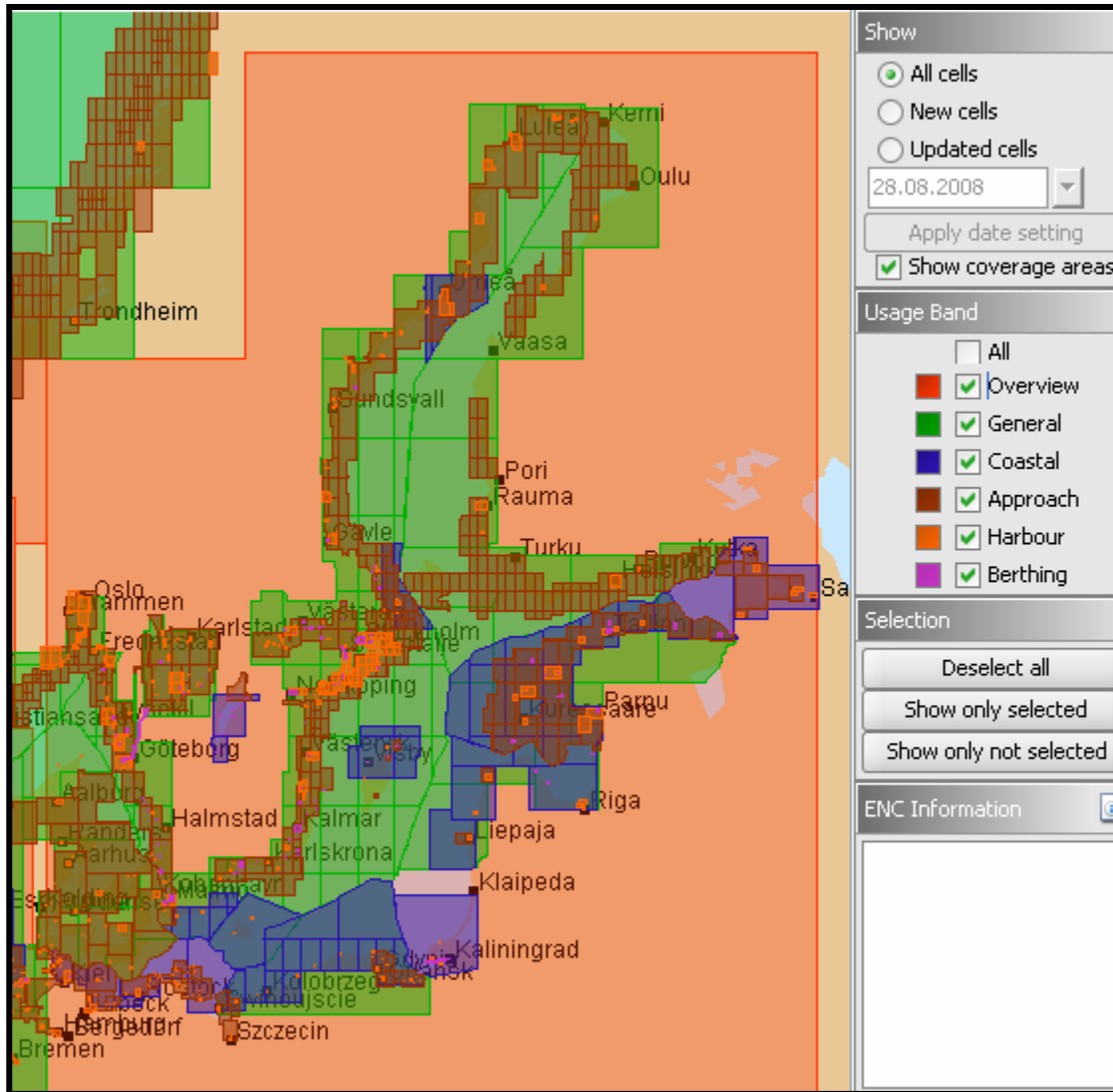


Baltic Sea is a small closed sea.

The Baltic Sea Hydrographic Commission (BSHC) includes all 9 Baltic Sea coastal states. Lithuania not IHO Member state.

BSHC Members: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, Sweden

Baltic Sea ENC coverage August 2008:



***Baltic Sea
ENC Coverage
is already
fairly good!***

Work of the BSEHWG:

There has been held 3 workshops.

Liaison with IHO related Commissions, WGs and RENCs:

- 1st Extraordinary **WEND** meeting in October 2007
- **WEND Task Group** meeting in January 2008
- **CHRIS19** meeting in November 2007 (Action 19/8)
- **North Sea Hydrographic Commission** (NSHC) in April 2008
- **Nordic Hydrographic Commission** (NHC) in May 2008
- **JTEWG** meeting in April 2008
- **The chairman of CHRIS (UKHO)**

Many examples of found inconsistencies are shown in [Annex C](#) and [Annex D](#) of the BSEHWG Report.

BSEHWG Questionnaires:

1. Questionnaire with SCAMIN paper to HOs:

- How the Baltic Sea Hydrographic Offices are **producing ENC**s.
- The questions dealt with **ENC consistency in waters along borders** and about **technical details** of the ENCs.

2. Questionnaire to mariners:

- A brief electronic questionnaire to those **mariners who are using the Baltic Sea ENCs**.
- The questions dealt with the **usage of ENCs** and the **inconsistencies** or **any problems in the presentation of the ENCs** from the mariner's point of view.

From a general approach to a regional approach:

International -> **Regional** -> National (Bilateral)

To agree on **specific regional recommendations** most **appropriate to Baltic Sea** and, as far as possible, **in line with IHO ENC harmonisation guidelines.**



A number of issues has been considered

- **Compilation scale and Usage bands**
- **Scale minimum (SCAMIN)**
- **Depth contours (DEPCNT) and Depth areas (DEPARE)**
- **“Across Borders” to cover all objects in the border areas**
- **Testing for harmonisation before launching ENC**
- **Use of up to 5 metres buffer zone to eliminate gaps**

**The issues were prioritized based on the expected
mariner's confidence on ENCs.**

Recommendations to national HOs - ENC producers:

[Recommendations 1 – 9]

Recommendation: 1

Navigational purpose *Overview*:

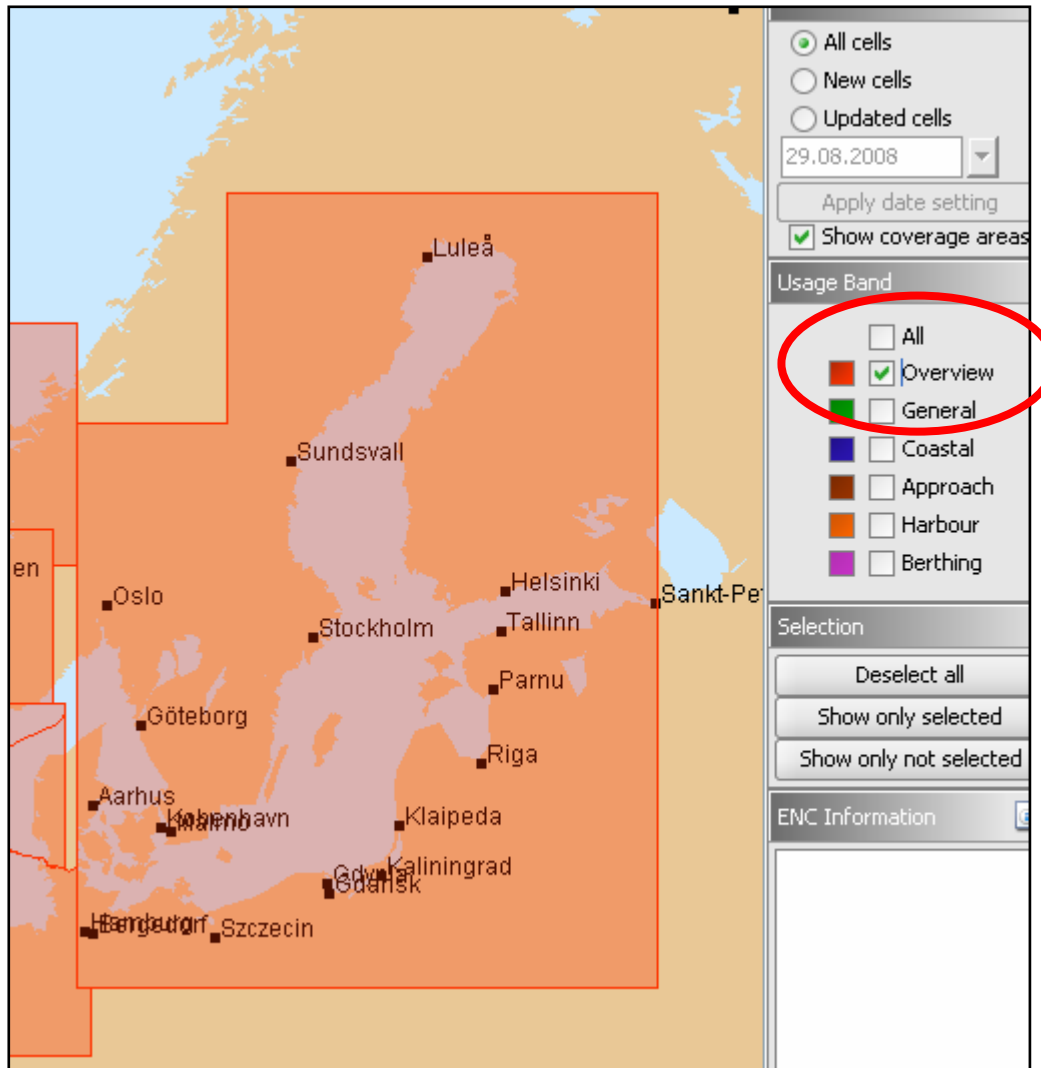
- 1a) *Overview* navigational purpose should be in harmony with other navigational purposes within the producers' portfolios.**
- 1b) The *Overview* cell should be harmonised with adjacent cells in the North Sea.**

Recommendation: 2

Navigational purpose *Harbour and Berthing*:

The *Harbour and Berthing* navigational purposes should be in harmony with other navigational purposes within the producers' portfolios.

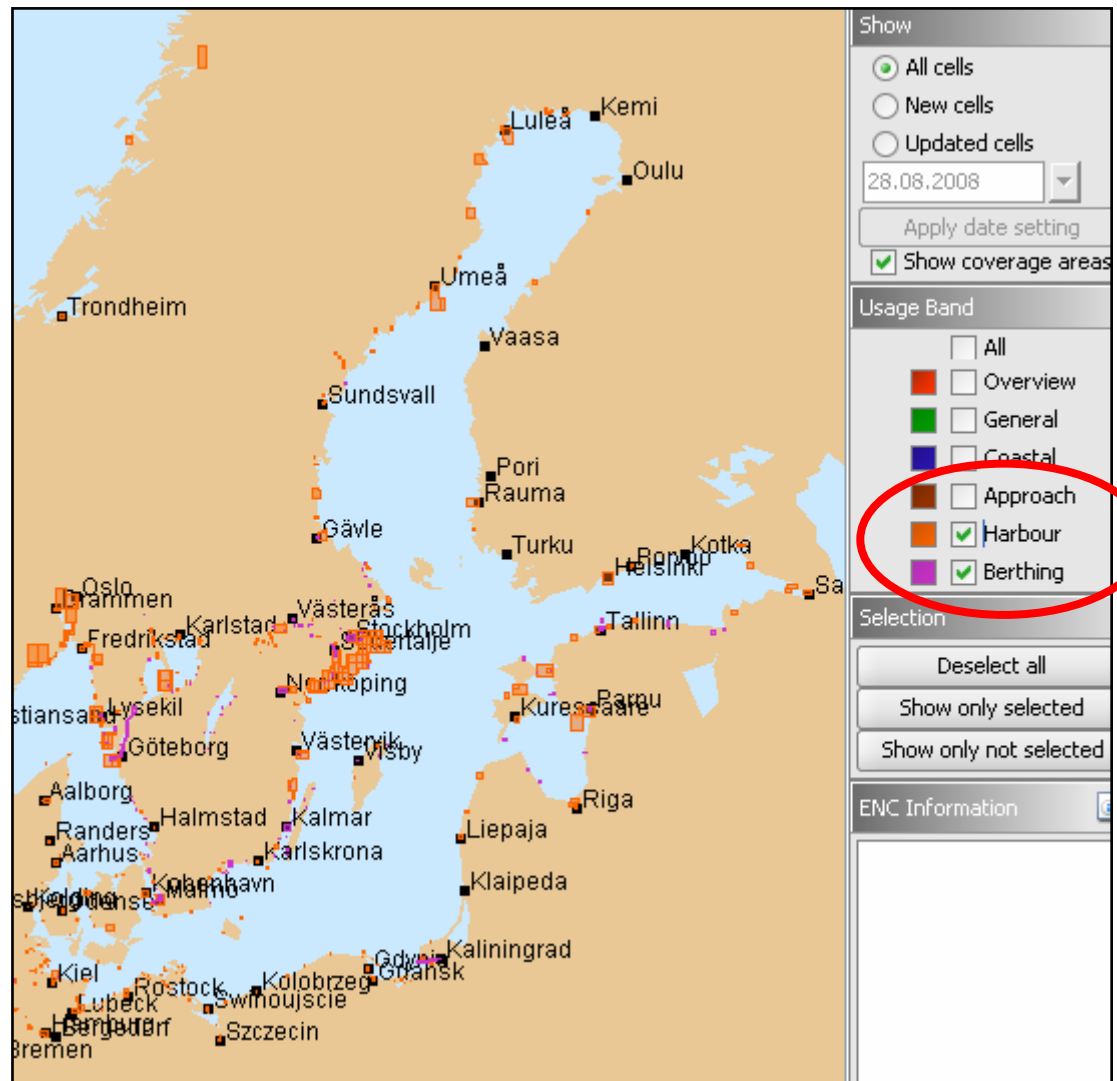
Baltic Sea *Overview* navigational purpose:



**Only one Baltic Sea
Overview cell:**

- No need for harmonisation within Baltic Sea
- To be in harmony with other navigational purposes
- Harmonisation with North Sea ENC

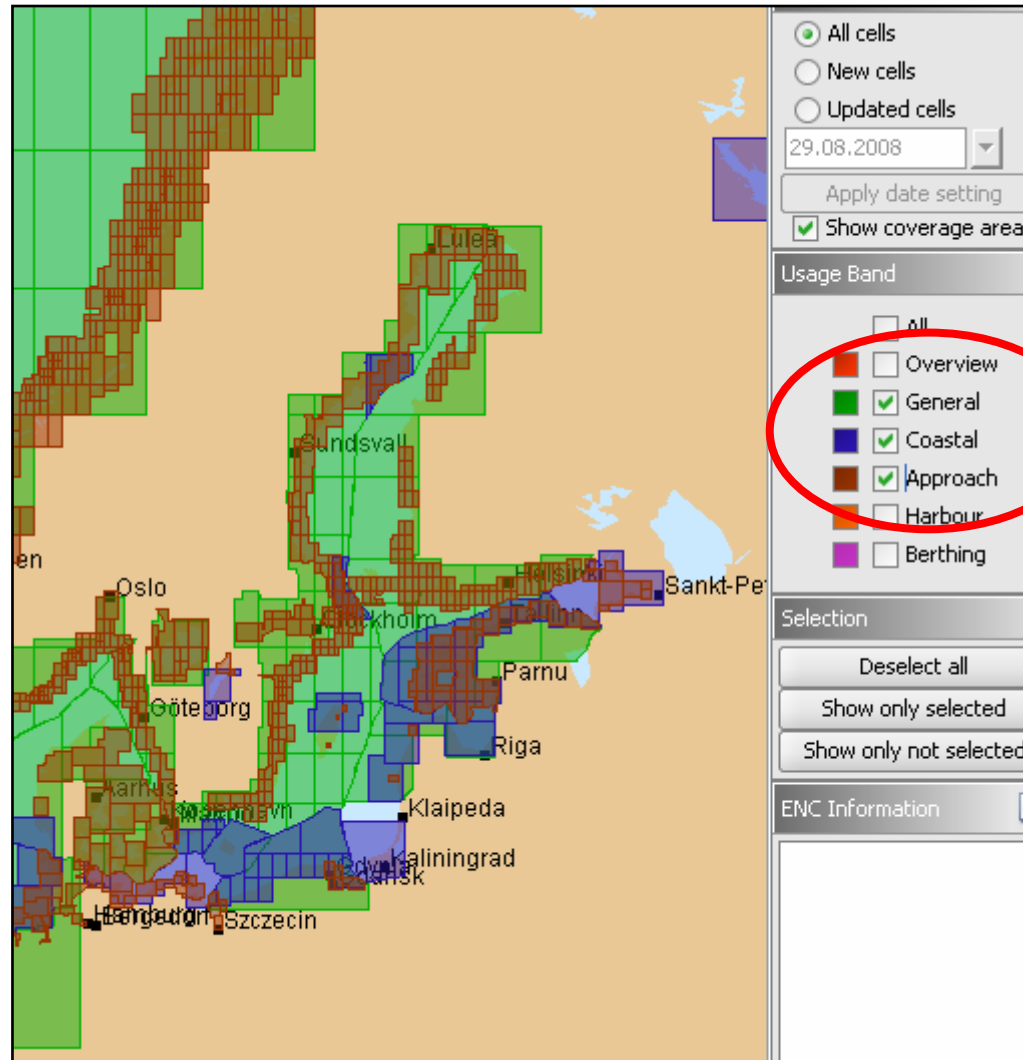
Baltic Sea Harbour and Berthing:



Harbour and Berthing cells are mainly disjoint with no visual inconsistencies:

→ No need for harmonisation

Baltic Sea *General, Coastal and Approach:*



Harmonisation actions are needed for:

General,
Coastal and
Approach

navigation purposes.

Recommendations to national HOs - ENC producers (Cont.):

Recommendation: 3 Use of Compilation Scale:

On the Baltic Sea, the following values for the compilation scales should be used:

180,000	<i>(General)</i>
90,000	<i>(Coastal)</i>
22,000	<i>(Approach)</i>

These values fit **most appropriately** to the Baltic Sea.

Most of the BSHC countries **already use** these values and the remaining HOs are considering of changing to this value.

Recommendation: 4

Exceptions in the use of Compilation Scale:

If a HO wants to use a compilation scale other than those recommended above, it may do so if all the following conditions are met:

- i) the value used is in **line with the intention** of the IHO guidance**
- ii) use of it is **agreed bilaterally** with neighbouring HOs, in order to avoid inconsistencies at the border,**
- ii) every effort is made to **minimise possible inconsistencies** due to deviations from the recommended compilation scale.**

Recommendations to national HOs - ENC producers (Cont.):

Recommendation: 5

Use of SCAMIN:

BSHC should adopt the guidelines as stated in [Annex J](#).

There are some variations to IHO recommendations.

Comments to use of SCAMIN:

- **There are some deviations to the IHO recommendations on the use of SCAMIN.**
 - **Not practically possible for all HOs to implement the IHO recommended SCAMIN values**
 - **A pragmatic compromise solution was selected so that it is possible to implement by all HOs**
 - **Based on principles of CL47/2004**
 - **SCAMIN values are based on our experiences and lack of negative feedback from the users**
 - **Do not increase the quality of ENC's of those HOs which have more advanced methods in use**
 - **Regional harmonisation has a high importance**

Recommendations to national HOs - ENC producers (Cont.):

Recommendation: 6

Contour intervals:

- 6a) **BSHC to establish a Working Group** to study possibilities for Harmonisation of the Conveying and Presentation of Depth Information for both ENCs and paper charts.
- 6b) Meanwhile, if the IHO recommended contour intervals are not applicable, or if additional intervals are needed, implementation should be agreed bilaterally/multilaterally so that possible inconsistencies to the mariners could be avoided.

It was not feasible to harmonise depth contour intervals as recommended in S-65 Annex A para 6.

Depth information (contours and depth areas) are highly depending on the databases and product specifications and may take a long time to harmonise these.

In the future more dense depth information and various depth presentations are needed.

WG TORs are in [Annex K](#) of the BSEHWG Report.

Recommendations to national HOs - ENC producers (Cont.):

Recommendation: 7

Harmonisation of features continuing/extending over national borders:

All BSHC countries should ensure that **bilateral agreements** are in place with their neighbouring countries concerning harmonisation of features continuing/extending over national borders.

Recommendation: 8

Checking harmonisation before launching new ENCs:

All BSHC countries should check and carry out harmonisation **before launching** updates or new editions of ENCs.

Recommendation: 9

Buffer zones along the national borders:

All BSHC countries should check that there are **no gaps** between cells at national borders by establishing a buffer zone of up to 5 metres, if necessary.

Recommendations to BSHC:

[Recommendations 10 – 17: To BSHC further actions and to ensure that the previous recommendations are followed in the best manner]

Recommendation: 10

Adoption of new versions of ENC related standards:

The BSHC should agree on **joint plans and time schedules** for the adoption of new versions of ENC related standards (e.g. S-57 Ed. 3.1.1 or S-101).

Recommendation: 11

Adoption of new object classes:

The BSHC should agree on **joint plans and a time schedules** for the adoption of new object classes on their products.

Recommendations to BSHC (Cont.):

Recommendation: 12

The use of objects to ensure consistency:

- 12a) BSHC should encourage all countries to make **further studies** of the use of objects in the Baltic Sea ENCs and report to the following BSHC meeting.
- 12b) BSHC should decide on proper actions to ensure ENC consistency as far as possible.

Recommendation: 13

Special circumstances:

If found necessary it is possible to deviate from the recommendations. When doing so, the relevant HO should make every effort to minimise the effect of any inconsistencies that may occur. This should be done through bilateral/multilateral agreements and through harmonisation of data in order to ensure that no serious disharmony is introduced to the ENCs.

Recommendations to BSHC (Cont.):

Recommendation: 14

Promotion of regional approaches:

BSHC should ask the IHO Committee on CHRIS to consider appropriate actions to recommend other RHCs to adopt regional implementations to IHO consistency recommendations within their sea areas.

Recommendation: 15

Training and education:

All relevant bodies are encouraged to continue the education of mariners regarding '*ECDIS*', '*ECS*', '*ENC*' and '*Electronic chart*'.

Recommendations to BSHC (Cont.):

Recommendation: 16

Implementation:

All BSHC countries should follow the time schedule for the implementation of all relevant recommendations as stated in [Annex L](#).

Recommendation: 17

Reporting of the implementation of the recommendations:

BSHC members should report annually to BSHC Conferences on the implementation of these recommendations.

Implementation is scheduled in most cases for the next few years.

Some observations:

- The IHO recommendations and guidelines on ENC consistency have been found feasible for the Baltic Sea, **except some deviations on the use of SCAMIN.**
 - Not practically possible for all HOs to implement the IHO recommended SCAMIN values
 - A compromise solution was selected so that it is possible to implement by all HOs
 - Do not increase the quality of ENCs of those HOs which have more advanced methods in use
 - Regional harmonisation has a high importance
- It was not feasible to harmonise **depth contour intervals** as recommended in S-65 Annex A para 6.
 - Depth contours and depth areas are highly related to the definitions hydrographic databases and products
 - Further studies are needed → **BSHC established a WG to study further on (TORs in Annex K)**

Some observations (Cont.):

- **Many of the recommendations can be implemented immediately within few years without further studies.**
- **Further studies have been proposed to resolve certain outstanding inconsistency issues, for example, on conveying and presentation of depth information.**
- **Harmonisation of ENC's is ongoing process**
- **Harmonisation should be done by ENC producers, but some of the recommended checks and harmonisations could also performed by RENCs, if so agreed**

Justifications and Impacts:

The BSHC regards that:

- The BSEHWG work and the recommendations are in line with SOLAS V Reg. 9: Member states to “**co-operate**”, “**coordinate activities**” and “**greatest possible uniformity**”.
- Improving the consistency of Baltic Sea ENC's is very important for **fostering wider use of ECDIS and ENC's** and thereby increasing safety of navigation.
- Recommendations are in line with **WEND principles** and **WEND 11** supported this kind of co-operation

Actions required by the CHRIS20 Meeting:

BSHC 13th Conference on 19 -21 August 2008 invited the WEND and CHRIS to take note of this information and to consider further actions, which might include:

- 1. Inviting CHRIS to consider any technical implications of the BSEHWG recommendations;**
- 2. Inviting CHRIS to include principles of reaching regional harmonisation as an Annex to S-65 – *ENC Production Guidance*;**
- 3. Inviting other RHCs to adopt similar consistency policies and guidelines for ENC consistency for their regions.**

Thank you!