

**BSHC/HELCOM BSHC Working Group
for Monitoring the Implementation
of the Harmonised Re-survey Plan (MWG)**

Report to the BSHC 13th Conference

[24 June 2008]

The MWG Work Programme requires the MWG Chair to give a report of the MWG Actions to the BSHC yearly and to the BSHC Conferences. Previous MWG Report was given at the BSHC 12th Conference in June 2007. Major features related to the work of the MWG since that:

1. Status of Work of MWG

- There have been some changes to the MWG representatives.
- There have been some changes to National database operators.
- MWG Meeting was held in Helsinki on 14 May 2008. Altogether 11 participants from 6 countries were participating the meeting. Main issues in that meeting were
 - to review the status of re-surveys [see below]
 - to agree to propose a major revision of re-survey scheme [see below]
 - to review the status of MWG Work Programme
 - to review the status of developing the re-survey database and the interface
 - to review the status and future of MWG
 - to initiate preparations for reporting to BSHC 13th Conference
 - to share information on NSHC re-survey WG

2. Status of re-surveys and MWG Work Programme Version 4.1

- The MWG Work Programme Version 4.1 was approved by the BSHC 12th Conference.
- All countries have proceeded with their surveys. Some delays in the time schedules have been reported, due bad weather conditions or due other reasons.
- Some critical new shallows or objects have been found during re-surveys.
- The harmonisation of the routes needs in some cases decisions by other bodies than the HOs.
- The database has been updated by MWG Members. Sweden has updated the geometry of the routes based on the information sent by the MWG Members.

3. Proposal for a major revision of the re-survey schemes

At the MWG meeting on 14 May 2008 in Helsinki it was decided to propose to the BSHC 13th Conference a major revision of the re-survey scheme. The background and details of this proposal are in the [Annex 1 MWG Proposal for a Major Revision of the Baltic Sea Re-survey Scheme](#). It includes as annexes the proposed revised Re-survey scheme, version 2.0, the revised TORs, ROPs and Work Programme, v. 5.0.

4. Actions for the BSHC 13th Conference:

The BSHC 13th Conference is requested to

1. endorse this Report
2. approve the revised Re-survey Scheme, Version 2.0.
3. approve the revised TORs and ROPs for the MWG
4. approve the proposed new name for the Working Group
5. approve the MWG Work Programme, Version 5.0
6. approve the proposed Chair and Vice-chair



Juha Korhonen,
Chairman of the MWG

Annex: 1. *MWG Proposal for a Major Revision of the Baltic Sea Re-survey Scheme with Annexes.*

MWG Proposal for a Major Revision of the Baltic Sea Re-survey Scheme

[Draft by 24 June 2008]

At the MWG meeting on 14 May 2008 in Helsinki the working group decided to propose to the BSHC 13th Conference on a major revision of the re-survey scheme.

This document explains the reasons for that and outlines the principles and plans for the revised Re-survey Scheme Version 2.0.

1. Background

The Copenhagen Declaration in 2001:

III To adopt additional measures to ensure improved hydrographic services and to promote the use of Electronic Navigational Charts (ENC)

a) Re-surveying of major shipping routes and ports

- by requesting the Governments of the Contracting Parties to develop a scheme for systematic re-surveying of major shipping routes and ports in order to ensure that safety of navigation is not endangered by inadequate source information. The survey shall be carried out to a standard not inferior to the latest edition of IHO S-44. The scheme shall be elaborated jointly by the hydrographic services responsible for the areas in question not later than by the end of 2002 with the aim to begin implementation by 2003,

This Copenhagen Declaration in 2001 aimed to improve the safety of navigation by requesting to re-survey main routes according to the latest edition of IHO S-44. The main emphasis was with the routes for ships carrying dangerous goods, oil and passengers. However, in the declaration (or its preparation documents) there were no detailed descriptions of the main routes or any time schedule for requested re-surveys.

Original re-survey scheme 2002

A group of experts within the BSHC developed the scheme for the **main routes** to be re-surveyed. In my understanding this was based on the estimation of the main routes that shipping is using without real facts. The BSHC members approved the Harmonised Re-survey Plan including the scheme of main routes in December 2002.

In Fig. 1. there is a chart showing the original Re-survey scheme.

The re-survey scheme in May 2008 is shown in Fig. 2.

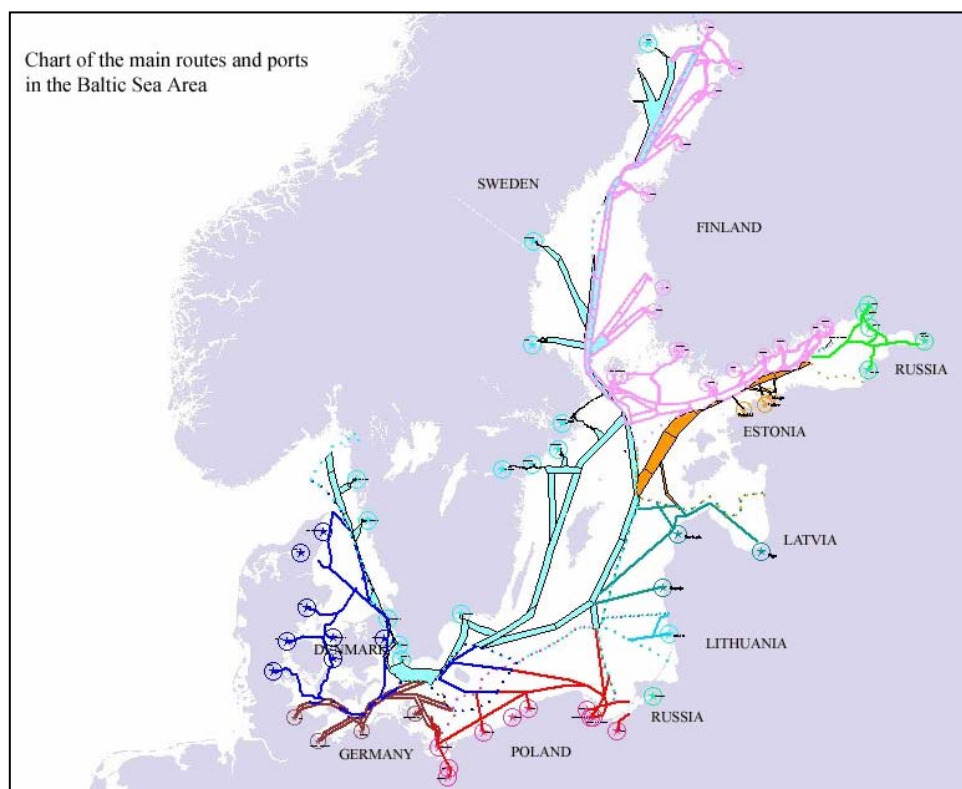


Fig. 1. The original HELCOM Re-survey Scheme (2002).

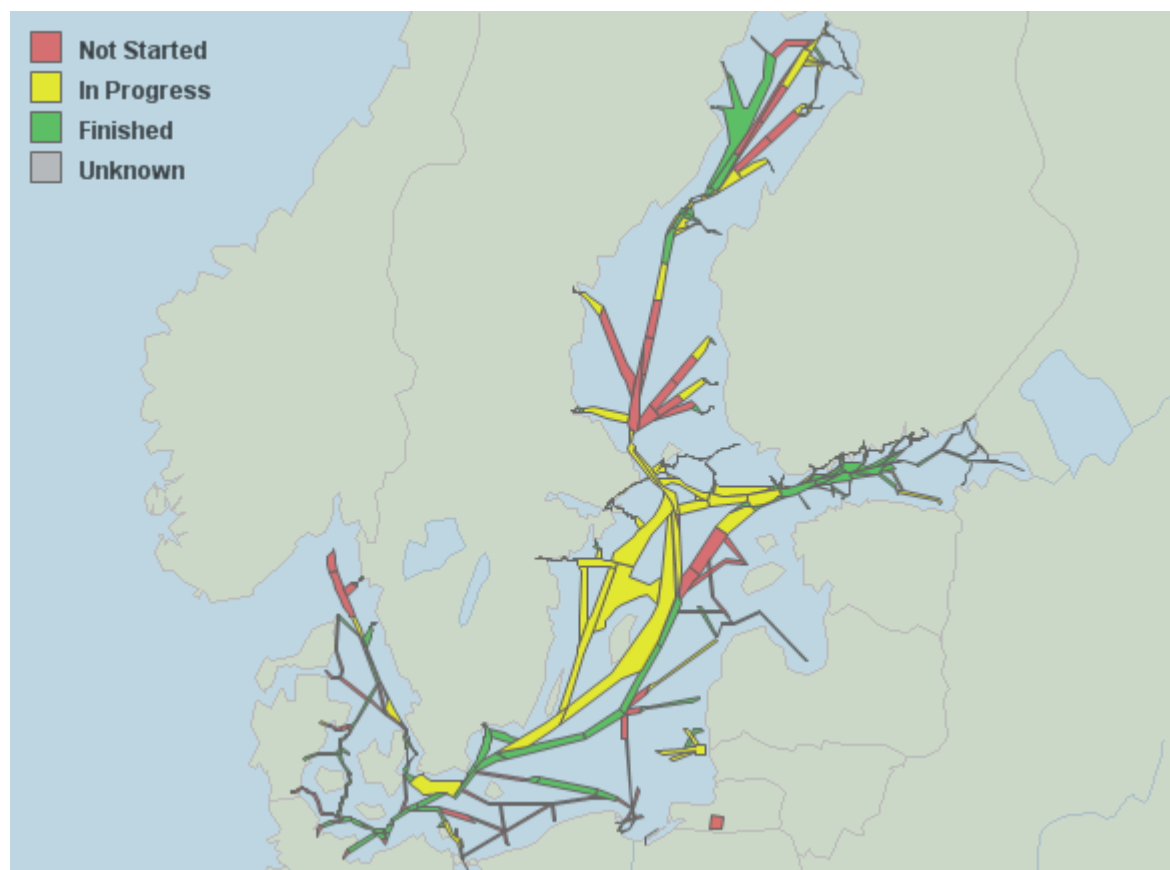


Fig. 2. The HELCOM Re-survey Scheme and status of resurveys in May 2008.

Routes and areas shipping is using

Now it is available to have an access to real AIS data on which we can identify the actual routes the shipping is using. It is even possible to analyse the shipping routes by the ship type (e.g. tanker, passenger ship), ship draft, etc. Plots of the AIS data are available, see examples in [Fig. 3 and 4](#). When studying these actual shipping routes, it is easy to notice that the BSHC agreed re-survey routes and the actual shipping routes do not match in many cases. Even large tankers are using routes which are not adequately surveyed and which are not included into the current re-survey scheme.

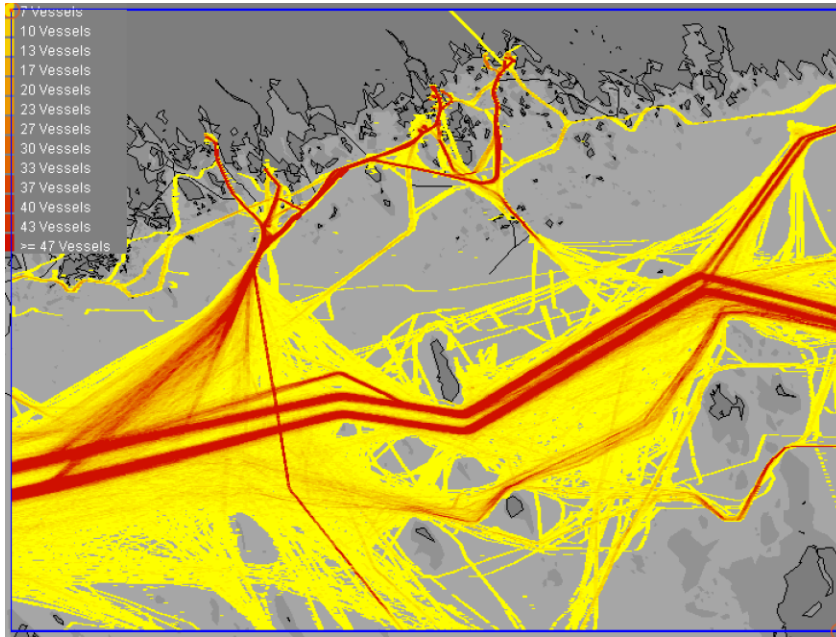


Fig.3. An example of ships track based on AIS data

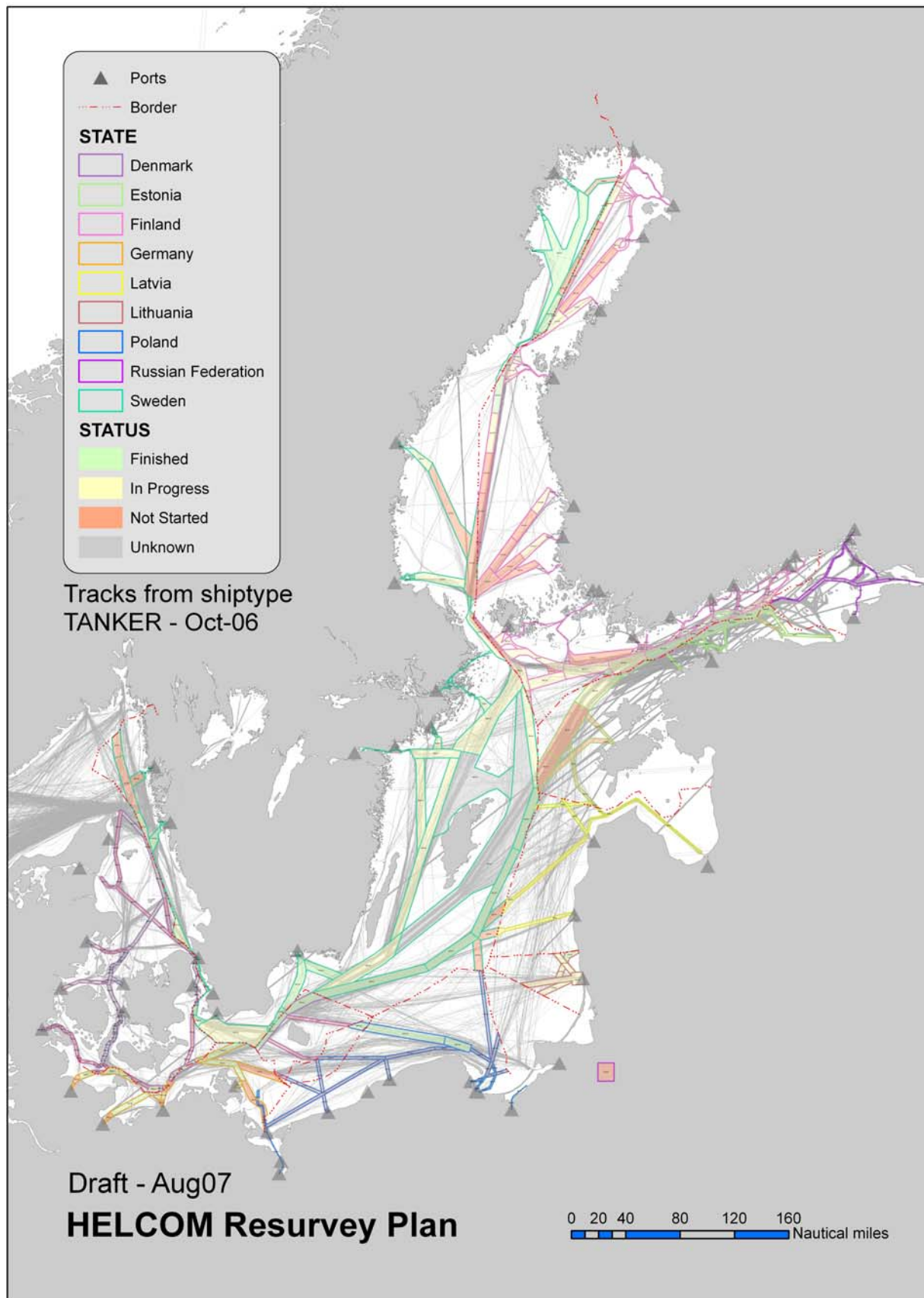


Fig. 4. An example of a chart showing the actual ship routes based on AIS data (Tankers October 2006).

Also the original re-survey routes were planned more than 6 years ago and the routes may not be relevant in all cases due changes in Traffic Separation Schemes or other reasons. See an example of a new Traffic Separation Scheme in [Fig 5](#).

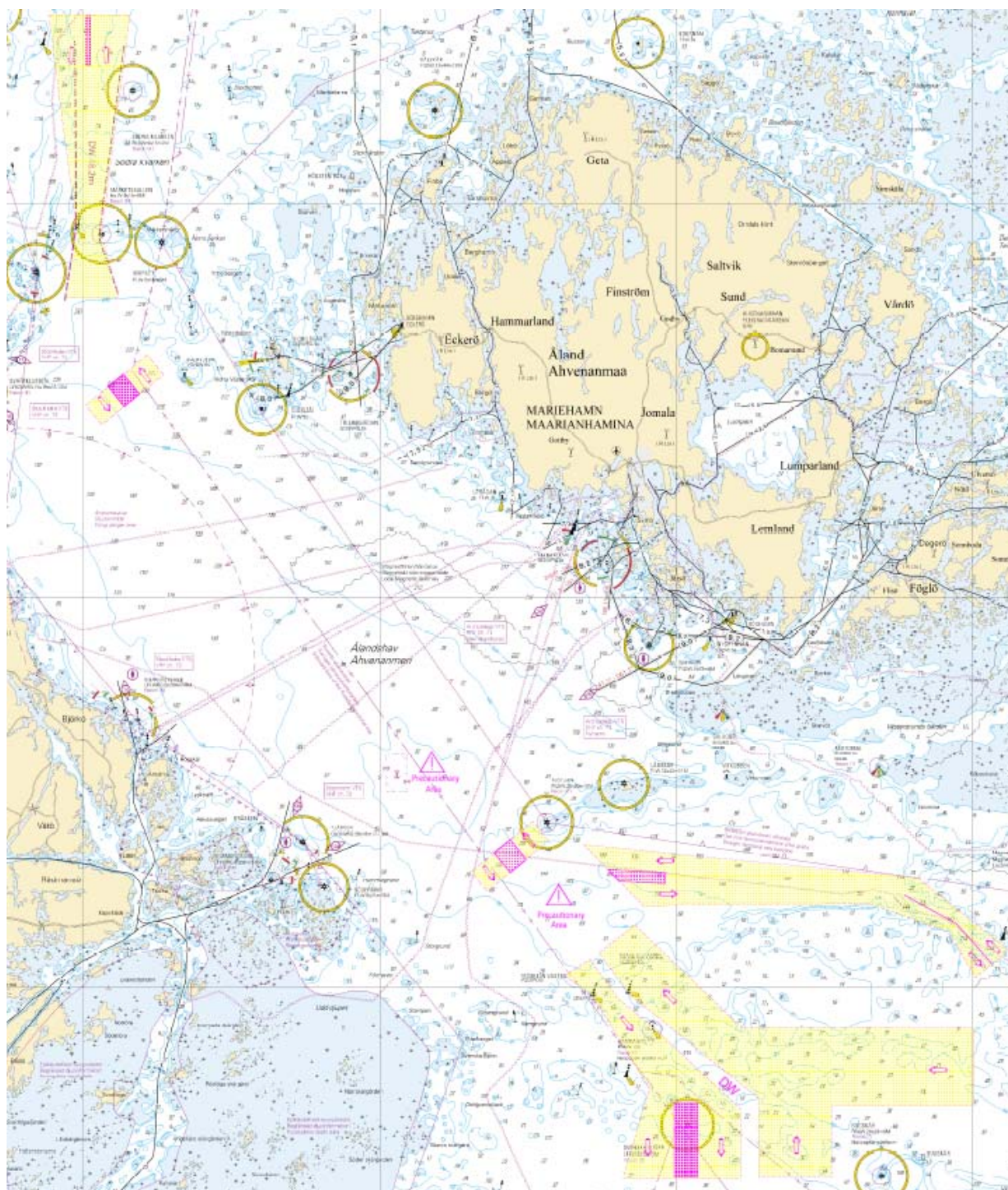


Fig. 5. An example of a proposed new Traffic Separation Scheme.

National re-survey schemes

In the figures 6 and 7 below are two examples of national re-survey schemes. Both these covers all waters within national responsibility. There are also priorities and estimated time schedules for the re-survey areas.

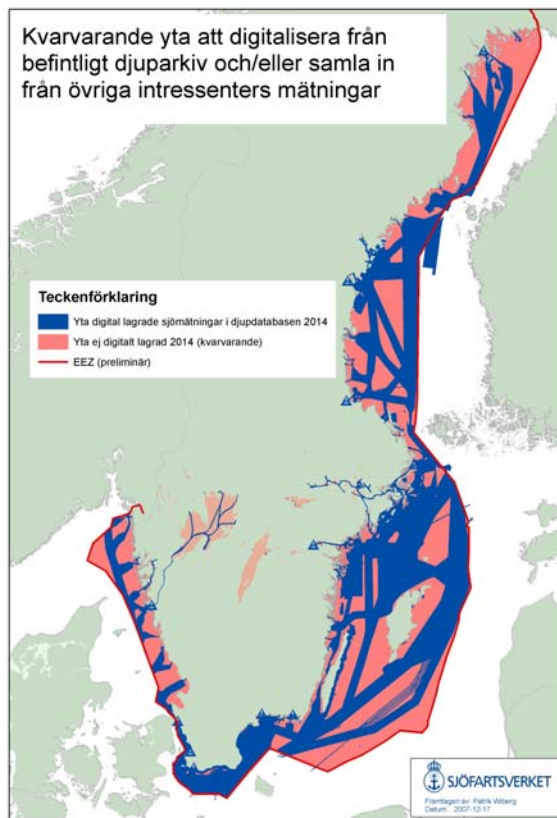


Fig. 6. Swedish national re-survey scheme

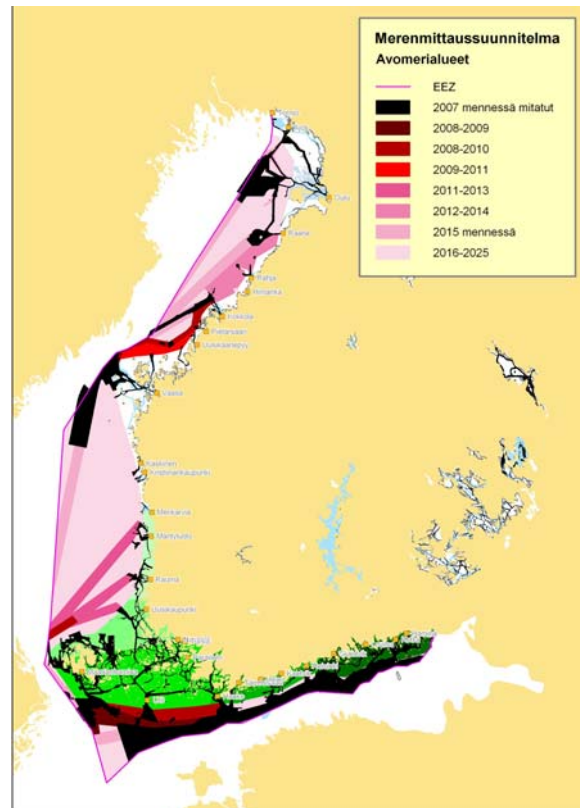


Fig. 7. Finnish national re-survey scheme.

HELCOM Copenhagen Declaration vs. IHO S-44 Ed.5.

It has been agreed that replacing IHO S-44 Ed.4 by Ed.5 will cause no effect on surveys made so far. The new S-44 Ed.5 will be applied in future surveys with the principle that where Order 1 survey is required, the survey should fulfil new Order 1a requirements.

Time schedules

The Copenhagen Declaration did not set any time frame for re-surveys. In 2005 the estimation of latest completing the re-surveys was 2012. Now the latest year is 2018. Reasons for that are that there are included many new routes and areas to be re-surveyed. Also in many cases the widths of the routes have been widened.

(Version: April/2005)

Country	Re-survey area (approx.)	Completed	Remarks
Denmark	6800	2009	(Time schedule revised 11/2004). some routes extended to 6 km.
Estonia	12000	2009	(Time schedule 11/2004)
Finland	25500	2012	Time schedule incomplete. Extended areas for winter navigation.
Germany	3000	2009	(Time schedule revised 11/2004).
Latvia	2200	2007	Time schedule 12/2004
Lithuania	2000	2004	
Poland	5200	2007-	Time schedule incomplete
Russia	?	2005	Area information incomplete. Time schedule 10/2004. Ust-Luga now 30; completed 3rd 2005.
Sweden	36000	2010	Revised time schedule.
Total	92700		

Country	Estimated year for finishing re-surveys
Denmark	2013
Estonia	2018
Finland	2015
Germany	2009
Latvia	2008
Lithuania	2012
Poland	2007
Russia	2004??
Sweden	2014

Fig. 8. The time schedule estimations for HELCOM Re-surveys by 2005 and 2008.

2. Principles for the revision

Definitions of new "Categories"

Category A.1 It is proposed that the original Re-survey Scheme (2001) with updates and extensions to it so far are regarded as Category **A.1** re-surveys. These contain mainly the major shipping routes and ports and are believed to cover the routes meant in the Copenhagen Declaration.

Category A.2 Other re-survey areas which are estimated to have a high priority for resurveys by the safety of navigation reasons are proposed to be regarded as Category **A.2** re-surveys. These are national extensions to Category **A** routes. There may be also other areas which have high priority on national schemes.

Category B includes all other areas to be re-surveyed. These areas have lower priorities than Category **A** areas. For these re-surveys there are also other reasons than safety of navigation, e.g. environmental reasons, large sea construction works, pipelines etc. Also the funding for these may be from various sources.

Issues to be considered:

Principles to include national schemes

[To be developed, proposals from all are invited.]

Principles of prioritising re-surveys

Each HO is responsible for setting the priority and time-schedule of re-surveys under its responsibility. Especially the following general principles should be considered:

- importance for international and regional traffic
- depth and expected shallows or obstructions
- quality and up-to-dateness of previous surveys
- importance for other uses

- [To be developed further on]

The main routes may be highlighted by priority. Sweden will adjust the priority scheme to allow this.

Analyse resources needed for re-surveys

[Information to be forwarded by all.]

3. Proposal to change the name of the WG

Bearing in mind the proposed changes in the scope of the Working Group, the MWG believes that the current name of the WG should be changed to explain more clearly the scope of the WG. Thus the MWG proposes a name of MWG to be changed as:

"BSHC Re-survey Monitoring Working Group".

4. Modified version of MWG TORs and ROPs

These TORs are also aligned with IHO guidelines for TORs of IHO bodies as far as feasible. Proposed modified Terms of reference and Rules of procedure are in [Annex 1](#).

5. Proposed Baltic Sea re-survey Scheme, Version 2.0

The original Re-survey Plan was approved by the BSHC in December 2002. The proposed revised Baltic Sea re-survey Scheme, Version 2.0 is attached in [Annex 2](#).

6. Proposed MWG Work Programme, Version 5.0

The MWG Work Programme has been modified to reflect the revised re-survey scheme. Also the structure of the Work Programme has been developed to allow a more detailed monitoring and reporting of the implementation of re-surveys.

The revised MWG Work Programme Version 5.0 is in [Annex 3](#).

7. Proposals to BSHC 13th Conference

Bearing in mind the intention of the HELCOM Copenhagen Declaration 2001, and noting that

- the current re-survey scheme was decided more than 6 years ago,
- the availability of more accurate data on the routes and areas shipping is using,
- that there are other high priority areas than the main routes
- the need of national re-survey schemes to be included

the MWG proposes the re-survey scheme to be revised according to the principles and plans described in this document.

Furthermore the MWG proposes

- the revised TORs and ROPs to be approved,

Annex 1 to the MWG Report:

- the Working Group to be renamed as “BSHC Re-Survey Monitoring Working Group”,
- the MWG Work Program Version 5.0 to be approved
- Mr. *Juha Korhonen* to be nominated as the Chair
- **[N.N.]** to be nominated as the Vice-Chair

Appendices:

1. Revised Draft TORs and ROPs for the MWG
2. Revised Draft Baltic Sea Re-survey Scheme, Version 2.0
3. Revised Draft MWG Work Programme, Version 5.0

Appendix 1: **Proposed new Terms of References and Rules of procedure for BSHC/MWG.**

**Terms of References and Rules of Procedures for
the BSHC Re-survey Monitoring Working Group**

[Draft by 24 June 2008]

Considering the need to monitor the implementation of the Baltic Sea harmonised re-survey scheme developed as requested by the HELCOM Copenhagen Declaration 2001, the Baltic Sea hydrographic Commission has established the **BSHC Re-survey Monitoring Working Group** with the following terms of Reference and Rules of procedure.

1. Terms of Reference

- 3.1 To maintain the Baltic Sea Harmonised Re-survey Scheme
- 1.2 To maintain the re-survey metadata database
- 1.3 To follow up the implementation of the Harmonised Re-Survey Scheme
- 1.4 To identify possible problems and propose solutions or workarounds to them
- 1.5 To specify and propose updates and changes to the Harmonised Re-Survey Scheme
- 1.6 To liaise with national Maritime Administrations, HELCOM Secretariat, and other relevant organisations.
- 1.7 The MWG should report to the BSHC at least once a year.

2. Rules of Procedure

- 2.1 Each country around the Baltic Sea shall nominate a representative to the MWG. The representatives should be experts in the field of hydrographic survey.
- 2.2 The MWG shall work mainly by correspondence, preferably by e-mail.
- 2.3 Meetings shall be arranged when found feasible.
- 2.4 The Chair and Vice-Chair shall be members of the Working Group [and nominated by the BSHC].
- 2.5 With the Chair's approval non-members may attend the MWG meetings.
- 2.6 Decisions should be made by consensus.

Proposed to be approved: At the BSHC 13 Conference on 19-21 August 2008.

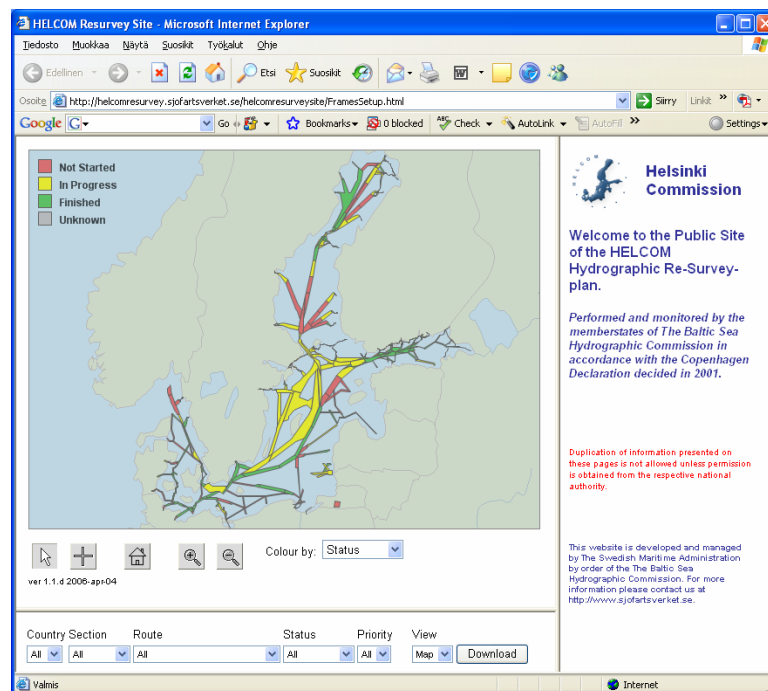
Appendix 2: **Proposed Version 2 of Baltic Sea Harmonised Hydrographic Re-Survey Scheme**



International Hydrographic Organisation
Baltic Sea Hydrographic Commission

Baltic Sea Harmonised Hydrographic Re-Survey Scheme

[Draft Version 2.0, 24 June 2008]



The Hydrographic Offices of Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden have developed this Scheme during 2002 - 2008.

This Scheme proposed to be approved on BSHC 13th Conference on 19-21 August 2008.

Contents

1. Introduction	13
1.1 Background.....	13
1.2 Scope and aims.....	13
2. Baltic Sea Harmonised Re-survey Scheme	13
2.1 Principles used for the Re-survey Scheme	13
2.2 Routes and areas according to the HELCOM Copenhagen Declaration.....	14
2.3 Routes and areas according to national survey Schemes	14
2.4 Harmonisation of Re-survey Schemes.....	14
2.5 Prioritized time schedules of Re-surveys	14
3. Use of re-survey data	15
3.1 Principles of distribution of the re-surveys data	15
3.2 Principles of presentation of the re-survey data	15
4. The implementation of the Re-survey Scheme.....	15
4.1 Implementation of the Scheme.....	15
4.2 Monitoring the implementation of the Re-survey Scheme.....	15
4.3 Re-survey database	15
References:	16
Annexes:	16

1. Introduction

1.1 Background

The HELCOM Copenhagen Declaration was adopted on 10 September 2001 by the HELCOM Extraordinary Ministerial Meeting [1]. It was included also as a *Regulation 9 Paragraph 1. b)* into the HELCOM Convention entering into force on 1 December 2002 [2].

The requirement of the re-survey Scheme is written into the Copenhagen Declaration in *Paragraph III. a)* as follows:

a) Re-surveying of major shipping routes and ports

- *by requesting the Governments of the Contracting Parties to develop a scheme for systematic re-surveying of major shipping routes and ports in order to ensure that safety of navigation is not endangered by inadequate source information. The survey shall be carried out to a standard not inferior to the latest edition of IHO S-44. The scheme shall be elaborated jointly by the hydrographic services responsible for the areas in question not later than by the end of 2002 with the aim to begin implementation by 2003,*

The BSHC approved Version 1.0 of Harmonised Hydrographic Re-Survey Plan in December 2002.

The BSCH also established 2002 a working group to monitor the implementation of the re-surveys (MWG).

On its meeting in May 2008 the MWG decided to propose a major revision of the harmonised re-survey scheme and has developed Version 2.0 of the scheme.

1.2 Scope and aims

The purpose of this Scheme is stated in the HELCOM Copenhagen Declaration *by stating that "in order to ensure that safety of navigation is not endangered by inadequate source information."*

Also other areas will be included to cover other IMO and IHO defined or national safety of navigation purposes.

2. Baltic Sea Harmonised Re-survey Scheme

2.1 Principles used for the Re-survey Scheme

This Scheme has been prepared according to the following basic principles:

- This Scheme will concentrate only on the hydrographic surveys.
- Common understanding of the HELCOM Copenhagen Declaration is: All routes are to be re-surveyed, if the old survey data cannot be interpreted according to the IHO S-44 standard.

- The new S-44 Ed.5 will be applied in future surveys with the principle that where Order 1 survey is required, the survey should fulfil new Order 1a requirements.
- Each country is responsible for the interpretation of the IHO S-44 and compliance of its data regarding its own surveys.
- The main and secondary routes and ports are defined mainly by the traffic volumes of dangerous goods and passengers.
- As a general guideline the width of the routes in coastal areas should be at least two nautical miles; for open sea areas 6 nautical miles. The actual width of the routes and areas will be described in the Scheme.
- The S-44 feature detection requirement for Order 1a up to 40 metres should be interpreted bearing in mind the maximum draft of Danish Sounds.

2.2 Routes and areas according to the HELCOM Copenhagen Declaration

Each country has specified the main and secondary routes and ports in its area of responsibility. Originally these routes were based on the list of main ports used as a background document for Copenhagen Declaration [3]. The routes and areas have been updated and extended by the MWG members. These are routes and areas included in the MWG database. [These are called as Category A.1 areas].

2.3 Routes and areas according to national survey Schemes

The HOs have various time schedules to complete the re-surveys, some of them extend beyond 2020. Possible means to enhance and foster the implementation of the re-surveys should be studied. These could be the possibilities to utilize the capacity more effectively, possibilities to get extra funding for speeding up the re-surveys, etc. [if these areas are specified by safety of navigation reasons, these are called as Category A.1 areas; if for other reason, then Category B areas].

2.4 Harmonisation of Re-survey Schemes

There are still issues to be harmonised, e.g. differences on the width of routes and disjoint sections. All HOs will make necessary action to harmonise the routes and areas between neighbouring countries.

Bilateral or multilateral negotiations between the HOs of the neighbouring countries may be needed.

2.5 Prioritized time schedules of Re-surveys

Each HO is responsible for setting prioritised time schedules re-surveys under its responsibility. Especially the following general principles should be considered:

- importance for international and regional traffic
- depth and expected shallows or obstructions

- quality and up-to-dateness of previous surveys
- importance for other uses

3. Use of re-survey data

3.1 Principles of distribution of the re-surveys data

The re-survey data will be processed as soon as feasible to the appropriate nautical charts and products, basically to printed charts and ENC's. The quality of information on data should be transferred with the data.

Other possible exchange and distribution of the re-survey data should be agreed within the Bilateral Arrangements between the HO's.

3.2 Principles of presentation of the re-survey data

Wherever possible, common symbology (based on IHO specified symbology) for marking re-surveyed areas on printed nautical charts will be used.

On ENC's the resurveys should be shown by CATZOG-areas.

4. The implementation of the Re-survey Scheme

4.1 Implementation of the Scheme

Each HO will implement the Harmonised Re-survey Scheme in its area of responsibility.

Necessary co-operation between the HO's will be discussed on bilateral negotiations and agreed on Bilateral Arrangements.

4.2 Monitoring the implementation of the Re-survey Scheme

The existing BSHC Working Group, **BSHC Re-survey Monitoring Working Group** will continue with revised TORs and ROPs. These are given in [Annex 1](#).

4.3 Re-survey metadata database

Sweden created a common web-based database of the routes and areas included in this Scheme. This database contains metadata of re-surveys.

The HO's shall make links to this Scheme on their national web pages.

The database has been linked as a regional extension to the IHO S-55 database.

The re-survey data is processed and stored by each HO.

References:

- [1] HELCOM Copenhagen Declaration, 10 September 2001
- [2] AMENDMENTS TO ANNEX IV "PREVENTION OF POLLUTION FROM SHIPS" TO THE HELSINKI CONVENTION. HELCOM Recommendation 22E/5, 10 September 2001
- [3] Major shipping routes and harbours. HELCOM EXTRA PREP 3/2001 Document No. 2., 3 August 2001.

Annexes:

1. TORs and ROPs for the BSHC Re-Survey Monitoring Working Group
-

Appendix 3:**Work Programme Draft Version 5.0 : [Draft by 24 June 2008]**

[Proposed to be approved by BSHC 13th Conference in August 2008]

MWG Tasks:

- 1.1 To maintain the Baltic Sea Harmonised Re-survey Scheme
- 1.2 To maintain the re-survey metadata database
- 1.3 To follow up the implementation of the Harmonised Re-Survey Scheme
- 1.4 To identify possible problems and propose solutions or workarounds to them
- 1.5 To specify and propose updates and changes to the Harmonised Re-Survey Scheme
- 1.6 To liaise with national Maritime Administrations, HELCOM Secretariat, and other relevant organisations.
- 1.7 The MWG should report to the BSHC at least once a year.

Priorities: *High, Medium, Low*

Status: *Planned, Ongoing, Completed*

Task	Work Item	Responsibility	Priority	Start date	End Date	Status	Actions/Remarks
1. Maintain the Baltic Sea Harmonised Re-survey Scheme							
2. Maintain the re-survey metadata database							
Task 2.1	Develop the Version 2 of the re-survey database	Sweden	High		March 2009	Ongoing	According to the development plan (reported at the MWG meeting on 14 May 2008).
Task 2.2	Inform MWG on technical requirements for delivering data to Version 2 database	Sweden	High		ASAP	Planned	When available.
Task 2.3	Move the existing database into the Version	Sweden	High		March 2009	Planned	

Task	Work Item	Responsibility	Priority	Start date	End Date	Status	Actions/Remarks
	2						
Task 2.4	To forward their national schemes into Sweden to be included into the re-survey database	<i>All</i>	<i>High</i>	<i>Febr. 2009</i>	<i>March 2009</i>	<i>Planned</i>	Includes also extension to the main routes. The priority and time schedule of re-surveys to be estimated.
Task 2.5	Arrange a MWG meeting	<i>MWG Chair</i>	<i>High</i>		<i>March 2009</i>	<i>Planned</i>	In order to review the Version 2, educate to use it, agree on further actions.
3. Follow up the implementation of the Harmonised Re-Survey Scheme							
Task 3.1	Update the information in the re-survey database	<i>All</i>	<i>High</i>	<i>Continuous</i>		<i>Ongoing</i>	
Task 3.2	Follow up the status of the re-surveyed routes and areas	<i>MWG Chair</i>	<i>Medium</i>	<i>Continuous</i>		<i>Ongoing</i>	This Task includes e.g. statistics on actions made, total amount of work, total time schedule, lack of suitable capacity, personnel or financing, re-survey frequency, etc.
Task 3.3	Collect experiences of the implementation Re-Survey Scheme	<i>MWG Chair</i>	<i>Medium</i>	<i>Continuous</i>		<i>Ongoing</i>	E.g. collect national reports on experiences and reports on found new critical shallows.
4. Identify possible problems and propose solutions or workarounds to them							
Task 4.1	Take actions to harmonise the re-survey areas	<i>All</i>	<i>High</i>	<i>Continuous</i>		<i>Ongoing</i>	This Task includes the necessary harmonisation actions of existing disharmonised sections (e.g. width of the routes) and e.g. with other plans (e.g. IMO Recommended tracks). Many may be resolved by bilateral basis between HOs, but some cases may need actions by other bodies than HOs.
Task 4.2	Evaluate means of presentation of re-surveys to mariners.	<i>All</i>	<i>Medium</i>			<i>Planned</i>	Presentation of re-surveyed areas on paper charts (source diagrams) and on ENC's (GATZOC), any enhancements needed on principles or techniques.
5. Specify and propose updates and changes to the Harmonised Re-Survey Scheme							
Task 5.1	Provide updated information to the re-	<i>All</i>	<i>High</i>	<i>Continuous</i>		<i>Ongoing</i>	

Task	Work Item	Responsibility	Priority	Start date	End Date	Status	Actions/Remarks
	survey areas						
6. To liaise with national Maritime Administrations, HELCOM Secretariat, and other relevant organisations.							
Task 6.1	Liaise with national Maritime Administrations	All	Medium			Planned	
Task 6.2	Liaise with HELCOM Secretariat	Chair	Medium			Planned	
Task 6.3	Liaise with North Sea Re-survey Working Group	Germany	Medium			Ongoing	Lo liaise and harmonise the schemes where feasible.
Task 6.4	Liaise with other relevant organisations	All	Medium			Planned	Seek opinions of VTS guidance and operators, also on how the re-survey routes to be informed to the mariners.
7. Communication and Reporting							
Task 7.1	Report to the BSHC yearly.	MWG Chair	Medium	Yearly		Ongoing	Reporting will be given at the BSHC Conferences in those years these are held.
Task 7.2	Report in relevant conferences and meetings	All	Medium			Ongoing	When estimated to be feasible.
Task 7.2	Report to HELCOM	MWG Chair	Medium			Planned	When estimated to be feasible the MWG Chair to prepare a report to the BSHC Chair to be forwarded to the HELCOM Secretariat.