

## **Report to NSHC32 of the Resurvey Working Group**

### **1. Meetings**

The group had its fifth meeting (RWG5) in Plymouth (UK), directly after Shallow Survey 2015 (18 September 2015). The group is grateful to the organizing committee of Shallow Survey 2015 for hosting the meeting. The group is chaired by NL (Dorst). The sixth meeting will be planned depending on the outcome of NSHC32.

The meeting was attended by the following MS:

BE (Debuck, Verstraeten), DE (Vahrenkamp), DK (Vedel), FR (Garlan), NL (Broekman, Dorst, Loog), SE (Olsson), UK (Parker).

In addition, the following observers were present:

BSHC (Mäkinen), IHB (Wyatt), MCA (Kinnear)

The first three meetings were chaired by DE. NL chaired the fourth and fifth meeting, and plans to vacate the chair position after the sixth meeting. NL invites the other MS to consider a candidacy.

### **2. Applicability of alternative survey techniques (NSHC Conclusion 97 refers.)**

RWG5 discussed the future of the S-44 standard, especially in the context of the comments made during the S-44 Open Forum during Shallow Survey 2015. The intention is that new technologies (for example satellite derived bathymetry, crowd sourced bathymetry) should be evaluated using existing standards rather than developing a new standard for each new technology. This fed into the IHB report on S-44 for HSSC7.

The group expressed the following views on alternative survey techniques:

Satellite-derived bathymetry: Inclusion of SDB data into a nautical chart requires worldwide guidelines. Application of the technique elsewhere is followed with interest.  
LIDAR: LIDAR is used in shallow, clear parts of the North Sea. MBES finds objects that LiDAR does not.

Crowd-sourced bathymetry: CSB is regarded as a means to get information on depth where there is none or where it is very old. The accuracy of CSB could be poor in relation to existing depth data of the North Sea. CSB may have a signal function for the North Sea region. IHO's new CSB WG is developing guidance.

Autonomous surveying: The development are monitored, but the technique is not yet applied. Current manned platforms are not yet at their end-of-life cycle and serve the needs for data acquisition. UKHO will perform a feasibility study.

### **3. Towards a North Sea wide risk assessment (NSHC Conclusion 112 refers.)**

See Annex A.

### **4. BE/FR/NL/UK Dover Strait Survey Strategy (NSHC Conclusion 111 refers.)**

See Annex B.

## **5. North Sea Bathymetry Database (NSHC Conclusion 113 refers.)**

First results are available at [www.nshc.pro](http://www.nshc.pro). The English Channel will be included, the Irish Sea could be included at the request of UK and IE.

## **6. Other**

BE asked for guidance on the use of S-44 order 1A versus order 1B, and also on the use of shoal biasing versus averaging for the gridding of MBES surveys. The group provided input and invited BE for visits to study the methods used by other MS.

FR announced the fifth MARID conference in Wales in April 2016.

NL provided insight into developments to their survey strategy. Some resurvey frequencies were adapted, and a new national risk assessment project started. The project is called SmartSea, and it contains three PhD projects under the responsibility of the University of Twente and Delft University of Technology. The project will lead to a further validation of the resurvey policy.

UK provided insight into how MCA and UKHO annually plan surveys of the UK waters during Shallow Survey 2015. UK aims to undertake a national risk assessment strategy.

BSHC shared information about the EU Ten-T project for resurveys in the Baltic Sea area (FAMOS Freja). The funding for such projects has been very successful in the Baltic region. It is driven by the need for navigation safety, fuel efficiency, efficient chart production and improving the geoid model.

## 7. Status of actions

Number	Action item	Responsible	Status
1	Provide updated input to the overview of resurvey schemes <ul style="list-style-type: none"> <li>- Resurvey plan</li> <li>- quality</li> </ul>	MS	Ongoing
2	Collect the information from MS and build the GIS-files and process combined overviews based on ArcGIS. The updated scheme will be handed over to all MS	DE	Depending on 1
3	Provide the data for a publication of the overview on the internet	DE	Depending on 2
4	Each MS implements a link to the overview or publishes the overview on their website	MS	Depending on 3
5	Draft terms of reference	DK	Completed
6	Draft answer to NSHC about the applicability of alternative survey techniques.	Chairman	Completed
7	Write paper for HSSC on the usage of S-44 standard. All MS are requested to give input.	IHB	Completed
8	Inform MS on progress of SmartSea project.	NL	Next meeting in 2017
9	Deliver Technical Hydrographic Instructions for the Dover Strait Survey Strategy Agreement, or a new version	FR, UK	1 February 2016
10	Give input to new DSSS Agreement	BE, FR, NL, UK	No further comments received, besides those formulated in NSHC Letter of 15 July 2015
11	Draft a new DSSS Agreement	Chairman	Completed, see Annex B
12	Give input to chairman on the value of a North Sea wide risk assessment, as well as its limitations	MS	Input received by DK and UK
13	Write paper for NSHC to answer the dedicated task of performing a North Sea wide risk assessment.	Chairman	Completed, see Annex A
14	Write letter to inform NSHC members on MARID conference 4-6 <sup>th</sup> April 2016	FR	Not received

**The Resurvey Working Group requests NSHC32:**

1. To note this report;
2. To consider a candidacy for WG chair after the next WG meeting;
3. To provide feedback to the first NSBD results at [www.nshc.pro](http://www.nshc.pro).

From Annex A:

- A1. to confirm continuation of the activities relating to part 1 of conclusion 112;
- A2. to discuss potential activities relating to part 2 of conclusion 112;
- A3. not to pursue progress relating to part 3 of conclusion 112 at this time.

From Annex B:

- B1. to either confirm that it wishes RWG to continue to update the DSSS Agreement, or withdraw the Agreement;
- B2. to approve the suggested changes to the text of the DSSS Agreement;
- B3. to formulate additional input on the future text of the DSSS Agreement.