

1st Meeting of the IHO Hydrographic Surveys Working Group (HSWG1)

Via Microsoft Teams, 29-30 June 2021

(Paragraph numbering is the same as the Agenda Item numbering and does not necessarily reflect the order in which matters were discussed.)

1. Welcome and opening remarks from chair group

The Chair started by welcoming all the members to the first work meeting of HSWG. The Chair emphasized that HSWG is the first formal IHO permanent working group focused on Hydrographic Surveying. This WG benefits from all of the hard work by previous S-44 Project Teams. The Chair summarized the current HSWG Key Objectives:

- a. S-44 maintenance
- b. The creation of a Project Team to work on C-13 review and update
- c. Formalize liaison with other IHO WGs
- d. Exchange experiences of new technology, approaches and best practice
- e. Enable the Satellite Derived Bathymetry Best Practice Project Team

2. Introductions from all participants

Following the opening remarks the chair asked for all participants to introduce themselves. Starting with the HSWG Chairing group, everyone gave a brief introduction and description of their role and organization. HSWG1 counted 49 participants.

3. Approval of agenda

The meeting agenda was approved by all. Sweden pointed out that at point 12.a) a liaison with S101 PT may be needed, but the consensus was that this would be adequately covered by a S100 liaison. No other changes were requested.

4. Virtual meeting protocol.

The Chair advised of the protocols for the meeting.

5. Review of actions from HSWG0

A review of the Actions from HSWG0 was presented to all members.

- a. HSWG0 – A1 Organise HSWG1 in June 21 (Chair) [Complete]
- b. HSWG0 – A2 HSWG to consider update protocol for S-44 (All) [Will be discussed at HSWG1]
- c. HSWG0 – A3 Begin establishment of the SDB best practice group at a project team within HSWG (Chair and Knut Hartmann) [Underway – to be completed at HSWG1]
- d. HSWG0 – A4 Begin establishment of C-13 Project Team (Chair) [Underway – to be completed at HSWG1]

6. Review of outcomes from HSSC13

A review on the outcomes from HSSC13 was presented by the chair:

- HSWG was tasked to consider the possibility of measuring and assessing the number of downloads of Ed. 6.0.0 of S-44, a task related to IHO Strategic Objective 2.2.
- HSSC welcomed the recent establishment of the HSWG, the initial report and proposed programme of work, mentioning HSWG should also be a focal point for scientific and academic entities, adding to item 8 of the proposed work program.
- HSSC invited the HSWG to maintain their proposed work plan in line with the IHO Strategic Objectives and the approved IHO Work Programme, and to include in this work plan the possibility of arranging webinar(s) in 2021 on S-44 implementation and guidance; and the creation of a collaborative discussion space as proposed by FR, UK and US (data processing, QA, common practices, automation, etc.).

The Vice Chair shared the link to the IHO Strategic Plan

https://iho.int/uploads/user/About%20IHO/Strategic%20Plan/IHOSP2021_2026_final.pdf.

The Chair also clarified that after considering HSWG being a focal group for user and industry experience of individual hydrographic accreditation/certification scheme, for IBSC liaison, HSSC invited HSWG to liaise with IBSC and consider whether their TORs need to be amended at a later stage. On a preliminary contact, IBSC considered it would not be appropriate to do so, and therefore HSWG will not consider this subject in the near future.

7. Review of ToRs

The Secretary informed that ToRs are published on the HSWG website.

8. HSWG Document Sharing

The Chair informed all members that a Microsoft Teams shared team will be created, specifically for document sharing. It is still being set up by UKHO. Further details are to be sent later to all members.

9. HSWG Draft Work Plan

The Vice Chair stated that the Work Plan is available at the IHO website. The work plan was then carefully explained, analysing each item. The Vice Chair also pointed out that the work plan would be reviewed before the end of the meeting. It was mentioned by some members that S-44 and other IHO standards have to be harmonized, and an effort by HSWG should be made to do so.

10. S-44

The Chair briefly presented the current status of S-44, stating the new edition 6.0 was published in September 2020, following a successful HSPT lead by Christophe Vrignaud of SHOM. HSWG is now established and in charge of S-44 Maintenance and update.

After the S-44 introduction, the HSWG Secretary shown an S-44 feedback tracking list, and went carefully through each item, which was discussed by all members. All remarks from each member were registered in the S-44 feedback list. The Chair concluded, that on small issues, a small group of members can analyse it and present the results to the remaining members. On major issues all members will be able to give their opinion on a web-based discussion and a decision can be then made by all members.

On the operational experience agenda item, the Chair asked if manufacturers are aiming for exclusive order on their products. Several explanations were given, pointing out that costumers are not asking for this yet, that exclusive order is most likely to be used by engineering, and also that shallow water engineering is not strictly following S-44, probably because the outreach is not getting there. Some research companies are aiming to bring S-44 standards to AUV surveying.

Considering the promotion of S-44, The Chair mentioned that in order to metric downloads, it would be necessary to have a measure from the start point where downloads would be concentrated – i.e. at first publication. It is then needed to define a measurement method for the strategic performance indicator. Abri Kampffer stated that there is no established system for measuring downloads yet on the IHO web site, so this will need to be developed.

Finally, it was asked that all members would contribute and share any promotion material they may have, as soon as the resources site is available.

Regarding education, it was asked that all members would contribute and share any education material they may have, as soon as the resources site is available.

With respect to S-44 translation, adding to the official English version, S-44 is already translated to French, Chinese and Persian. Japan mentioned that it is currently making the Japanese translation and will afterwards identify differences on actual Japanese standards in order to harmonize with S-44 6.0, aiming for all Japanese companies to meet S-44 standards. Portugal and Brazil also mentioned, both are working on the Portuguese translated version. All members working on S-44 translation were asked to share the translated versions once the resources website is available, in order for IHO make them available on the IHO website.

Concluding the S-44 item, a discussion on S-44 maintenance took place, with the Chair introducing the topic, and describing the proposal from the Chair, with an update cycle annually for any corrections. It was the opinion of several members that a two year update cycle would be most appropriate. All members agreed with Jean-Guy Nistad, that a minor editorial group would be valuable for working on the updates, and it was also

agreed that if there are no changes, there is no need for an update to be released. Abri Kampfer mentioned that the Resolution of the International Hydrographic Organization 2/2007 - Principles and Procedures for making changes to IHO Technical Standards and Specifications is important on the administrative procedures for the updating S-44. Abri Kampfer also mentioned that an impact study may be needed for some changes, as an IHO request if any doubt arises. It was then agreed that a draft on the S-44 update mechanism would be built, considering a two year update cycle, and having in mind that any urgent change could be made in between if necessary. Finally a link to M3 publication "Resolutions of the International Hydrographic Organization" was shared: <https://iho.int/uploads/user/pubs/misc/M3-E-07102020.pdf>.

11. C-13

The Vice Chair discussed C-13 current status and the need for updating this publication. All members agreed that C-13 is a required publication, as it is being used on several teaching programs and by several academia entities as a first reference on related courses. As well it was considered that C-13 is a major reference for new Hydrographers, and David Vincentelli mentioned that guidelines are built from C-13. Also everyone agreed an update is clearly needed at this point. Nickolás Roscher mentioned that C-13 is the minimum guideline for Hydrographic courses, it is not a cookbook, it is an overall view of Hydrography with which a teacher may go deeper on the contents if needed. HSWG should go deeper by adding more content to the publication, as there is a lot of new information that is not yet on the manual. Ian Slade also mentioned C-13 is a reference and a good tool for capacity building.

João Delgado Vicente mentioned another format should be considered, as a webpedia system for instance making it easier to update and more reachable to its users (an example was shared: https://gssc.esa.int/navipedia/index.php/Main_Page). Several members agreed on the format change, but it was also pointed out that the current format cannot be discarded as a virtual format may not be available for everyone, nor everywhere in the world.

The Vice Chair advanced to the formation of the Manual on Hydrography Project team (MHPT), asking for members to volunteer, considering a maximum of 20 members. The following volunteers were registered:

- Alistair Philip (UK - UKHO),
- David Vincentelli (Expert Contributor - ixBlue),
- Ljerka Vrdoljak (Croatia - HHI),
- Jason Creech (Expert Contributor - DealNC),
- Merte Peeters (Netherlands - NLHO),
- Nickolás Roscher (Brazil - DHN),
- Jérémy Rossetto (France - SHOM),
- Hugh Parker (Expert Contributor - Fugro)
- Kjetil Jensen (Expert Contributor – Kongsberg)
- Marco Filippone (Expert Contributor – Fugro)
- Ali Soltanpour (Iran - NCC)

- Bradley Cooper (New Zealand - LINZ)
- Ilenia Batzu (Italy - IIM)
- Arne Edmund Ofstad (Norway - Kartverket)
- Axel Annaert (Expert Contributor – Zeevaartschool)
- Ian Slade (Expert Contributor – Fugro / International Federation of Hydrographic Societies (IFHS))
- Douglas Roush (USA - NGA)
- Knut Hartmann (Expert Contributor – EOMAP)

The Vice Chair then explained the MHPT working boundaries, with the PT deciding on its leader and informing HSWG later. The Vice Chair as given the PT the following questions to work on:

- How can we get feedback from users on how it should look like?
- Which format(s) should be adopted?
- What would be the maintenance plan for C-13?

The Vice Chair also mentioned that C-13 translation issue will come in place in due time. Finally, it was agreed, MHPT should have a meeting in a month period to organize a work plan and leader.

12. Other HSWG Matters

a) Liaison with other HSSC Working Groups

The Chair introduced the item Liaison with other HSSC Working Groups, to consider liaison with DQWG, HDWG, TWCWG, S100WG. On a first approach it was considered the designation for liaison by members that would volunteer and would be part of the targeted group.

DQWG

Anderson Peçanha mentioned he is a member of DQWG and can be the liaison to that group. He also briefly explained the current status on DQWG, which is currently working on data visualization, CATZOC symbols. Regarding harmonization between CATZON and S-44 orders, there seems to be no interest on that, as it was already a discussion 5 years ago, with no practical results.

Andrew Leyzack mentioned Canada is currently trying to reconcile CATZOC and S-44 orders, with several members agreeing it should be a point to work with DQWG.

HDWG

Douglas Roush volunteered as a liaison member to the HDWG, ensuring HSWG hydrographic terms are harmonized with HDWG.

TWCWG

Douglas Roush will be the liaison member to TWCWG.

S100WG

Hans Oias volunteered to be the liaison member to S100WG.

b) Exchange experiences of new technology, approaches and best practice

Merte Peeters, mentioned NIHO is currently discussing internally how to prove the achieved survey standards, a validation standard that should be included in C-13, as also Jean-Guy Nistad agrees. Merte Peeters also mentioned that due to sensor improvement, it is difficult to automatically detect objects, an issue that Kjetil Jensen mentions Kongsberg is working on.

Reviewing the debate, the Chair pointed out that this is always a good place to share papers on various experience subjects. Also, was pointed out that there is no hierarchy between WG, with all WG reporting to HSSC and PTs reporting to WG or directly to HSSC.

c) Formation of Satellite Derived Bathymetry Best Practice Project Team

The Chair introduced this item and asked Knut Hartmann to explain the Satellite Derived Bathymetry Best Practice group concept and give a brief explanation on its conversion to the SBDPT itself. The SDBPT was presented to all members, and all were invited to be part of it. In terms of IHO hierarchy, SDBPT will report to HSWG (and onward to HSSC). The outcomes of this PT, still to be discussed, may include a technical document itself (as B12) and/or SDB information added to C-13, something both PT will need to work on. It was decided that the ToR and work plan of the SDBPT will be shared later to HSWG.

13. Any other business

Chair asked for information on conferences and events. Several events and dates were shared, which will be added to the IHO calendar if needed to:

- The Hydrographic Society UK & Ireland will be organizing Remote Hydrography on February 2022 in Dublin – Ireland;
- USHC will be organizing USHYDRO2021 on September 13 - 16, 2021, virtual conference;
- Hydro 22 Conference – IHFS - to be held in Monaco by Dec2022
- Ocean Business in Southampton, on October 2021

Ian Slade suggested that one slide presentation should be shared to all members so that it could be added at any conference presentation.

14. Date, venue and method of next meeting – HSWG2

There was a general consensus that the next HSWG meeting should be in person, working as a hybrid meeting, allowing members to attend in VTC if needed. The proposed date is February 2022. There was no opinion on the advantages or disadvantages on having the meeting following another event, making it a two week stay. Volunteering members for hosting the event should inform HSWG Chair.

15. Review of updated Work Plan

The updated work plan was presented by the Vice Chair, as shown in the Annex. No remarks were added.

16. Intersessional activities.

Intersessional activities will be focused in working on S-44 update. More to follow from chairing group via email.

17. Review of Action List

The list of actions was presented by the HSWG secretary, with no points to be added as follows:

1	Make resources site available – MS Teams	Chair
2	Once resources site is available, All Members can share promotion/education files	All
3	Share translated versions to HSWG so that it can be shared on the website	All
4	Have measurement methodology for S-44 downloads/usage	Secretariat / Chair
5	Build a first draft of a proposal for an S-44 update mechanism	Chair
6	Make available a way to discuss S-44 issues on line	Chair
7	Send minor updates for S-44 to HSWG even before proposal	All
8	Volunteers of MHPT to meet and organize Work Plan and leader (30 July 2021)	Chair / MHPT
9	MHPT to define Work Plan	MHPT
10	Meet with Edwards Hands Chair of DQWG to discuss on the interaction of both WG	Chair, Anderson Peçanha
11	Meet Chair of HDWG to discuss on the interaction of both WG	Chair, Douglas Roush
12	Meet Chair of TWCWG to discuss on the interaction of both WG	Chair, Douglas Roush
13	Meet Chair of S100WG to discuss on the interaction of both WG	Chair, Hans Oias
14	Include MHPT and SDBPT on HSWG webpage	Chair

15	Sharing ToRs and Work Plan SDBPT to HSWG	Chair
16	Place conferences of interest on the IHO calendar	Chair
17	Members to volunteers for hosting HSWG2	All
18	Finalise HSWG Work Plan	Chair

18. Closing remarks

The Chair provided an overview of the work plan and acknowledged everyone's presence. He applauded the enthusiasm on C-13 and thanked the time and participation of all on this HSWG1 meeting. The Chair also thanked Abri Kampfer for all IHO support, and closed HSWG1.

The following Annexes are attached:

- Annex A - HSWG1 List of Participants.
- Annex B - ~~HSWG1~~ Agenda

Annex A

HSWG1 – List of Participants

Member State	Organization	Name	Abbreviation
Australia	Australian Hydrographic Office (AHO)	Andrew Coulls	AHO
Belgium	Vlaamse Hydrografie	Johan Verstraeten	Vlaamse Hydrografie
Brazil	Diretoria de Hidrografia e Navegação (DHN)	Anderson Peçanha	DHN
Brazil	Diretoria de Hidrografia e Navegação (DHN)	Nickolas Roscher	DHN
Canada	Canadian Hydrographic Service (CHS)	Andrew Leyzack	CHS
Chile	Servicio Hidrográfico y Oceanográfico de la Armada de Chile (SHOA)	Luis Montecinos	SHOA
China	Maritime Safety Administration (MSA)	Chao ZHU	MSA
China	Maritime Safety Administration (MSA)	Jin Wu	MSA
China	Maritime Safety Administration (MSA)	Liang Chen	MSA
China	Maritime Safety Administration (MSA)	Lingzhi Wu	MSA
China	Maritime Safety Administration (MSA)	Shujuan Jia (贾淑娟)	MSA
China	Maritime Safety Administration (MSA)	Yiran Xu	MSA
China	Maritime Safety Administration (MSA)	Yulei DONG	MSA
China	Maritime Safety Administration (MSA)	Zhengwei CHEN	MSA
Croatia	Hrvatski Hidrografski Institut (HHI)	Ljerka Vrdoljak	HHI
Denmark	Danish Geodata Agency (DGA)	Belén Jiménez Barón	DGA
France	Service hydrographique et océanographique de la Marine (SHOM)	Jeremy Rossetto	SHOM
Germany	Bundesamt für Seeschifffahrt und Hydrographie (BSH)	Jean-Guy Nistad	BSH
IHO	IHO Secretariat	Abri Kampfer	IHO
India	Indian National Hydrographic Office (INHO)	Vishal Sharma	INHO
IR of Iran	National Cartographic Center	Ali Soltanpour	NCC
Italy	Istituto Idrografico della Marina	Ilenia Batzu	IIM
Japan	Japan Coast Guard Hydrographic and Oceanographic Department (JHOD)	Masanao Sumiyoshi	JHOD
Korea	Korea Hydrographic and Oceanographic Agency (KHOA)	Tae-Heon Kim	KHOA
Korea	Korea Hydrographic and Oceanographic Agency (KHOA)	Yeong-hwa Jeong	KHOA
Latvia	Maritime Administration of Latvia (LHD)	Bruno Spels	LHD
Mexico	Dirección General Adjunta de Oceanografía, Hidrografía y Meteorología (DIGAOHM) de Marina Armada de México	Adrián Montúfar	DIGAOHM
Netherlands	Netherlands Hydrographic Office (NIHO)	Merte Peeters	NIHO
New Zealand	Land Information New Zealand (LINZ)	Bradley Cooper	LINZ

Norway	Norwegian Mapping Authority Hydrographic Service	Arne Edmund Ofstad	kartverket
Portugal	Instituto Hidrográfico (IH)	Carlos Videira Marques (Secretary)	IH
Portugal	Instituto Hidrográfico (IH)	João Vicente	IH
Spain	Instituto Hidrográfico de la Marina (IHM)	Jose María Cordero Ros	IHM
Sweden	Sjöfartsverket (SMA)	Hans Öiås	SMA
UK	United Kingdom Hydrographic Office (UKHO)	Alistair Philip	UKHO
UK	United Kingdom Hydrographic Office (UKHO)	David Parker (Chair)	UKHO
USA	National Geospatial Agency (NGA)	Doug Roush	NGA
USA	National Oceanographic and Atmospheric Administration - Office of Coast Survey (NOAA-OCS)	Megan Greenaway (Vice Chair)	NOAA-OCS
USA	US Navy	Steven Posey	USNavy
Expert Contributor	Hogere Zeevaartschool	Axel Annaert	Zeevaartschool
Expert Contributor	iXblue/AFhy Francophone Hydrographic Society	David Vincentelli	iXblue
Expert Contributor	Fugro	Hugh Parker	Fugro
Expert Contributor	Fugro/International Federation of Hydrographic Societies (IFHS)	Iain Slade	IFHS
Expert Contributor	David Evans and Associates	Jason Creech	DEA
Expert Contributor	Kongsberg Maritime	Kjetil Jensen	KM
Expert Contributor	EOMap	Knut Hartmann	EOMap
Expert Contributor	Fugro	Marco Filippone	Fugro
Expert Contributor	Institut Teknologi Bandung (ITB)	Poerbandono, Prof.	ITB
Expert Contributor	ECA robotics	Sebastien Tavvry	ECA
Expert Contributor	Teledyne Marine	Vitad Pradith	Teledyne

Annex B

HSWG1 – Agenda

1st MEETING OF THE IHO HYDROGRAPHIC SURVEYS WORKING GROUP (HSWG 1) VIRTUAL (VIA MS TEAMS)

29th June to 1st July 2021 1200-1500 daily UK BST - [1300 to 1600 CET daily]

[Note: 1st July kept in reserve, but may not be required]

1. Welcome and opening remarks from chair group. (*Chair*)
2. Introductions from all participants
3. Approval of agenda. (*Chair*)
4. Virtual meeting protocol. (*Chair*)
5. Review of actions from HSWG0 (*Secretary*)
6. Review of outcomes from HSSC13. (*Chair*)
7. Review of ToRs (*Secretary*)
8. HSWG Document Sharing (*Chair*)
9. HSWG Draft Work Plan (*Vice-Chair*)
10. S-44: (*Chair*)
 - a) Current status of S-44
 - b) S44 Feedback Tracking (*Secretary*)
 - c) Additional feedback from operational experience (*Secretary*)
 - d) Promotion of S-44
 - e) Education on S-44
 - f) Support for further translation of S-44 for onward IHO publication
 - g) Maintenance of S-44
11. C-13: (*Vice-Chair*)
 - a) Clarify the purpose of and need for C-13?
 - b) Formation of Manual on Hydrography Project Team (MHPT), including designation of individuals and lead(s) for PT
 - c) Establish User Requirements for C-13
 - d) Format and structure of next edition of C-13
 - e) Ongoing maintenance of C-13
 - f) Future translation of C-13
12. Other HSWG Matters: (*Chair*)
 - a) Liaison with other HSSC Working Groups (including designation of individuals for liaison)
 - a. DQWG
 - b. HDWG
 - c. TWCWG
 - d. S-100WG
 - b) Exchange experiences of new technology, approaches and best practice
 - c) Formation of Satellite Derived Bathymetry Best Practice Project Team (including designation of individuals and lead(s) for PT) (Knut Hartmann)
 - a. Terms of Reference
 - b. Reporting in to HSWG (and on to HSSC)
13. Any other business. (*Chair*)
 - a) Conferences and remote events
14. Date, venue and method of next meeting – HSWG2 (*Chair*)

15. Review of updated Work Plan (Vice-Chair)
16. Intersessional activities. (*Vice-Chair*)
17. Review of Action List and items for agenda for HSWG2. (*Secretary*)
18. Closing remarks. (*Chair and Vice-Chair*)