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# WENDWG Report to the BSHC 23<sup>rd</sup> Conference

by Jarmo Mäkinen, BSHC WENDWG representative

*WENDWG is a working group under the IRCC Committee. The purpose of the WEND Working Group is to advise IRCC and to assist in facilitating a world-wide consistent level of high-quality, updated official ENC's through integrated services that support chart carriage requirements of SOLAS Chapter V, and the requirements of the IMO Performance Standards for ECDIS.*

WENDWG objectives:

- Monitor the development of adequate ENC coverage to meet any carriage requirements for ECDIS
- Develop proposals for speeding up ENC production and ensuring uniform ENC quality and consistency, and for making data available worldwide, including SENC distribution, taking advantage of any offers for production assistance, or other ways of mutual assistance and co-operation
- Advise MS, where appropriate, on the need, as well as on the methods and tools for validating the data, and on any assistance which could be offered by the RENCs
- Monitor the implementation of the WEND, in response to Decision 21 of the XVII<sup>th</sup> IHC, and advise IRCC about appropriate measures for speeding up the implementation process
- Assist in harmonizing the policies of regional ENC Coordinating Centres (RENC) with respect to matters related to administration, legality, finances, technical processes, et cetera.

## 1. Status of the work of WENDWG

The WENDWG is chaired by *Capt. Jamie McMichael-Phillips (UK)*. Vice chair is *Mr John Nyberg (US)* and *Mr Yves Guillam (IHB)* is acting as a role of secretary.

Each Regional Hydrographic Commission should have a representative in the WENDWG. The BSHC has nominated *Mr Jarmo Mäkinen (FI)* as its representative for the WENDWG.

## 2. Outcome of the WENDWG 8, 20-22 March 2018, Buenos Aires, Argentina

The seventh meeting of the Worldwide ENC Database Working Group took place in Buenos Aires, Argentina, hosted by the Hydrographic Service of the Navy (SHN) of Argentina, in conjunction with the 3<sup>rd</sup> joint meeting of the Regional ENC Coordinating Centres (RENC), IC-ENC and PRIMAR. Thirty-two delegates from 13 Member States (Argentina, Brazil, Canada, China, Finland, France, Iran, Italy, Netherlands, Norway, Turkey, United Kingdom, United States) where representing 12 Regional Hydrographic Commissions (ARHC, BSHC, EAHC, EAtHC, MACHC, MBSHC, NHC, NSHC, RSAHC, SAIHC, SWAtHC, USCHC).

### Key issues dealt with in the meeting:

- ❖ WENDWG ToRs
- ❖ Eliminating overlapping ENC's
- ❖ IHO ENC Catalogue
- ❖ Performance Indicators
- ❖ RENC Harmonisation and Distribution
- ❖ The Full Implementation of the WEND Principles
- ❖ Industry and Stakeholders Session
- ❖ Review and Update of the WENDWG Work Programme



## ❖ WENDWG TORs

Some minor editorial changes have been implemented following endorsement at IRCC9. However, there was subsequent discussion on expansion of WENDWG's role, which will require IRCC10 direction.

- WENDWG generally endorsed a recommendation that RENCs might consider offering a S-57 licence management service to support provision of accurate and adequate data for safety of navigation for all classes of vessels.
- WENDWG agreed to consider exploring options to support the GEBCO Seabed 2030 initiative.

After the WENDWG8 meeting, a wider MS Proposal (US, NO, SE, FI, DE et al) was submitted to IRCC10, to expand the WENDWG ToRs to accommodate the intent within the IHO Convention that notes that the mission of the IHO is to *create a global environment in which States provide adequate and timely hydrographic data, products and services and ensure their widest possible use.*

The Proposal, was discussed and approved in IRCC10. Based on discussions and modifications, proposal was agreed by IRCC10 (Decision 15, draft) including following amendments to the WENDWG Terms of Reference:

*The purpose of the WEND Working Group is to advise IRCC to enable the highest societal value of Member State effort by :*

1. *Facilitating a world-wide consistent level of high-quality, updated official ENC's through integrated services that support chart carriage requirements of SOLAS Chapter V, and the requirements of the IMO Performance Standards for ECDIS and*
2. *Review options, and recommend actions, that expand the value of the Worldwide ENC Database to all marine data users applying data management principles.*

- RENCs might consider offering S-57 license management service to support safety of navigation for all classes of vessels.

## ❖ Eliminating overlapping ENCs

UK provided its annual assessment on global ENC coverage and provided some statistics on historic ENC overlaps from 2012 to 2017. (see Annex 1).

IHO Resolution 1/2018 *Elimination of overlapping ENC data in areas of demonstrable risk to the safety of navigation* has been approved by Member States. In amplification of this Resolution, the consensus of WENDWG was that:

- a. The one-year "clock" to resolve overlaps should begin once the overlapping issues, starting with the potential highest risk cases, have been reported to ENC producers.
- b. Management of overlap cases should be implemented by RHCs, reporting to IRCC and keeping WENDWG informed.
- c. RHCs should make their own assessment of the level of navigational risk for ENC overlaps using the IC ENC Policy on Risk Assessment as a first step where applicable.

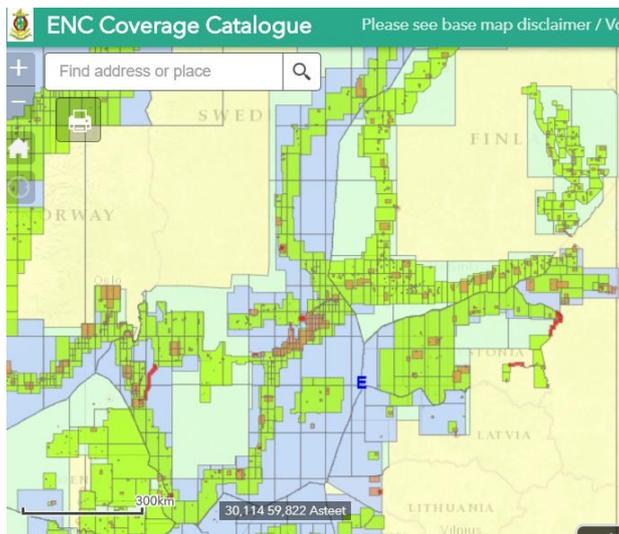
PRIMAR has updated its Overlap Checker tool and will continue to make it available. RHCs and ICCWGs are encouraged to make use of this valuable application in their work and to provide feedback on its functionality.

The only database in force at the moment for assessing the ENC coverage of ports, is the US NGA Publication 150. This database can be updated by providing inputs to the NGA. RHCs/HOs invited to report to NGA if inconsistencies need to be corrected in the List of Ports.



#### ❖ IHO ENC Catalogue

The IHO ENC Coverage Catalogue is published within IMO's ECDIS Guidance for Good Practice. As part of INTOGIS Phase II development project, work is ongoing to develop the link between the INT Chart Web Catalogue and to include an Automatic Identification System (AIS) traffic density database. After WENDWG meeting, new, more user-friendly version of the ENC Coverage Catalogue has published. [Link to IHO ENC Catalogue](#)



#### ❖ IHO Performance Indicators

The IHO ENC further work on IHO Performance Indicators for the WENDWG is pending on the outcome of the Strategic Planning Review Working Group (SPRWG).

#### ❖ RENC Harmonisation and Distribution

The WENDWG commended the high quality support provided by IC-ENC and PRIMAR to hydrographic offices ensuring data quality control and capacity building, and also in relation with end-user service providers. The establishment of the East Asia-Regional ENC Coordination Centre (EARECC) was noted and the representative of the EA-RECC was invited to participate in the future Joint RENCs e-meetings.

The efforts of PRIMAR on research and innovation for the future validation and distribution of S-101 ENCs and more generally S-100-based products were noted. IC-ENC confirmed that they had launched a "watching" brief mechanism to monitor and anticipate what should be considered in the future for S101 ENCs.

PRIMAR introduced the new performance indicators set up in PRIMAR for quality control and validation services. The US indicated that it might be useful to consider in the future the possibility of developing minimum standards to be applied by the RENCs. The RENCs indicated that these issues were discussed at the Joint RENC Technical Meetings on a regular basis, but some benchmarking was considered useful.

In addition to the annual update of the ENC Flow Diagram provided by the RENCs, it was agreed that RHCs has to monitor the availability of ENCs in their regions (Report to WEND).

It was also noted that there is a big difference in time of validation processes of new encs; from 3 days to 3 weeks, depending on HO and which service a vessel is using.



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#### ❖ **The Full Implementation of the WEND Principles**

Action IRCC8/13 states "RHC Chairs to work to reduce overlaps by applying the WEND Principles in defining approved ENC schemes." As a consequence, some representatives of the RHCs reported on the progress made on the implementation of ENC schemes in their charting region. The situation varies significantly from one region to another. Most of the RHCs have a pragmatic approach to address this issue.

In following discussion, it was agreed that the existing IHO ENC Coverage catalogue should be used as the initial mechanism to build the ENC Schemes database within the INTToGIS II system. Once the system has been fully commissioned, following beta-testing, RHCs should subsequently define and adopt ENC schemes for submission.

Finland (for BSHC) agreed to participate in the testing phase of the betaversion of INTToGIS II (July-August 2018).

[Link to BSHC representative report to WENDWG8](#)

#### ❖ **Industry and Stakeholders session**

In accordance with the WENDWG ToRs, expert contributors were invited to join the 8th meeting. Presentations were given as follows:

- i. "Nominal ENC Coverage and Navigational Risks" by the National Taiwan Ocean University. [link](#)
- ii. "Facilitation of chart providers for leisure market through harmonised licence arrangements" by IHO Secretariat. [link](#)
- iii. "Public-Private Partnership ... Serving All Mariners" by C-Map. [link](#)
- iv. "PRIMAR S-57 Distribution" by PRIMAR. [link](#)
- v. "Unveiling of ENC depth information" by SevenCs. [link](#)
- vi. "Seamless transition from S-57 to S-101 by Teledyne Caris [link](#)
- vii. to Seabed 2030 global initiative by requesting the RENCs establish processes for Coastal States to authorise and extract bathymetry data from ENCs for delivery to the IHO DCDB" by US and Norway. [link](#)

#### ❖ **Review and Update of the WENDWG Work Programme**

Work programme for 2018-2019 submitted for IRCC10 approval. see annex 2

Post meeting comment; WP approved by IRCC10.

#### **3. Next meeting**

Next meeting (WENDWG-9) back to back with the 4<sup>th</sup> Joint RENC-IHO Sec. meeting, from 26 to 28 February 2019 in Brest, France.

#### **4. Actions for the BSHC 23<sup>rd</sup> Conference**

- note on this report
- give further guidance to BSHC WENDWG representative.

#### Annexes

Annex 1: Global ENC Coverage

Annex 2: WENDWG Workplan 2018-19

# Observations on historic ENC overlaps from 2012 to 2017

## Annex 1

RHC	2012			2013			2014			2015			2016			2017		
	RHC ENCs	Overlaps	% overlaps by Vol	RHC ENCs	Overlaps	% overlaps by Vol	RHC ENCs	Overlaps	% overlaps by Vol	RHC ENCs	Overlaps	% overlaps by Vol	RHC ENCs	Overlaps	% overlaps by Vol	RHC ENCs	Overlaps	% overlaps by Vol
ARHC	584	36	6.16%	626	14	2.24%	647	20	3.09%	650	9	1.38%	692	9	1.30%	742	11	1.48%
BSHC	1045	67	6.41%	1078	36	3.34%	1084	14	1.29%	1090	16	1.47%	1164	16	1.37%	1,120	19	1.70%
EAHC	2288	294	12.85%	2420	133	5.50%	2818	177	6.28%	3189	241	7.56%	3652	253	6.93%	3,996	237	5.93%
EAtHC	321	6	1.87%	331	2	0.60%	353	3	0.85%	398	3	0.75%	429	0	0.00%	463	4	0.86%
HCA	70	2	2.86%	90	1	1.11%	93	1	1.08%	106	4	3.77%	117	3	2.56%	128	5	3.91%
MACHC	504	34	6.75%	548	15	2.74%	613	4	0.65%	661	5	0.76%	706	4	0.57%	837	3	0.36%
MBSHC	1304	268	20.55%	1289	120	9.31%	1320	99	7.50%	1421	100	7.04%	1490	96	6.44%	1,589	94	5.92%
NHC	1945	71	3.65%	1980	35	1.77%	2003	30	1.50%	2037	8	0.39%	2111	4	0.19%	2,209	7	0.32%
NIOHC	402	115	28.61%	404	33	8.17%	416	10	2.40%	430	18	4.19%	440	21	4.77%	460	17	3.70%
NSHC	2097	71	3.39%	2149	21	0.98%	2174	10	0.46%	2248	16	0.71%	2351	23	0.98%	2,485	20	0.80%
RSAHC	140	16	11.43%	141	7	4.96%	145	3	2.07%	150	17	11.33%	159	11	6.92%	197	10	5.08%
SAIHC	194	2	1.03%	202	0	0.00%	206	1	0.49%	206	1	0.49%	205	4	1.95%	232	2	0.86%
SEPHC	322	4	1.24%	322	2	0.62%	333	2	0.60%	345	2	0.58%	381	1	0.26%	457	1	0.22%
SWAtH	240	8	3.33%	247	2	0.81%	261	4	1.53%	283	4	1.41%	287	4	1.39%	327	0	0.00%
SWPHC	1110	26	2.34%	1171	8	0.68%	1245	8	0.64%	1279	2	0.16%	1308	6	0.46%	1,427	5	0.35%
USCHC	1593	171	10.73%	1632	42	2.57%	1742	46	2.64%	1859	19	1.02%	1990	22	1.11%	2,141	18	0.84%
Total	14159	1,191	8.41%	14630	471	3.22%	15453	432	2.80%	16352	465	2.84%	17482	477	2.73%	18,810	453	2.41%
Relased ENCs	11524			11952			12730			13589			14617			15,469		

<1% Green

1% to 5% Amber

>5% Red

- Of 16 global Hydrographic Commissions:

- 9 are green with less than 1% of ENC overlaps
- 4 are amber with between 1% and 5% of ENC overlaps
- 3 are red with over 5% of ENC overlaps



## WENDWG Work Programme 2018-19 (approved at IRCC-10)

Objectives ([WENDWG TORs](#) refer)

1. Monitor the development of adequate ENC coverage to meet carriage requirements for ECDIS;
2. Develop proposals for speeding up ENC production and ensuring uniform ENC quality and consistency, and for making data available worldwide, including SENC distribution, taking advantage of any offers for production assistance, or other ways of mutual assistance and co-operation;
3. Advise MS, where appropriate, on the need, as well as on methods and tools for validating the data, and on any assistance which could be offered by the RENCs;
4. Monitor the implementation of the WEND, in response to Decision 21 of the XVIIth IHC, and advise IRCC of appropriate measures for speeding-up the implementation process;
5. Assist in harmonizing the policies of regional ENC Coordinating Centres (RENC) with respect to matters related to administration, legality, finances, technical processes, et cetera.
6. Develop options to expand the value of the Worldwide ENC Database to all marine data users applying data management principles

## Tasks

A	To assess overlapping ENC data issues within ECDIS and make progress to solve them
B	To finalise paper on Guidelines on Assessing and Eliminating the Risk of Overlapping ENC Cells
C	To progress on RENC Harmonization Issues
D	To continue working to attract ENC producer nations to join the RENCs or distribute their ENCs through a RENC
E	To ensure data quality and consistency
F	To monitor and report ENC coverage report to WENDWG
G	<i>Left blank intentionally</i>
H	To progress the development of the IHO ENC catalogue
I	To provide support on capacity Building activities, as appropriate
J	To propose way ahead for assessing the long term consequences of not achieving full implementation of the WEND Principles
K	To address the relevance of information overlay services and their status in the global IHO ENC Programme
L	To support non-ECDIS maritime community through license management of ENC data
M	To support Seabed 2030 Initiative

Work Item	Title	Priority H-High M-Medium L-Low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s). Participants	Deliverable	Remarks
B.3	Monitor the implementation of the IHO Resolution on the Elimination of overlapping ENC data in areas of demonstrable risk to the safety of navigation	M	IRCC-10	2018	2020	O	Chair, RHCs, RENCs, IHO Sec	No ENC overlap that is navigationally-significant in 2020	IHO Resolution 1/2018 in force (IHO CL 19/2018 refers)
B.4	Make available an AIS traffic density database to the IHO Member States through the IHO GIS System (INToGIS II,...)	M	WENDWG-9	2018	2020	P	US, NO, FI, IHO Sec.	INToGIS II additional layer at the disposal of ICCWGs	For ENC gap coverage assessment
C.2	Report on RENC Harmonization issues and progress made	M	WENDWG-9	--	Permanent	O	RENCs		Done for 2017. EAHC RECC invited to join.
D.3	Monitor ENC Producers who distribute their ENCs through a RENC	H		2014	Permanent	O	RENCs, IHO Sec.	Updated ENC Data Flow Diagram	IHO CL 59/2014 refers. Action WENDWG7/12 (second part)
F.1	Monitor global and regional ENC Coverage	H		2014	Permanent	O	UK, RHCs	Annual statistics	Done for 2017. Reports are now made by RHCs Rep. at WENDWG meetings

Work Item	Title	Priority H-High M-Medium L-Low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s). Participants	Deliverable	Remarks
F.2	Using risk assessment methodologies, identify and consider ENC Gaps	H		2014	Permanent	O	RHCs, IHO Sec.	Improved coverage (and supporting survey plans where needed)	To be continued and improved by RHCs. Reports are now made by RHCs Rep. at WENDWG meetings
F.3	update the List of Ports (and moorings) database	M	WENDWG9	2014	Permanent	O	US, RHCs <del>IHO Sec.</del>		Action WENDWG7/07 WENDWG8/10
F.4	Provide relevant SPIs and WPIs on ENC adequate Coverage and ENC Producers	L		2017	Permanent	O	Chair (supported by UK), RENCs, IHO Sec	IHO Annual Report	On hold (waiting for SPRWG outcome)
H.1	Continue the development of the IHO ENC Catalogue	H		2014	Permanent	O	IHO Sec., UKHO, RENCs		New version approved to be commissioned at WENDWG8 (Decision WENDWG8/10)
H.3	Develop approved ENC schemes in every charting regions (S-57 ENCs, then S-101 ENCs), at least for small scales	H	WENDWG8	--	Permanent	O	RHCs	ENC Schemes available online	Action WENDWG7/08 Top priority identified in C-1

Work Item	Title	Priority H-High M-Medium L-Low	Next Milestone	Start Date	End Date	Status P-Planned O-Ongoing C-Completed S-superseded	Contact Person(s). Participants	Deliverable	Remarks
I.1	Provide support to CBSC on request for compelling requirements in the scope of the WENDWG activities	M		2015	WENDWG8	P	RHCs		As appropriate
J.5	Improve ENC full accessibility	H		2016	WENDWG9	O	Myanmar, Sri Lanka, Thailand, UK, Viet Nam		Action WENDWG7/12 WENDWG8/13
L.1	Consider possibility of offering a licence management service for non-SOLAS class vessels	M		2018	WENDWG9	P	RENCs		
M.1	Consider supporting the Seabed 2030 Initiative through the IHO DCDB with ENC data	M		2018	WENDWG9	P	ENC Producers, RENCs		