



Draft memo C-55 Review Project Team

C-55 Limitations and recommendations

Participants C-55 RPT: CA, FR, JA, NO (Chair), UK, US

References - Documents

ToRs and RoPs of the WG are available on the CBSC section of the IHO website (https://www.iho.int/mtg_docs/com_wg/CBC/CBSC16/AnnexB-C-55RPT-ToR-RoP.pdf).

The UK & FR proposal to the CBSC16 for review of C-55 is also available on this section (https://www.iho.int/mtg_docs/com_wg/CBC/CBSC16/CBSC16-08.3B-Review_of_C-55_UK_FR.pdf).

C-55 publication: https://www.iho.int/iho_pubs/CB/C-55/index.html

Purpose of C-55:

The purpose of IHO C-55 Publication is to provide base data for governments and supporting international organizations as they consider the best means by which to implement responsibilities set out in Chapter V, Regulation 9, of the Safety of Life at Sea (SOLAS) Convention. It also informs IHO input to the United Nations Global Maritime Assessment.

C-55 is a key indicator on charting and hydrographic survey status for our most strategic stakeholder organization, the IMO through their mandatory IMSAS framework (IMO Member States Audit Scheme, https://www.iho.int/mtg_docs/CB/CBA/IMSAS/IMSAS-Programme.pdf). The quality of this indicator reflects therefore directly on IHO and its member states.

Limitations of present C-55

Limitations of the present C-55 with regards to hydrographic survey status can be defined in 4 categories:

1. Quality of the data. As there is no clear prescribed way of how to calculate and derive C-55 hydrographic survey status data, IHO member states do this in very different ways. As a consequence, there is major inconsistency in how this data is produced. The quality of this part of C-55 is therefore at best subjective and questionable.
2. Ease to populate this part of C-55 for IHO MS. Depending on what method an IHO MS chooses to populate C-55, it can be resource demanding work that does not guarantee objective quality.
3. Fit for purpose. From a safety of navigation perspective, assessments of the entire 0-200m depth area for surveying and charting adequacy are not particularly useful for the vast majority of ships. Based on the current and forecast size of vessels and the dynamic nature and complexities of

seafloors, a different depth range, e.g. 0-50m may produce more relevant assessment results. Submarines, cable- and pipelaying vessels and deep-sea fishing vessels have navigational interests beyond 50m of depth. From a Blue Economy global perspective more detailed knowledge at all depth ranges continues to be an important objective for all Member States to ensure the effective and sustainable management of the oceans and seas. Whether or not the present two depth range definitions should be adjusted for C-55, needs to be discussed in a broader IHO forum.

4. Usability. At present C-55 Hydrographic status is presented as a generic table with an overall status for a large geographic area, only differentiated in two depth areas (shallower and deeper than 200m)). Adapting C-55 to GIS technology allows for enhanced spatial analysis, interoperability, data sharing and discovery (e.g. Marine Spatial Data Infrastructures (MSDI) and Web Mapping Services (WMS)), and visualization of the data, which could greatly enhance its usability.

Recommendations

Short term

The C-55 RPT recommends use of CATZOC from ENC's to derive survey status data as a first step to improve the quality (and especially the consistency) of C-55. Some IHO MS have an issue that CATZOC is linked to the charts, but the CATZOC is directly linked (by definition!) to the source data. This recommendation is in line with IRCC's requests to producers to improve the quality of CATZOCs on their charts (in particular by limiting the use of CATZOC "U").

The calculation of the C-55 from the CATZOC could lead to a deterioration of the indicator. The risk is real (this was the case for the indicators set by FR & UK) but the objective of the C-55 is to provide the most reliable information possible on the state of the surveys and not to show indicators in green.

The 200m depth limit between "shallow" and "deep" indicators can be questioned. It can however be addressed through the conversion table from CATZOC to C-55 (see FR proposal annexed to the CBSC16-08.3B paper).

The calculation of the C-55 from the CATZOC may simplify the production of the C-55 as:

- CATZOC has to be established by the ENCs producers anyway
- IHO secretariat has already access to the ENCs' CATZOC through the RENCs (see IRCC7 Action 24 for example). The IHO secretariat could therefore produce the C-55 quite directly and automatically.

Long term

Beyond this "immediate" pragmatic solution, a more in-depth overhaul of the C-55 should be considered in order to better depict the surveying status for:

- Safety of navigation. In some areas (e.g. Arctic; Polynesia) only a small percentage of coverage is really necessary, a "poor" C-55 may be enough to answer safety of navigation needs;
- A state of knowledge of bathymetry ("Hydrography is Much More than Just Nautical Charts") in support of for example the Seabed 2030 project

The work to integrate C-55 into the IHO Country Information System should continue.