

**3<sup>rd</sup> NCWG MEETING  
ESRI HQ, Redlands, California, USA 16-19 May 2017**

**Paper for Consideration by NCWG**

**Development of new section V on data quality (Work item E9)**

**History Brief**

<b>Submitted by:</b>	Secretary
<b>Executive Summary:</b>	Work item E9 has not been and will not now be progressed by Australia. NCWG needs to determine a course of action.
<b>Related Documents:</b>	INT1. DQWG questionnaire on Data Quality symbology (CSPCWG8-INF2)
<b>Related Projects:</b>	None

**Introduction / Background:**

1. AU response to request for a paper for agenda item 11.2 (received 03/05/2017):

I have spoken with my current team of Production Managers regarding the proposed Section V of INT 1. We don't feel the additional section is necessary at this time and would be happy for the action to be reallocated to another country should the NCWG still want the work undertaken.

2. This particular initiative derives from the DQWG Questionnaire, subject of CSPCWG8-INF2, which exposed the lack of understanding by many mariners of 'data quality' as depicted both on ENC and paper charts. DQWG were taking forward any action dealing with CATZOC and its possible replacement on ENC. CSPCWG were asked to analyse the results and consider any actions for paper charts.
3. The CSPCWG8 report states: The DQWG questionnaire had been developed by a Masters degree student (Sam Harper UKHO). Approximately 80 questions had been answered by more than 600 respondents creating a rich and representative dataset for analysis. S Harper had done some analysis of the data, which had been presented to DQWG5 (Nov 11); M Huet was able to present the same PowerPoint slides to the CSPCWG meeting, The PowerPoint is available under 'Presentations' in the meeting documents on the IHO website. Many of the questions were concerned with the user's understanding of data quality information on charts; initial analysis appears to show that some (such as upright soundings) are not well understood. DQWG had asked CSPCWG to further analyse the raw data and consider the impact on existing indicators. The Chairman suggested that WG members should consider whether their HO should involve themselves with the DQWG, which is currently rather small.

**ACTION 34:** Chairman and Secretary to consider DQWG questionnaire in more detail and advise WG members of the best way to take forward the requests from DQWG. [This action resulted in the compilation of CSPCWG9-08.6A, with further developments detailed below]

**Analysis / Discussion (subsequent history):**

4. Extract from EN CSPCWG 9-08.6A:

**4. Reorganization of INT1.** Australia suggested:

- (as a minimum) transferring K2 and K3 into section I;
- (or more radically) reorganizing the first part of section I as 'Depth quality indicators', or;
- a completely new section 'O' for 'Depth quality indicators'.

If reorganizing Section I, the possible new entries in the first sub-section could be:

'reliable' sounding (currently I10)

'unreliable' sounding (currently I14)

'unsurveyed safe clearance' (currently K3)

'swept depth' (currently K2)

'approximate depth contour' (currently I31)

'no bottom found' (currently I13)

'position approximate' (currently B7)

'position doubtful' (currently B8)

Numbers 1-4 are currently occupied (and cannot be reused, even if we decide to make any obsolescent). Therefore, including all these will require I5-12, which overlaps with existing numbers in the 'Soundings' sub-section. This need will depend on whether we include all the above. If we do, some will need to be repeated, eg B7 is certainly still required for features other than depths so belongs in section B too.

Other options could be to:

1. make I1-14 'Depth quality indicators' and reduce the 'soundings' sub-section to I15-20 (with only 2 entries at present), leaving existing I10-14 unchanged.
2. create new sub-section I40 for 'Depth quality indicators',
3. utilize the empty section O.

Option 1 allows no space for any new data quality indicators (eg a new line symbol for discontinuity between surveys (Annex A); a new symbol for 'unreliable sounding' (Annex B); a new symbol 'to indicate that a thorough target investigation has been undertaken over a wreck or obstruction, and the depth and position has been ascertained to the best standard currently available, in line with IHO standards' (see CSPCWG9-08.11A).

Option 2 may leave us with some duplication (unless we remove the old entries).

Option 3 has the same issue as 2; it also seems too early to reuse this section for something completely different from its former use.

5. Extract from CSPCWG9 report:

Reorganization of INT1. The various options for some rearrangement of INT1, from minor changes to the addition of completely new sections, removal of duplication and composite symbols were briefly discussed. It was decided that it would be better to ask the INT1 subWG to draw up a paper considering the main options, scope and consequences (without committing too much time or effort at this stage), before reporting back to the full WG. J Wootton offered to assist with this initial exploration.

6. Extracts from EN CSPCWG10-11.2A (INT1 subWG 'Options for reorganizing INT1):

6. Addition of a new 'data quality' section (or possibly extension of existing Section I) proposed by Australia (CSPCWG9). (This was also noted in

HSSC4 Minutes 5.5: 'Australia noted that there was no single place in the INT1 document where all guidance on data quality indicators could be found. It was agreed that the grouping of such guidance would be discussed at the next CSPCWG meeting').

**Addition of a new 'data quality' section.** This derives from a proposal from Australia at WG9 (also noted at HSSC4). The following is an extract from CSPCWG9-08.6A:

Australia suggested [see 4 above]:

All the options have some drawbacks. The subWG also considered a variation on Option 1. One of the problems with INT1 is the inflexible numbering system. A better system would be to have each sub-section numbered, eg I1 and then break that down into I1.1 and I1.1.1 etc. (This system is used in UK's NP5012). The next subsection, currently beginning at I10 would become I2. It is not practicable to change the whole of INT1 to follow this better system now (as it would badly affect all cross referenced documents), but it may be possible to break down the first sub-section in Section I, eg:

Soundings, Drying heights and Depth Data Quality Indicators

- 1.1 PA
- 1.2 PD
- 1.3 ED
- 1.4 SD
- 1.5 Rep
- 1.5.1 Rep (2010)
- 5 Swept depth (currently K2 – could leave there with reference)
- 6 Unsurveyed safe clearance (currently K3 – could leave there with reference)
- 7 Discontinuity between surveys?
- 8 Zone of confidence table?
- 9 Split: 9.1 Spoil Grounds; 9.2 Extraction areas
- 10 Sounding in true position
- 11 Sounding out of position
- 12 Least depth in narrow channel
- 13 No bottom found at depth shown
- 14 Unreliable sounding
- 15 Drying heights and contours above Chart Datum
- 16 Natural watercourse
- 17-19 spare

7. Extract from CSPCWG10 report:

**11.2 Possible re-organization of INT1 (Sec)**

*Docs: CSPCWG10-11.2A Reorganization of INT1*

The Secretary introduced the scoping paper on a possible reorganization of INT1 that the INT1subWG had produced in response to WG9 Action 31. The meeting agreed that the most pressing change required was the introduction of a new section on data quality indicators. Various options for placement of such a section were considered, with the decision being that it should be an all new 'Section V'. J Wootton offered to

seek permission for AU to produce an initial draft. [After meeting note: this has been approved. Note that E9 was added to the Work Plan following CSPCWG10].

The meeting decided that the other recommendations removing some unnecessary combination symbols, self-evident legends and general rationalization (especially sections K and L) should not be progressed at this time, due to limited resources available and no evidence that the user wanted any such changes. The intention should remain on the work plan without a planned date, but with a reference to this paper to avoid re-doing the initial work at some future time.

**ACTION 35:** AU to develop initial draft of new 'data quality' section V for INT1.

8. Extract from NCWG1 report:

INT1 Section V progress: verbal report **(AU)**

Chair briefed the meeting on AU progress with preparing a new data quality section V for INT1. A small AU team has been established to develop a draft. He indicated that a fully-worked draft would be available for NCWG2.

9. Extract from NCWG2 report:

INT1 New section V **(Chair)**

Chair reported that unfortunately he had been unable to progress Section V (a new 'data quality' section for INT1). This had now been handed over to a colleague [unnamed], but only recently, so no progress to report as yet.

**Conclusion:**

10. It seems that in fact no progress has been made. NCWG3 needs to decide whether to continue with this work item, noting that CSPCWG10 considered this to be the most pressing change required to INT1. This originally came about as a result of the DQWG questionnaire (see CSPCWG8-INF2).

**Recommendation:**

11. Request volunteer(s) to take on the drafting of new section V. If no volunteer is available, then notify HSSC9 with a view to removing the item from NCWG task list.

**Justification and Impacts:**

12. NCWG viewed this action as important in the light of the shocking lack of understanding about data quality on paper charts revealed by the DQWG questionnaire.
13. Some work for a volunteer, followed by consideration by INT1subWg (initially) and then approval by full NCWG. New editions of INT1 would be required to incorporate the new section.

**Action required of NCWG:**

14. The NCWG is invited to:  
consider the above recommendation and advise accordingly.