

Report of the Data Quality Working Group (DQWG)

Submitted by:	Chairman, DQWG
Related Documents:	DQWG18 Minutes
Related Projects:	None

Chair:	Lingzhi WU (China)
Vice-Chair:	Vacant
Secretary:	Scott YOUNGBLUT (Canada)
Member States:	Australia, Brazil, Canada, China, Denmark, Finland, France, Germany, India, Indonesia, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Portugal, South Africa, Sweden, UK, USA
Expert Contributor Organizations:	IHO Secretariat, CSMART (Carnival Group), ESRI, IC-ENC, IEHG, INTERTANKO, Portolan Sciences, PRIMAR, SevenCs, Teledyne CARIS, US Army Corps of Engineers, US Commander Naval Meteorology and Oceanography Command (CNMOC)
<i>See Annex A for full membership details</i>	

1. Meetings Held During Reporting Period

DQWG18 was a VTC meeting and held in 7-9 February 2023. The full report from that meeting can be found on the DQWG page of the IHO website.

DQWG19 will be an in-person meeting and held in China in 2024. The specific date and venue of the meeting will be taken at least six months before the proposed meeting.

2. Work Program

2.1 Guidelines from Survey to CATZOC

2.1.1 The *Guidelines and Recommendations for Hydrographic Offices for the Allocation of CATZOC* was developed by DQWG and then reviewed by HSWG. After that, DQWG revised the Guidelines according to the recommendations and suggestions from HSWG.

2.1.2 DQWG 18 endorsed the *Guidelines and Recommendations for Hydrographic Offices for the Allocation of CATZOC* Edition 1.0.0.

2.2 Cross Check of Data Quality Chapters of S-1xx Product Specifications

2.2.1 The Cross Check of S-104 Ed 1.0.0 and S-128 Ed 1.0.0 has been finished.

2.2.2 DQWG has developed a recommended template of data quality chapter of S-1xx data product specifications which will be submitted as revision proposal for Appendix D of S-100 Part 11, to the S-100WG for consideration and possible inclusion in the next Edition of S-100.

2.2.3 DQWG has prepared three documents for the consideration of S-100WG (S-101, S-102, S-121 and S-129), NIPWG (S-122, S-123, S-127 and S-128) and TWCWG (S-104 and S-111), and plan to invite these WGs to nominate a DQ focal point in their WGs who will be invited to participate in the activities of the DQWG. Up to now, the related document and invitation have been submitted to TWCWG7 for their consideration.

2.3 Cross check of S-1xx Feature Catalogues

2.3.1 DQWG has implemented the Cross check of feature catalogues of S-101 Ed 1.1.0, S-102 Ed 2.0.0, S-104 1.0.0, S-111 1.0.0 and S-129 1.0.0. The aims of the Cross check of S-1xx Feature Catalogues are to:

- Confirm that the Feature Catalogue contents are consistent with the corresponding DCEG document.
- Identify any areas where the S-101 Feature Catalogue is not consistent with other S-1xx product specifications
- Confirm that the items present in the feature catalogue are consistent with the GI registry contents.
- Confirm that the Feature Catalogue structure and content conforms to the S-100 standard.

2.3.2 The review results and recommendations will be submitted to S-1xx developers respectively. Members of S-1xx PTs will be invited to participate in the next review before submission of Ed. 2.0.0 in any case.

2.4 Review the draft S-67 new edition

2.4.1 A subWG has been established to review the draft S-67 new edition and recommend edits to produce a first credible output for Mariners.

2.4.2 The first ENCWG & DQWG S-67 Meeting has been held on March 1st in 2023. The meeting discussed how to proceed with review and update of S-67.

2.5 Revision of S-100 Part 4C and S-97 Part C

2.5.1 Draft amendments for S-100 Part 4C "Metadata - Data Quality" and S-97 Part C "Data Quality" have been prepared by DQWG chair and reviewed by DQWG18.

2.5.2 A subWG has been established to review S-100 Part 4C and S-97 Part C but to limit the work to critical DQ issues only.

2.5.3 S-100WG has been informed that the DQWG has started a review and revision of S-100 Part 4C and S-97 Part C and the results will be submitted to S-100WG for consideration.

2.6 S-100 Validation and DQ

2.6.1 A new task to link DQ checks (S-100 generic and products-specific) to DQ measures has been identified by DQWG18.

2.6.2 DQWG will provide feedback with comments and recommendations on the DQ requirements in S-100 validation checks to S-100WG and S-1xx PTs.

2.7 MASS and DQ

2.7.1 DQWG Plans to consider the DQ requirements of MASS and provide feedback to MASSPT.

3. Progress on HSSC Action Items

- 3.1 *Action HSSC14/58* - HSSC welcomed the availability of the Spanish version of S-67 and invited Member States, to consider the possibility of translation of S-67 Ed.1.0.0.
- 3.1.1 French version of S-67 has been finished by SHOM and uploaded on the French version of IHO Website.
- 3.1.2 Chinese version of S-67 has been finished by China MSA and uploaded on the Chinese version of IHO Website.
- 3.2 *Action HSSC14/59* - HSSC encouraged Member States to start populating appropriate POSACC / SOUACC values in existing S-57 ENC's for relevant spatial objects in preparation of conversion to S-101 .
- 3.2.1 This issue has been discussed on the DQWG18, and RENCs are requested to consider providing status on the progress of the encoding of POSACC/ SOUACC to the DQWG Chair prior to HSSC16 (Action HSSC14/59 refers) for an assessment of S-100/S-101 readiness.
- 3.3 *Action HSSC14/60* - DQWG to report on the progress in the development of Guidelines and Recommendations to HO's based on best practices to allocate CATZOC values (or S-101 ZOC values) from survey data qualified in application of the new Ed. 6.0 of S-44 - IHO Standards for Hydrographic Surveys. Liaison with other WGs/PTs needed before submission to HSSC.
- 3.3.1 Done. See above 2.1.
- 3.4 *Action HSSC14/61* - HSSC noted that Guidance to be provided to the CSBWG will be a sub-set of the Guidelines from "Survey to CATZOC".
- 3.4.1 After DQWG18, The CSBWG Chair Ms. Jennifer Jenckson has been informed that "Guidelines and Recommendations for Hydrographic Offices for the allocation of CATZOC" Edition 1.0.0, which will be beneficial to evaluate the quality of CSB data and promote the application of CSB data, has been finished by DQWG and will be submitted to HSSC15 for approval as a new IHO Publication S-68.
- 3.5 *Action HSSC14/62* -Noting the vacancies at the position of DQWG Chair and Secretary, HSSC made a call in session inviting HSSC Members to nominate candidates with the risk that DQWG activities are put on hold (Chairpersonship interim by Vice-Chair for urgent matters only).
- 3.5.1 Only received a nomination from China, and Mr. Lingzhi WU has been appointed as the Chair. The election of Vice Chair and Secretary has been implemented in DQWG18, and DQWG agreed that Mr. SCOTT YOUNGBLUT (Canada) takes the role of DQWG Secretary until DQWG-19 (2024) when a new election will be arranged.

4. Problems Encountered

- 4.1 The working group has not held an in-person meeting for three years. Although VTC meetings are beneficial to increase the number of participating members, they also limit the depth and breadth of communication. An in-person meeting will be held in China in 2024. Hope it will help to solve this problem.
- 4.2 DQWG chair team has been vacant for many years. Hope a complete chair team will be elected at the next meeting.

5. Any Other Items of Note

None.

6. Conclusions and Recommended Actions

- 6.1 The Edition 1.0.0 of Guidelines and recommendations for Hydrographic Offices for the allocation of CATZOC has been developed.
- 6.2 The Cross Check of Data Quality Chapters of released S-1xx has been finished, and a recommended template of data quality chapter of S-1xx data product specifications has been completed.
- 6.3 The Cross Check of Feature Catalogues of released S-1xx (Route Monitoring Mode) has been finished.
- 6.4 DQWG has started the review and revision of S-100 Part 4C and S-97 Part C, and draft amendments for S-100 Part 4C and S-97 Part C have been completed.
- 6.5 A new task to link DQ checks (S-100 generic and products-specific) to DQ measures has been identified.
- 6.6 It is recommended to:
 - Approve the Guidelines from Survey to CATZOC Ed 1.0.0 as a new Publication S-68, and task the working group to continue the work for a new Edition.
 - Encourage S-1xx PTs to use the recommended template of data quality chapter once it is included in the next Edition of S-100.
 - Task the working group to continue to review the DQ Chapters of new and amended Product Specifications.
 - Task the working group to continue the cross check of other released S-1xx FCs, and encourage S-1xx PTs to participate in the next review before submission of Ed. 2.0.0.
 - Task the working group, liaison with S-100WG, to improve the amendments for S-100 Part 4C “Metadata - Data Quality” and S-97 Part C “Data Quality”.
 - Task the working group, liaison with S-100WG, to develop DQ Validation checks.
 - Approve the revised Work Plan submitted as Annex B.

7. Justification and Impacts

- 7.1 A new Publication S-68 will improve the assignment of CATZOC Values in the global ENCs, and facilitate the calculation of IHO SPI 1.2.2.
- 7.2 The recommended template of data quality chapter will harmonize and improve the DQ chapters of all S-1xx PSs.
- 7.3 Some content of S-100 Part 4C “Metadata - Data Quality” and S-97 Part C “Data Quality” have become outdated and need to be modified according to latest ISO standards.
- 7.4 Development of S-100 and S-1xx Validation checks will benefit from the development of DQ Validation checks.

8. Action Required of HSSC

The HSSC is invited to:

- a. note this report.
- b. endorse the Edition 1.0.0 of Guidelines and recommendations for Hydrographic Offices for the allocation of CATZOC as a new Publication S-68.
- c. approve the revised Work Plan submitted as Annex B.
- d. approve the recommendations in above section 6.6.

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DQWG Proposed Work Plan - 2023 to 2024

DQWG Tasks

- A. Develop and maintain a data quality checklist for product specification developers(IHO Task 2.8)
- B. Periodically review S-100 based product specifications to ensure the data quality aspects have been taken into consideration and provide input papers for WGs and PTs consideration if deemed necessary(IHO Task 2.3)
- C. Monitor periodically developments of ISO and other international standards regarding quality information, and advise accordingly(IHO Task 2.8)
- D. Provide guidance on data quality aspects to hydrographic offices, in particular to ensure harmonized implementation(IHO Task 2.1 and 2.5.1)
- E. Provide data quality educational material for the use of mariners(IHO Task 2.4.9)
- F. Review appropriate methodology for the display of quality information to product specification developers(IHO Task 2.1)
- G. Propose new data quality topics for consideration by HSSC(IHO Task 2.8)

Task	Work Item	Priority H-high M-medium L-low	Milestones	Start Date	End Date	Status P-planned O-ongoing C-Completed	Contact Person	Affected Pubs/Standard	Remarks
A.1	Development of the DQ validation checks	H	DQWG19	2023	2024	O	Chair	S-100	DQWG18-08.1A
B.1	Development of a minimum standard for Data Validation in S-1xx based products.	H	S-101 Ed.2.0.0	2018	2024	O	Chair	S-1xx	None
B.2	Review S-1xx based PS (Ed.1.0.0 or higher)	H	DQWG19	2021	2024	O	Chair	S-1xx	DQWG 18-03.1A
B.3	Review S-1xx Feature Catalogues	M	S-101 Ed.2.0.0	2021	2024	O	Chair	S-1xx	DQWG18-05.1A
C.1	Review S-100 Part 4C.	H	Next Edition of S-100	2022	2024	O	Chair	S-100	DQWG15-04.4B
C.2	Review S-97 Part C.	H	DQWG19	2023	2024	O	Chair	S-97	DQWG18-06.2A
D.1	Provide guidance documentation how to populate CATZOC values.	H	DQWG19	2021	2024	O	Chair	S-101 DCEG	DQWG18-05.3A
E.1	merging S-66 and S-67 into a single IHO publication	H	DQWG19	2023	2023	O	chair	S-66, S-67	HSSC 14/40
G.1	Monitor development of autonomous shipping by the	M	DQWG19	2020	2024	O	Chair	S-101, S-102, S-104	None

