**REPORT OF THE MEETING OF THE ONLINE
REPORTING TECHNOLOGY WORKING GROUP**
(Virtual, 16-18 February 2021)

1. Opening of the meeting and logistical arrangements

The meeting was opened by the interim Chair, Ms. Terra Lederhouse (USA) who welcomed all the participants. The ICCAT Executive Secretary (Mr. Camille Jean Pierre Manel) welcomed the participants to the meeting of the Online Reporting Technology Working Group (WG-TOR) and highlighted the importance of the work of the WG on the future of the Integrated Online Management System (IOMS). He also emphasized the ongoing work by the Secretariat in terms of improving and optimizing IOMS, which shall highly facilitate the reporting process in the long term in ICCAT and also benefit other sister organizations. Finally, the Executive Secretariat wished a productive meeting to all the participants.

2. Appointment of Rapporteur

Jessica Kerwin (Canada) was appointed to act as rapporteur.

3. Adoption of the agenda and meeting arrangements

The Agenda was adopted with one minor adjustment and is attached as **Appendix 1.** The Secretariat informed the participants about the meeting arrangements and timetable. The List of participants is attached as **Appendix 2**.

4. Review of the Working Group's mandate on the basis of *Recommendation by ICCAT to continue the development of an Integrated Online Reporting System* (Rec. 19-12)

The Chair reviewed the mandate of the Working Group (WG) as outlined in Rec. 19-12, which supplemented the *Recommendation by ICCAT for the development of an Online Reporting System* (Rec. 16-19). The WG was to meet in May 2020 to test the preliminary working version of the IOMS and identify necessary improvements. The WG was then to present the IOMS prototype to the Commission at the 2020 Annual Meeting, with the aim of completing necessary refinements in 2021. However, due to the global pandemic, the 2020 intersessional meeting was cancelled and the WG was not able to complete its 2020 tasks. Rec. 19-12 will need to be revised with an updated timetable for completing both Phase 1 and Phase 2 of the project. The Chair suggested that she would circulate a proposal to the WG for endorsement intersessionally based on the outcomes of this meeting and would submit it to the Commission for consideration at the 2021 Annual meeting. The WG agreed with this approach.

5. Status update of the IOMS Phase 1 (June 2019 to May 2020)

The Secretariat presented a historical review of the IOMS since its foundation, covering two clearly differentiated periods. The first one, the prototyping period (before June 2019), involved the planification and design of an online reporting system that best serves the reporting and management needs of ICCAT in the long term. It covered pilot studies, feasibility studies, and the development of working prototypes with different architectures, aiming to identify the optimal solution in terms of architecture (set of technologies) and functionality (efficiency and flexibility). The second one, the development period (after June 2019), identifies the real start of the IOMS development. All the knowledge acquired in the first period was used to build the IOMS design model and technical specifications. The second period has been financed by ICCAT in its totality.

The Secretariat also provided an overall IOMS status update. As of today, the IOMS is under Phase 2 development (first of the four modules planned: Vessel record manager). Phase 1 development (two main modules: IOMS core, Annual Report manager) was considered finalized and the system is undergoing heavy testing/validation (Phase 1 testing) by the Secretariat and the members of this WG. Phase 1 testing aims to identify errors or functional inconsistencies, and it is planned to correct these over the next few months before the IOMS enters the production phase.

5.1 System demonstration

The Secretariat provided a brief demonstration of the IOMS prototype, including how to log into the system and how to use the basic reporting functionalities. The WG was overall satisfied with the IOMS' current status, but did raise some additional requests to improve the system's functionality. The discussion primarily focused on the roles of the CPC administrators vs. CPC users and whether the system should permit multiple administrators per CPC. Currently, the only differences between the two user roles are that administrators are permitted to add new users for their CPC and to use the messaging function to contact other administrators. The WG discussed the potential limitations of the existing IOMS user roles for IOMS Phase 1 development. It was questioned if the four roles with two hierarchical levels (ICCAT Secretariat: Administrator, Officer; ICCAT CPC: Administrator, Officer) would cover the needs of the IOMS in the future, in particular the functionality associated with the new modules in both management and statistical categories. For the statistical data requirements category, the Secretariat has the official lists of Statistical and Tagging correspondents, which is updated every year. A similar list does not currently exist for compliance data requirements. The two categories of data requirements (i.e. statistical and compliance) will need a differentiation of roles. The WG also discussed the possibility of associating roles to individual IOMS modules or groups of modules. There was agreement that multiple administrators were necessary, and that the system should allow for a role/responsibility function (similar to that in the eBCD system) whereby multiple users can be permitted to use the system as needed depending on which submissions they are responsible for. One example discussed is that currently, each CPC has two statistical correspondents that are the only ones with permission to submit statistical data on behalf of the CPC.

The Secretariat noted that it would work with relevant CPCs to also determine specific roles within those CPCs with more than one member state, e.g., the European Union (EU) and the United Kingdom (UK). Adding an additional hierarchical level (2 to 3 levels) could solve part of this problem.

The number of active registered CPC users per role (for IOMS Phase 1: only one role per user) was also an important aspect of the discussion. A key question raised was the number of administrators that a CPC can have active simultaneously. The Secretariat informed the WG that the system actually allows multiple administrators per CPC. However, the registrations of CPC administrators can only be made by ICCAT administrators.

The WG considers that "roles" and "users" are crucial specifications of the IOMS. Therefore, it was recommended that the specifications for "roles" and "users" of the IOMS be properly studied, considering the flexibility described above and the needs of future IOMS modules. This study should be made with the support of the ICCAT Secretariat and presented to the next intersessional meeting of the WG.

Other issues raised included: the need for an external automated email notification system as suggested in the Rec. 16-19 Concept Note and adding clear guidance on the format to use when entering dates into the system to ensure consistency.

5.2 Practical exercises for participants on data integration (using 2018/2019 Annual Reports)

The Secretariat presented the WG with the process for properly reporting "Bugs" in the IOMS. One request of the WG was to have the full list of all current "Bug Reports" come up automatically so a user can ensure the issue they are currently experiencing has not already been identified, and the Secretariat agreed that this suggestion would be beneficial. The Secretariat clarified that a user can either report the "Bug" through the system or can email the Secretariat directly.

Due to lack of time, the WG was not able to complete all the planned user exercises within the IOMS prototype. Therefore, the WG was asked to log into the system over the next two months to continue testing, conduct identified exercises independently and provide feedback to the Secretariat.

5.3 Deliberations on the enhancements proposed by the Group (short/mid-term)

The Secretariat presented a list of difficulties identified by WG members during the testing of the IOMS prototype (e.g. small spaces for entering dates and/or text fields should be properly enlarged). The WG also had an extensive discussion on the need to allow for filtering, querying, and reporting of all CPC data that would allow CPCs to generate reports at any time according to selected filtering criteria, as outlined in the Rec. 16-19 Concept Note. This would improve the efficiency of the work of the Compliance Committee and help it to implement its strategic plan adopted in 2019. That function is currently only available to the Secretariat due to some data confidentiality concerns and, therefore, not all data can be made available to all CPCs. However, in terms of the Annual Report (since it is made public once submitted), there is room to work with the developers to create report functions that can meet the needs of the Compliance Committee. The WG will need to identify the data that can be shared with other CPCs and the type of IOMS user that should have access to the data of other CPCs.

Both the list of identified bugs and the list of enhancements (**Tables 1** and **2** of **Annex 1**) will be addressed by the developers, with high priority being given to the list of bugs. Additional bugs identified during the testing phase, which will continue until the end of May 2021, will be added to the corresponding table.

The WG continued the discussion on the need to improve the level of granularity (more explicit profiles) of the IOMS user roles and their characteristics and agreed to define these roles through correspondence during the intersessional period using the user role template presented in **Annex 2**.

5.4 Work plan to deploy the IOMS (version 1.0) in "production"

The Secretariat provided an overview and current status of IOMS Phase 1 development, including the creation and development of the IOMS database, the IOMS core application and the IOMS Annual Report Part II/Section 3 and Part I Annex 1. The presentation also included an overview of the development and production environments used by the IOMS, and the versioning nomenclature adopted to identify the different IOMS versions over time.

The WG reviewed the preliminary schedule of IOMS Phase 1 and 2, as outlined in Attachment 1 to Appendix 15 to ANNEX 9 of to the *Report for Biennial Period 2020-2021, Part I (2020), Vol. 1*, which has been approved by the Commission. The WG approved an extension of Phase 1 (Production mode) until 1 August 2021 to allow the developers sufficient time to address identified "bugs" and one high priority enhancement item, as outlined respectively in **Table 1** (list of bugs and other corrections required) and **Table 2** (list of enhancements and respective priorities) of **Annex 1**. Release into production by August would allow CPCs to use one of three approaches to submit the 2021 Annual Reports (Part II/Section 3 and Part I/Annex 1), due 15 September:

1. Entering data directly into the IOMS,
2. Using the export/import functions in the IOMS (offline work),
3. Submitting the report in the traditional manner (emailing to the Secretariat).

The first two options will continue with the Secretariat support. The 2021 Annual Reports submitted in the traditional manner (option 3) will be integrated by the Secretariat into the IOMS. This allows flexibility for CPCs to begin using the IOMS.

The WG also discussed and approved the pre-loading of 2019, 2020 Annual Reports approved by the Commission into IOMS, and the proposed versioning system presented by the Secretariat.

The WG discussed the essential need for training on how to use the IOMS to ensure the success of the project. The Chair noted that €35,000 had been budgeted for Phase 1 training and support, and an additional €30,000 for capacity building in 2020/2021. The Secretariat clarified that it had developed plans for training courses in 2019, but had since reallocated those funds to purchasing licenses/equipment so the WG could function virtually during the pandemic. The WG identified low-cost virtual training options that could be implemented during the pandemic, including posting a video tutorial on the ICCAT website and holding shorter live tutorials virtually to assist CPCs in using the IOMS to submit the 2021 Annual Report. The Chair and Secretariat will coordinate to develop a draft budget proposal for the WG's endorsement intersessionally and will submit it for Commission approval at the 2021 Annual Meeting.
The WG approved the following remaining items to complete Phase 1:

- Complete Phase 1 Modules (IOMS core/database, Annual Report) and release into production mode.
- Complete virtual training workshop sessions.

The updated workplan for Phase 1 is included in **Annex 3.**

6.   Review of the current ICCAT data requirements (management & scientific purposes)

6.1 Proposals for optimization (normalisation and codes adoption)

The efficiency and optimization levels of complex systems such as the IOMS are highly dependent on three main components: the coding system (common language for humans and machines), the reporting rules (standards, structures/formats), and the validation criteria (norms to evaluate if the information is valid). These elements should be carefully planned in advance (whenever known) or during (whenever required) the development phases of the project.

The Secretariat presented preliminary lists of reporting rules and validation criteria to be applied globally across the entire IOMS, and some specific ones associated to the two main objects (e.g.: Vessels and Authorization lists of the Vessel record manager Phase 2 module). The WG adopted this document (**Annex 4**) aimed to guide the IOMS development in the long term as a dynamic document (versioned by date), where the new elements added/updated should be provisionally included whenever required and this WG be duly informed. Only the latest version must be approved by the WG-TOR at the intersessional meetings.

6.2 and 6.3 Evaluation of the study made on "elimination of redundancy"

The Secretariat provided an overview of the WG's previous work to eliminate redundancies in reporting requirements. The increasing number of reporting requirements over time has presented a significant challenge for CPCs, the Secretariat, the SCRS, the Compliance Committee, and the Commission. In order to improve reporting rates and reduce tasks, the WG had agreed in 2018 to identify data reporting requirement redundancies. Submissions were received by the EU and Canada, which the Secretariat compiled and presented to the WG. Next steps will require WG members to develop recommended actions on each redundant reporting requirement and submit it to the Commission and appropriate Panels for action. The Chair noted that the Commission may not take action on these recommendations in 2021 given the backlog of issues it will need to address following the streamlined workplan for the 2020 correspondence process. The WG noted that this is a long-term issue that will take years to complete, but agreed to review the comments made by the EU and Canada and develop appropriate recommendations intersessionally. These recommendations will be shared with the SCRS for input in advance of the Commission Annual Meeting.

7.   Revision and approval of the work plan for IOMS Phase 2

The WG discussed and identified priorities for the remaining phases. The Secretariat presented a brief description of proposed IOMS modules, a proposed budget and timeline for each module, as well as the budget and time to be spent for the testing and integration phase, infrastructure, and capacity building, as has been agreed in 2019. The ICCAT deliberations on IOMS Phase 2 development are included in ANNEX 7 to the *Report for Biennial Period 2018-2019, Part II (2019), Vol. 1*, and the budget details are contained in Table 1 to that report.

The WG approved the following in priority order:

Phase 2:

- Address bugs and enhancements previously identified by the WG.
- Develop Module 1 (vessel manager).

Phase 3 to commence in June 2022:

- Task 1 (statistical documents).
- Compliance tables
- Module 2 (Port authorities) and 4 (Swordfish and Bigeye statistical documents).
- Module 3 (Bluefin tuna weekly and monthly catches).

Module 3 was moved to the lowest priority due to overlapping functions with the eBCD system. There was also agreement to continue testing the IOMS and provide feedback to the Secretariat through June 2021 so the Secretariat can finalize the Production mode of Phase 1. There was also consensus among the WG that the Secretariat should hold training sessions for all CPCs after August 1, 2021 and before the submission deadline of the Annual Report (due 15 September 2021). Finally, the WG is encouraged to identify additional modules for development on Phase 4, starting in June 2024. The final work plan is included in **Annex 3.**

Items for the WG to accomplish intersessionally include:

1. Continue testing IOMS and submit issues to the Secretariat through June 2021:
   - Secretariat will update bugs, enhancements, by 1 August 2021.

2. Review potential reporting redundancies and develop recommendations with input from the SCRS to present at the 2021 SCRS Plenary and Commission Annual Meeting.

3. Update Rec. 19-12 with a new schedule for prioritized Phase 2 and potential Phase 3.

4. Draft budget plan for Phase 3 for budget period (2022-2023):
   - Secretariat will advance virtual tutorials and trainings for IOMS to assist CPCs with using IOMS to submit 2021 Annual Reports prior to 15 September deadline.

5. Review and provide feedback to the Secretariat on the template for revised IOMS roles and users.

6. The WG Chair will work with the Secretariat to increase visibility of the IOMS, including notifying the Commission of new options for submitting Section 2/Part 3 of the Annual Report in 2021, of planned training workshops, and inviting more users to test the system.

7. Identify additional modules for development beginning in 2024 (Phase 4).

The WG Chair will work with the Secretariat to create draft documents for items 2-6 and will circulate them among the members of the WG for their review and approval.

8. The project to develop, in parallel, the IOMS dynamic help system (financed by EU)

The Secretariat presented an overview of the IOMS dynamic help system under development with funding from the EU. The Secretariat is hiring another developer to work on the system starting in March 2021, with an expected 12 months for completion. The help module will provide user support and descriptions of various system functionalities in the three ICCAT languages (English, French, and Spanish). The final version of the help system will require approval by the EU and the WG. The help system will be updated over time as new modules are developed within the IOMS and it is expected to help reduce the amount of user training required. The WG further discussed other training needs, which were added to the draft work plan.

9. Strategies to improve the visibility of the IOMS project

The WG discussed strategies for increasing participation in the WG and increasing the visibility of the IOMS within the Commission. The WG Chair expressed concerns with the low number of CPCs actively participating in the WG and providing input to the development of the IOMS. The WG Chair reiterated the importance of having as many CPCs as possible participate now while the system is under construction to ensure it is functional and useful for all CPCs. One idea that the WG and Secretariat agreed with was that it would be very useful to invite more individuals to participate in testing of the system. The Secretariat noted that a circular would be issued to the Commission shortly regarding Annual Reports with reference to additional opportunities for report submission through IOMS. The Chair of the WG will work with the Secretariat to issue another circular with additional information on the IOMS, including inviting more users to participate in testing, informing them of the three options that will be available for submitting the report (i.e., by emailing it to the Secretariat as usual; by uploading the report into IOMS; or by directly entering the relevant information into the IOMS), and providing details for participating in the training workshops. This notice will also include a link to the IOMS website, and the same link will be added to the ICCAT website to increase visibility.

Beyond increasing visibility as the system comes into production, the WG discussed the importance of increasing acceptance by CPCs. It will be important to notify all CPCs that the submission of relevant documents via email will be phased out over a transition period, with the IOMS eventually becoming the sole mechanism for submitting required reporting information.

10. Other matters

The WG selected Ms. Terra Lederhouse (USA) to become the permanent Chair.

The WG noted that it would be very useful for Annual Reports to be translated into ICCAT's three official languages, and that as the system stores data entered year after year, additional translation would not be needed. This would aid the work of the Compliance Committee. It was suggested that the WG ask the Commission to consider approving this cost in the future.

The WG discussed that it should meet more frequently to address complex issues, such as the development of the vessel list module. The Chair agreed that the WG should meet more frequently, including in 2022, and that continued discussions and decisions could be made for some issues by correspondence.

Dr Guillermo Diaz (Chair of the SCRS Subcommittee on Statistics) thanked the Chair for the invitation to participate in the WG meeting and stressed the importance of continued coordination between the SCRS and the WG.

11. Adoption of report and adjournment

The WG agreed to adopt the report by correspondence. The Chair thanked the WG and the Secretariat for all their work to ensure a successful meeting and the continued development of the IOMS, and adjourned the meeting.

<div align="right">**Appendix 1**</div>

<div align="center">**Agenda**</div>

1. Opening of the Meeting

2. Appointment of Rapporteur

3. Adoption of the agenda and meeting arrangements

4. Review of the Working Group's mandate on the basis of Recommendation by ICCAT to Continue the Development of an Integrated Online Reporting System (Rec. 19-12)

5. Status update of the IOMS Phase 1 (June/2019 to May/2020)

    5.1 System demonstration
    5.2 Practical exercises for participants on data integration (using 2018/2019 annual reports)
    5.3 Deliberations on the enhancements proposed by the Group (short/mid-term)
    5.4 Work plan to deploy the IOMS (version 1.0) in "production"

6. Review of the current ICCAT data requirements (management & scientific purposes)

    6.1 Proposals for optimization (normalisation and codes adoption)
    6.2 Evaluation of the study made on "elimination of redundancy"
    6.3 Further improvements

7. Revision and approval of the Work plan for IOMS Phase 2

    7.1 Main modules in development and requirements involved (approval, priorities)
    7.2 Reschedule of the IOMS Phase 2 roadmap
    7.3 Intersessional work required by the Group

8. The project to develop, in parallel, the IOMS dynamic help system (financed by EU)

    8.1 Main objectives and project Work plan
    8.2 The mid/long-term advantages of having a standard help system

9. Strategies to improve the visibility of the IOMS project

10. Other matters

    10.1 Selection of a Chair from among the WG-TOR membership

11. Adoption of report and adjournment

Appendix 2

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<div align="right">**Annex 1**</div>

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**Summary of bugs identified, and enhancements proposed by the WG,
obtained during the IOMS phase 1 testing period (2021-01-26 TO 2021-02-12)**
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CAVEAT: The two lists below will serve as the reference of issues encountered and planned to be solved before the IOMS enters into production (IOMS version 1.0, planned for deployment on 2021-08-01).

Table 1. Summarized list of the difficulties encountered (bugs and other issues) by the participants on the IOMS Phase 1 testing. This list was adopted by the Group as being the tasks that have to be solved before the IOMS enters into production (Version 1.0.0), by 2021-08-01 (Priority column classification considers this deadline). Additional "bug" identified during the testing, not specified in this table will also be addressed before IOMS enters into production (2021-08-01).

ID	CPC	Summary	Component	Remark	SolvableYN	Priority	TimeFrame
1	IOMS Team	Previous questions on Annual report for auto-completion of non-applicable requirements	Annual Report	wait WG-TOR deliberation	Y	High	1 month
2	JPN	Unclear charts/figures on the main Dashboard	Dashboard	Preliminary charts (examples)	Y	High	1 month
3	JPN	Most of "Compliance Data" section is under construction	Compliance	Depends of modules development (Phase1/2/…)	Y	Medium	6 months
4	EU	Editing a new version of an annual report	Annual Report	not a bug /solved	Y	n/a	n/a
5	EU	User was not found when entering an incorrect password	Login	not a bug /solved	N	n/a	n/a
7	EU	Expand alerts pop-up to avoid horizontal scroll	Top Bar	Bug	Y	Low	3 months
13	EU	Center the dashboard chart when there is only one organization	Dashboard	Bug in provisional charts	Y	Low	3 months
26	EU	Order requirement lists	Data Requests	Bug	Y	Low	1 month
27	EU	Selected regulationes' title is wrong	Data Requests	Bug	Y	Low	1 month
29	EU	Not posible to send a message to ICCAT Admin or support	Messaging	Bug	Y	High	1 month
30	EU	In the list of users i see twice my name	Messaging	Bug	Y	Medium	3 months
31	EU	Add organization in recipient list	Messaging	Bug	Y	Medium	3 months
33	EU	Show Year in datarequest list	Messaging	Bug	Y	Medium	3 months
37	Secretariat	Update title of the profile window whe altering User Name	Profile	Bug	Y	Low	6 months
41	Secretariat	Keep organization dropdown list in the same place after selection one	Annual Report	Bug	Y	High	1 month
43	Secretariat	The export button in help pages doesn't work	Everywhere	Bug	Y	Already Solved	n/a
44	Secretariat	When replying a message, i can only select me as recipient	Messaging	Bug	Y	Very High	15 days
45	USA	Center the dashboard chart when there is only one organization	Dashboard	Bug in provisional charts	Y	Low	6 months
48	Secretariat	Minor improvements on misspelled labels	Messaging	Bug	Y	Low	6 months
49	WG-TOR	Enlarge fieds (Value, Reason) of the annual report for easy edition	Annual Report	bug	Y	High	5 days

Table 2. Summarised list of the enhancements requested by the participants on the IOMS Phase 1 testing. This list was adopted by the Group as being the high priority tasks aimed to be solved before the IOMS enters into production (Version 1.0.0), by 2021-08-01 (Priority column classification consider this deadline).

ID	CPC	Summary	Component	Remark	SolvableYN	Priority	TimeFrame
1	EU	Auto completion of email address in reset password	Login	Suggestion	Y	Low	3 months
2	EU	Add links to alerts	Top Bar	Suggestion	Y	Low	3 months
3	EU	Add a close button on alert pop-up	Top Bar	Suggestion	Y	Low	3 months
4	EU	Remove organization value when editing profile to see the whole list	Profile	Suggestion	Y	Low	3 months
5	EU	Make non changeable fields read only	Profile	Suggestion	Y	Low	3 months
6	EU	Add a close button on profile window	Profile	Suggestion	Y	Low	3 months
7	EU	Add a button to reset filters in annual report	Annual Report	Suggestion	Y	Low	3 months
8	EU	Add a highlighting to filtered text like browser do	Annual Report	Suggestion	Y	Low	6 months
9	EU	Change the error message that tells you "can't send this version"	Annual Report	Suggestion, need further details	Y	Medium	3 months
10	EU	Make that only one groups is expanded, close the others when opening a group	Annual Report	Suggestion	Y	Low	6 months
11	EU	Separate more the text field form the calendar icon to avoid misclicks	Annual Report	Suggestion	Y	Low	6 months
12	EU	Add a button to delete a pending version	Annual Report	Suggestion	Y	Low	6 months
13	EU	Make a button to edit a submitted version without creating a new pending version	Annual Report	Suggestion	Y	Low	6 months
14	WG-TOR	Add the correct date format in the header on excel template	Annual Report	Suggestion	Y	High	15 days
15	EU	Make every excel export button export in Excel format besides CSV	Everywhere	Suggestion	Y	Low	6 months
16	EU	Make exported filename have more information about what is exported	Annual Report	Suggestion	Y	Low	3 months
17	EU	Add a button to reset the filters	Data Requests	Suggestion	Y	Low	6 months
18	EU	Ask the user for setting when exporting to CSV (field delimiters and decimal separator)	Data Requests	Suggestion	Y	Low	6 months
19	EU	Show only the current language title when expending a Datarequest	Data Requests	Suggestion	Y	Low	6 months
20	EU	Add the possibility to reorder messages/ show them in a tabular form	Messaging	Suggestion	Y	Low	6 months
21	EU	Make attachments work	Messaging	Suggestion	Y	Low	6 months
22	EU	Use always pop-up when editing a user	Users administration	Suggestion	Y	Low	6 months
23	EU	Add, creation date or active since in user list	Users administration	Suggestion	Y	Low	6 months
24	EU	Add button to deactivate a user	Users administration	Suggestion	Y	Low	6 months
25	Secretariat	Change the cancel button exit without save	Profile	Suggestion	Y	Low	6 months
26	Secretariat	Add tooltips to top bat buttons	Top Bar	Suggestion	Y	Medium	3 months
27	Secretariat	Close language modal when selecting a language	Top Bar	Suggestion	Y	Medium	3 months
28	Secretariat	Carry over the user modification date when creating a new version of AR	Annual Report	Suggestion	Y	Medium	3 months
29	USA	Stop the random colors of dasboard charts	Dashboard	Suggestion	Y	Low	6 months
30	USA	Make the excel template mor like online version	Annual Report	Suggestion	Y	Low	6 months
31	IOMS Team	Use the IOMS annual report export template as the tables for Annual report docs.	Annual Report	Suggestion	Y	Medium	1 month
32	EU	The Send Feedback button should redirect to the Feedback page to allow to check previously reported bugs	Feedback	Suggestion	Y	Medium	3 months
33	EU	A New Bug Report button should be added to the Bug list	Feedback	Suggestion	Y	Medium	3 months
34	WG-TOR	Auto completion with standard responses (N/A cases) facilities	Annual Report	Suggestion	Y	Medium	3 months
35	WG-TOR	Five questions that combined with (34) will allow automatic population	Annual Report	Suggestion	Y	Medium	3 months

<div align="right">Annex 2</div>

Profiles of the IOMS user's roles (current and future improvements)

The current IOMS Roles model (**Table 1**) was considered by the WG to have some limitations when looking into a long-term perspective as new modules are developed. In consequence, the guidelines to improve the IOMS Roles model using a template with the detailed specifications, are also described.

Table 1. Current user's Roles on the IOMS (two hierarchical levels).

User code	User name	Description
ICCAT_ADMIN	Admin user in the ICCAT Secretariat	You will be able to register users of all roles and CPCs, add new roles, organizations, data requests, requirements, regulations, consult the audit table that collects the information of the webservices consumed by the user, edit the main menu and consult the api used for the IOMS web services.
ICCAT_OFFICER	Regular officer in the ICCAT Secretariat.	You will have permissions to use all IOMS functionalities, except for administration tasks.
CPC_ADMIN	Admin user in a CPC	You can register CPC Officer users that are within your own organization
CPC_OFFICER	Regular officer in a CPC	You will have permissions to use all the IOMS functionalities of your own CPC, except for administration tasks.

Guidelines for improving the IOMS user's Roles

This guide summarises the contributions of the WG considering the future needs of the IOMS in terms increased flexibility and higher granularity levels. In consequence, each role should consider:

- The specificities of all ICCAT CPCs (e.g.: EU with various Member States)
- The specific needs of both statistical and management data requirements
- Potential to accommodate "permissions" by module
- Potential to accommodate access rights to global/detailed data (queries, reports, etc.)
- The optimal hierarchical levels (three?), balancing efficiency, functionality, and increased complexity.

Annex 3

IOMS revised work plan, covering the ongoing and future development phases

Phase	Priority	Module/Task	Description	Data requirements	DevState	RefDateEnd	Budget	Remarks
1	1	Module	IOMS core/database	n/a	Testing	2021-08-01	COM	Completed
1	2	Module	IOMS annual report (Part II/Section 3, Part I /Annex 1)	S:GEN01, M:GEN01	Testing	2021-08-01	COM	Completed
1	3	Task	IOMS in production		Implementation	2021-08-01	COM	Ongoing
1	1	Task	Training workshop sessions		n/a	2021-08-15	COM	Ongoing (2nd half August)
2	1	Module	Dynamic Help system (module)	n/a	Analysis	2022-02-28	CPC	12 months
2	1	Module	ICCAT Vessel Manager	add big list	Design	2022-03-31	COM	Restart Oct/2021 (6 month dev.)
2	2	Module	Port Manager		Analysis	2022-05-31	COM	Planned (2 months dev.)
2	1	Task	Workshop sessions		n/a		COM	Planned (for Vessel record in production)
3	1	Module	T1NC (nominal catches) manager	S:GEN03	Planning			Start (pending study on time required)
3	2	Module	Compliance tables manager	M:GEN03	Planning			Start (pending study on time required)
3	3	Module	SDP programs (SWO, BET)		Planning			Possible postpone to Phase 3
3	4	Module	Bluefin tuna (BFT) weekly and monthly reports Manager		Planning			Possible postpone to Phase 3
4	…	..	(future phases/tasks to determined by the WG-TOR)	…	…	…	…	

Annex 4

Preliminary reporting rules and validation criteria planned for the IOMS
(By: WG-TOR, Version: as of 2021-03-18)

1. Introduction

Crucial elements behind complex system like the IOMS should have a robust set of reporting rules (standards, formats, codes) and validation criteria (dynamics of "how" the information should be validated before storage). These elements should be planned in advance (if known) or during (whenever required) the development phases of the project.

This document presents a preliminary set of reporting rules (standards, formats, codes) and validation criteria (how the information should be validated) adopted for the IOMS system. It is planned to be a "live document" where additional/existing elements would be added/revised during the various phases of the IOMS development.

2. Reporting rules

The IOMS reporting rules have behind a set of standards and data exchange structures/formats that would be applied across the entire system. Preliminary lists are detailed below:

Global standards & formats:

-	Units:	International standards
-	Metrics:	International standards
-	Date:	yyyy-mm-dd
-	Time:	hh:mm
-	Date-time:	yyyy-mm-dd hh:mm:ss (seconds "ss" – optional)
-	Float numbers:	"." for decimal separator (no thousand separators)
-	Free text:	Latin script (any of the 3 ICCAT official languages)
		(non-Latin characters => screened/cleaned on data integration)
-	Geographical locations:	decimal degrees

Data exchange planned structures/formats:

- Import:

  - EXCEL (e-forms), CSV (standard structures)
  - JSON, XML (with (with respective schemas) for B2B (e.g.: FLUX on vessels)

- Export:

  - EXCEL (e-forms), CSV (standard structures)
  - JSON, XML (with respective schemas)

3. Coding system

Coding systems (a "common language" for humans and machines) play an important role in systems like the IOMS. The adoption of codes for the IOMS adhered to the robustness principles of coding systems by adopting the following criteria:

- Characteristics:

- Complete domain (object) coverage
- Robust nomenclature (formats, masks)
- Meaningful,
- Simple and concise
- Non-overlapping (in the domain)
- Extensible
- Hierarchical (whenever possible)

- Structures

- Character separator in code elements
- Avoid using the space character " "
- Avoid various special characters (".", "/", "|", ";", "", ".")
- When needed, adopt only one (e.g.: "-") separator
  (IOMS will use 1 or 2 separators: "–" OR ":", when needed)

- Preferably

- Adopt international standards (ISO, when available)

3.1 Codes currently adopted by the IOMS

Regulations

- Recommendations: Rec[2019-12]
- Resolutions: Res[2018-03]
- Others: (Basic texts, guidelines, etc.) – none -
                           (Other options under discussion: Rec2019-12, REC2019-12, RC2019-12, Rc2019-12)
- Currently used in ICCAT: Rec.YYYY-XX (YYYY {four digit year} & XX {01, …, 99})

Data Requirements

- TODO list (expanded later by the IOMS TEAM)

ICCAT existing codes

The current ICCAT coding system (CPCs, Flags, gears, vessel types, etc.) will be the one adopted for the IOMS. If required, the current codes will be adapted in the future.

4.   Validation criteria

Global processes (all IOMS)

- TODO list: (to be compiled by the IOMS Team)

Vessel record module

- Vessels (preliminary):

- Registered once (only):

  o Issued an ICCAT Serial Number (if not previously registered),
  o In the form of "**AT099999**" (replaces old system: "AT000CCC99999")

  • "AT0" (Atlantic +vessels) + sequential number {000001, …, 999999}

- • Forever number

- • 6 Mandatory fields (National registry n., IRCS, Name, Flag, Length, Tonnage)

  - o When updated: 6 mandatory fields + ICCAT Serial Number
  - o Constraints (normalised on database storage)
  - o Some examples:

    - • Vessel name: Latin script, [upper case characters], any number (suffix => Arabic)

  - o IRCS: well formatted (upper case characters + numbers)
  - o Length: (overall length in meters, with only 2 decimal)
  - o Tonnage: (GT/GRT in tones, with 2 decimal)
  - o International registry numbers (IMO, TUVI, MMSI, etc.): well formatted
  - o … (others whenever required)

- **Authorization lists (for the current 11 lists)**

  - • Required to be previously registered in IOMS
  - • Updated yearly:

    - o **Authorized period**: Date From -> Date to

      - • Well-formed dates, non-overlapping dates
      - • Non-overlapping periods (previous vs. current)
        (under study: see possible exceptions, using notification dates)

    - o **Renewal mode**: explicit (automatic in some lists)
      (Exception: Carrier vessels)

    - o **Notification dates**: well formed, validated against reporting obligation (*)
      (*explicit number of days specified in the corresponding REC/RES)

    - o **Quota**: kg (when applicable)

    - o **Quota year**: four digits (validated against "Date from")

  - • Others (to be added whenever required)