

Report of the Scientific Committee

Bled, Slovenia, 24 April-6 May 2018

Annex T

Report of the Ad Hoc Intersessional Working Group on IWC Global Data Repositories and National Reports

**This report is presented as it was at SC/67b.
There may be further editorial changes (e.g. updated references, tables, figures)
made before publication.**

**International Whaling Commission
Bled, Slovenia, 2018**

Annex T

Report of the Ad hoc Intersessional Working Group on IWC Global Data Repositories and National Reports

Members: Double (Convenor), Allison, Børge, Brownell, de Almeida, De la Mare, Diallo, Donovan, Ferris, Fonseca, Gallego, Haug, Hielshcher, Iñiguez, Jaramillo-Legorreta, Kitakado, Lauriano, Lundquist, Palka, Reeves, S., Ridoux, Ritter, Santos, Smith, S., Stachowich, Vikingsson, Witting, Zharikov.

1. INTRODUCTORY ITEMS

The Ad hoc Intersessional Working Group on IWC Global Data Repositories and National Reports met in person on 4 May 2018 during the SC67b meeting. Double thanked members for attending the meeting and reminded the Working Group of its Terms of Reference (see Item 2).

2. TERMS OF REFERENCE

This ad hoc working group continued intersessional work undertaken to conduct an assessment of the utility and support requirements of all IWC databases relevant to the work of the Scientific Committee. Specifically, its Terms of Reference were to:

- (1) Collate summary information on all IWC databases relevant to the SC;
- (2) Summarise data use by the SC for each database;
- (3) Provide recommendations to improve integration, content and workflows;
- (4) Review technical progress on existing databases or databases under development;
- (5) Consider needs and specifications for potential new databases, including developing simple technical guidelines on new proposals;
- (6) Produce a budget and workplan for the implementation and development of existing and new databases.

3. PROGRESS WITH EXISTING IWC DATABASES

3.1 Review of existing IWC databases

The Working Group reviewed a summary of the IWC's 22 existing databases and web applications relevant to the work of the Committee and the Blue Whale song library was added (Tables 1 and 2).

3.2 IWC Databases: use, development, data entry and priorities

The Working Group reviewed existing IWC databases requiring further development or data entry. The Working Group prioritised further developments to several existing databases (presented in **bold** text in Table 3).

The Working Group **agreed** that the development of the Individual Catch and the Catch Summary databases was now the highest priority. This decision was based on the need for greater accessibility and that these data are frequently requested from the Secretariat (Table 3).

4. IWC NATIONAL PROGRESS REPORTS

4.1 Implementation of last years recommended changes to the Progress Report schema

Miller reported that nearly all the recommendations identified by the Committee in 2017 (IWC, 2018) had now been implemented. However he requested further guidance from the Working Group on the appropriate level of aggregation for some records (e.g. strandings) to simplify and accelerate data entry without losing valuable resolution. The Working Group **agreed** to support Miller intersessionally to progress this task.

4.2 Feedback on data entry from National coordinators, other contributors and SC members

Miller informed the Working Group that data entry this year was hampered due to excessive load on the IWC servers. This issue was generic to the whole IWC portal and has already been addressed and resolved by the IWC Secretariat.

Several members requested that all fields should require positive data entry rather than default values. They noted that many entries were recorded against the first species on the taxonomic list even though this is a rarely observed species. The Working Group **agreed** to remove default values to improve confidence in the data reported.

Miller explained that personal details collected through National Progress Reports cannot be disseminated without permission. The Working Group **agreed** it was adequate to only report the name and contact details of the institution providing the data. However, a function will be developed so individuals who submit data can to have their names associated with their National Report.

4.3 Feedback on data structure from National coordinators, other contributors and SC members

The number of Progress Reports submitted to SC/67b (19) was an improvement on SC/67a (12) but nevertheless represents a small proportion of IWC member nations.

The PDF summaries of Progress Reports presented to the meeting (SC/67a/ProgRep01-19) included records of reported bycatch and ship strikes. Some members questioned the value of these reports given the small proportion of member nations reporting and uncertainties about the reliability of the reports in some cases. It was noted that reports of bycatch covered the range of situations from countries that had well developed reporting systems to countries where any bycatch was unlikely to be reported. Thus for all countries, reports will represent minimum estimates and in most cases cannot be used for estimating total numbers. The Progress Reports do not attempt to provide estimates of total bycatch from observer programmes which require additional data such as fishing effort and careful analysis, even when all reported bycatch is included.

The Working Group **agreed** that the data collected in these reports are not intended to replace in-depth studies. However, the Working Group also **agreed** the reports have value because much of these data would not otherwise be available and the reporting process can assist in supporting national compilation of cetacean data.

To address in part several of the issues and challenges described above the Working Group **agreed** to:

1. Develop a strategy with the SC Chair and Secretariat to raise awareness of National Progress Reports and promote reporting by member nations.
2. Produce a short summary explaining the utility of National Progress Reports and suggest including this text in the circular to member nations calling for data submission.
3. Request the Secretariat to issue the first call for data submission in February and repeat the call a few weeks prior to the start of the SC annual meeting.
4. Develop text acknowledging the likely limitations of the reported data. Subsequently this text will be included in all reports and data downloads.

4.4 Future work to progress previous development recommendations

Double presented a simple example of National Progress Report data displayed in PDF format generated using the R markdown (Rstudio). This approach is code-based and can rapidly and repeatedly generate data-rich PDF reports using data files produced from the IWC portal. Importantly the code can be adapted easily by member nations if they wish to provide additional information or bespoke figures and tables.

The Working Group welcomed this information and encouraged further exploration of this approach to produce PDF-formatted National Progress Reports submitted to SC meetings. The availability of the information in this format can help with communicating the depth of available data, cross checking and identifying errors or missing data during the annual meeting.

5. POTENTIAL FUTURE IWC DATABASES

No proposals were received for new databases or major alterations to existing databases.

Reference

International Whaling Commission. 2018. Report of the Scientific Committee. Annex S. Report of the *Ad hoc* Working Group on Photo-Identification. *J. Cetacean Res. Manage. (Suppl.)* 19:405-12.

Table 1. Databases/repositories held by the IWC Secretariat.

Database	Status	Data Owner/Manager	Database Technologies	Application Technologies	Display Technologies	Storage Location	Technical Lead	Technical Support Required	Financial Support Required
Progress Reports (~6780 records)	Live	Scientific Committee/Greg Donovan	MySQL	PHP	HTML, JavaScript	IWC Web Servers	Brendan Miller		
Ship Strikes (>1000 reports, >190 cases)	Live	Ship strike Data Review Group	MySQL	PHP	HTML, JavaScript	IWC Web Servers	Brendan Miller	Creation of bulk uploader	
Research Requests	Live	Greg Donovan	MySQL	PHP	HTML, JavaScript	IWC Web Servers	Brendan Miller		
IWC photographic cruise database and archive (over 110,000 images)	Live	Greg Donovan	Lightroom			IWC Storage	Greg Donovan	Jess Taylor (contract)	Funding available now but may need after 2018
IWC biopsy sampling database	Under development	Greg Donovan	At present, Access			IWC Storage	Greg Donovan	Jess Taylor (contract)	Funding available now but may need after 2018
SH blue whale catalogue	Awaiting deployment		PostgreSQL	Python	HTML, JavaScript	IWC Web Servers (awaiting deployment)		Server setup	
WNP gray whale catalogue	Under consideration	Greg Donovan	TBD	TBD	TBD	TBD	Greg Donovan	Will be needed	Will be funded by a voluntary contribution
Document Web Archive	Live		MySQL	PHP	HTML JavaScript	IWC Web Servers	Brendan Miller		
Bibliographic reference database (about 49,000 references)	Live	Greg Donovan	EndNote			IWC storage	Greg Donovan		Minimal
Individual Catch Database (~2.3 million records)	Live	Cherry Allison	Text/Excel			IWC Storage	Cherry Allison	Conversion to online database	
Catch Summary Database (~3 million catches)	Live	Cherry Allison	Excel			IWC Storage	Cherry Allison	Conversion to online database	
Discovery Marking Data	Live	Cherry Allison	Text/Excel			IWC Storage	Cherry Allison		
Sightings Data (IWC-DESS)	Live	Cherry Allison	Paradox			IWC Storage	Cherry Allison		

Database	Status	Data Owner/Manager	Database Technologies	Application Technologies	Display Technologies	Storage Location	Technical Lead	Technical Support Required	Financial Support Required
New integrated sightings, photo-ID,	Under development, SC Steering Group	Greg Donovan	TBD	TBD	TBD	TBD	TBD	Yes	Yes but money for development available in Cruise budget
Small Cetaceans Catches (Bycatch & Direct)	Retired	Cherry Allison	MS Word			IWC Storage	Cherry Allison		
Compendium of Whale Watching Regulations	Outdated		Text					New data manager	
IWC Database of Recommendations	In development	Sarah Smith/Sarah Ferriss				IWC Web Servers	Brendan Miller		
Entanglement Response	In planning	David Mattila				IWC Web Servers	Brendan Miller		
Blue Whale Song Library	Awaiting development	Ana Širović				IWC Web Servers	Brendan Miller	Development	

Table 2. Web applications which include databases held by IWC Secretariat

Database	Status	Data Owner/Manager	Database Technologies	Application Technologies	Display Technologies	Storage Location	Technical Lead	Technical Support Required	Financial Support Required
Cetacean Diseases of Concern Intranet	In Development	Claire Simeone	MySQL	PHP	HTML, JavaScript	IWC Web Servers	Brendan Miller	Content completion	
WW Handbook	In Development	Sarah Ferriss	MySQL	PHP	HTML, JavaScript	IWC Web Servers	Brendan Miller	Content completion Database development Application Development	
JCRM Submission Site	Live	Jessica Peers	MySQL	PHP	HTML, JavaScript	IWC Web Servers	Brendan Miller		

Table 3
Database usage by the Scientific Committee, any database development and data entry required, and the priority to complete that work.

Database	Status	How it is used by Scientific Committee	Work Required	Priority to Complete Work
Progress Reports	Live	Time series data on bycatch and entanglements and other anthropogenic impacts on large and small cetaceans	Review and implement appropriate level of aggregation for individual records (e.g. strandings) Review for and structure of PDF reports for SC	High Approx. 1 week of developer time
Ship Strikes	Live	Time series data of ship strikes on large whales	Migration script or brute force data entry of 100+ records from other repository	In progress by Secretariat/Head of Science
Research Requests	Live	This is the portal to request data or samples held by the IWC	None required	N/A
IWC photographic cruise database and archive	Live	Keyworded data archive linked to cruise records. E.g. photo-ID, biopsy, scarring, health status etc.	Updates only	In progress by Secretariat/Head of Science
IWC biopsy sampling database	Under development	Facilitate stock structure analyses	Updates only	In progress by Secretariat/Head of Science
SH blue whale catalogue	Awaiting deployment	MR abundance estimation for population assessments, population structure	Server setup and deployment – SC budget allocated	High – approximately 2 weeks of developer time required
WNP gray whale catalogue	Under consideration	MR abundance estimation for population assessments, population structure	Possible migration to new system	Job yet to be specified
Document Web Archive	Live	For everything	Updates only	In progress by Secretariat/Head of Science
Bibliographic reference database	Live	SC reports, communication	Updates only	In progress by Secretariat/Head of Science
Individual Catch Database	Live	Population assessments, catch limits, distribution and movement	Online portal. Document idiosyncrasies within data. Creation of a database of records for which there are no individual data and which conforms to all available summary data on the area, sex and month of these catches, to enable easy creation of catch series. Requires full documentation.	Highest
Catch Summary Database	Live	Population assessments, catch limits, distribution and movement	Online portal.	Highest
Discovery Marking Data	Live	Populations structure and movement, catch allocation	None required	N/A

Database	Status	How it is used by Scientific Committee	Work Required	Priority to Complete Work
Sightings Data (IWC-DESS)	Retired	Population assessments, abundance estimation	Data will be integrated into the new integrated sightings, photo-ID, database	N/A
New integrated sightings, photo-ID,	Under development, SC Steering Group	Population assessments, abundance estimation	Updates only	In progress by Secretariat/Head of Science/SC. Funding available.
Small Cetaceans Catches (Bycatch & Direct)	Retired	Not used currently	None	N/A
Compendium of Whale Watching Regulations	Outdated	Global comparison of whale-watching regulations, assessment of best practice	None – not a database	N/A
IWC Database of Recommendations	Near completion	Communication with Commission, assessment of progress and response	Transfer from developer to IWC servers	High
Entanglement Response	Postponed	Develop best practice, information sharing and capacity development	Develop database; funding already available	Subject to decision by forthcoming meeting of the Global Entanglement Response Network
Cetacean Diseases of Concern Intranet	In Development		Finalise website	Part of document archive; in progress by Secretariat/Head of Science
WW Handbook	In Development		Finalise website, develop database	Part of document archive; in progress by Secretariat/Head of Science
JCRM Submission Site	Live	JCRM Journal management system (submission to publication)	Customise some features	Medium; current system functional
Blue Whale Song Library	Awaiting Development		Develop database – SC budget allocated	High