Report of the IWC Intersessional Email Working Group On Protocols and Procedures of the Southern Hemisphere Blue Whale Catalogue

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INTERNATIONAL
WHALING COMMISSION

Report of the IWC Intersessional Email Correspondence Group
on Protocols and Procedures of the Southern Hemisphere Blue Whale Catalogue

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The Southern Hemisphere Blue Whale Catalogue (SHBWC) is an international collaborative effort to facilitate cross-regional comparison of blue whale photo-identification catalogues.

Currently, major contributions of photographs have been received and comparisons made among different regions in the Southern Hemisphere. The results of these comparisons will improve understanding of basic questions relating to blue whale populations, such as defining population boundaries, migratory routes and model abundance estimates. To date, they have provided interesting results on long-term resightings.

However, during the implementation process, some challenges and new requirements were identified and need further attention. The IWC Scientific Committee established an Intersessional Email Correspondence Group in 2014 to further develop and reinforce SHBWC protocols and ensure clear communication of the terms of reference (ToR) of the catalogue to current, pending and future contributors.

Following is a summary of discussions and proposals of the email group:

1) Uploading of catalogues:

Since its conception, the SHBWC was developed to rely on voluntary contributors to upload their catalogues into the software. However, although a simple task, many groups do not have time to contribute on a voluntary basis.

There are two kinds of contributors that submit data to the SHBWC: one strongly interested in the outcome of matching between regions that has the resources to offer personnel and time (in-kind) toward uploading and matching; and the other, contributing photos with no further commitment.

Possible solution: One option could be to ask contributors for their photographs and database and appoint one SHBWC representative to do the uploading and act as quality control. The other is to continue to rely on voluntary contributions from catalogue holders.

2) Internal consolidation of catalogues:

a) *Duplicated individuals and internal matching of catalogues*: A group holding one of the largest catalogues had no time (or resources) to upload photographs but was interested in contributing their photographs from several years to the SHBWC. Subsequently, they contributed all their photographs but without an associated database to WhaleID. The only available information included the date and some references to WhaleID. In the process of building a dataset for these photographs, not all individuals could be associated from left and right side. When doing the internal consolidation of the catalogue, several duplicated photos of individuals were found. A second group committed internal resources to uploading their catalogue to the SHBWC with all associated information, however during the process of regional comparisons with other catalogues, at least two duplicated individuals in their catalogue were found. No internal review of their catalogue had been conducted, so further matching will likely find more duplicated photos of animals. A third group expressing interest more than four years ago, has still not been able to find the resources (time and personnel) as its internal catalogue is not matched and the group would like this done before submitting it to SHBWC. Currently, neither the internal matching of catalogues nor the uploading of photos to SHBWC is covered under IWC budget.

Possible solutions: The following possible solutions have been drawn, assuming that the groups owning the catalogues will continue to be resource and budget limited.
  - Having a single person upload photos to the SHBWC will not be of use if there is no associated database. A way forward may be to develop a set of guidelines or protocols (for any future/pending contributors) that they submit only the best left and right photos for each whaleID with associated data (see Annex).

- Most photo-ID catalogues inter-match their own photos since this is integral to the creation of a usable database. If funding is needed for a research group's inter-matching, perhaps SHBWC could facilitate this by recommending the research group to IWC for funding. However, this may not be fair for all the other groups.
- Even though catalogues can be inter-matched by each research group, after the given examples, it seems there is a need to double check uploaded catalogues. It is uncertain the amount of time, resources or level of experience designated matchers consolidating their own catalogues have and therefore there can be double counted whales. This would require more time for matching, but it may be prudent to double-check the catalogues when making within region comparisons to reduce the possibility of duplicate individuals in each group's sub-catalogue. This should be done only one time and then again when new photographs are contributed. It would also allow SHBWC to receive non-consolidated catalogues, as long as they have an associated database. However, this may also be less of a priority time-wise than comparing an uploaded catalogue to a 2nd area.

b) *Different geographic areas*: One group uploaded their photos from two different regions into one region without notification. The catalogue has the option that one group can contribute photos to different regions. When joining the catalogue, they are told of this possibility to avoid errors.

Solution found:
- If contributors have photographs from multiple geographic areas, they should clearly state this. Also, if one SHBWC person is appointed to upload photos, they should submit the photos organized by geographic regions. A section has been added to the guidelines and protocols (see Annex).
- The software has already been modified in order to allow for contributors to manually edit the label of the region in the whaleID record. If any similar event happens in the future, changes will be applied directly and will avoid deleting data and uploading it again.

3) Matching process

To date, multiple matchers have conducted the matching process. Considering that the budget is limited, when split among three areas, or several groups, less amount of funds are available per matcher and the matching process relies to a great extent on volunteer work; this has caused some delays. It is necessary that the people doing the matching have experience in photoID, to avoid duplication of individual.

Solution found:
- The best way to proceed could be to appoint one or more experienced matchers to be responsible for all comparisons. Multiple matchers, as long as experienced, have the advantage of the work being conducted by someone if others have commitments.
- More oversight is needed for the matching process. An agreement between research groups, matchers, and the appropriate regional SHBWC coordinator could be useful to determine e.g. what photos will be matched, the time frame, and scheduled check-in to assess progress (see Annex).

4) Opportunistic contributors

Another consideration is that there are "opportunistic contributors" who share their few blue whale photoID but do not conduct systematic fieldwork on the species. Internal matching within their photos will have to be conducted by a SHBWC experienced matcher.

Currently there are three types of users (in addition to admin user). The possibility of creating a new user category "opportunistic contributors" or "general public" was considered. This new user category could allow some basic access to the catalogue to see their pictures and/or search through all SHBWC catalogue without the possibility of doing any modification or seeing any related data other than the WhaleID.

Solution found:
- For opportunistic contributors, there is no need to create a dedicated user ID to access the catalogue and/or sign the sharing agreement and ToR. It may be sufficient to create an "opportunistic" catalogue for each region and associate the contributor's name in the WhaleID record (see Annex).

- Since its conception the SHBWC is a research catalogue, not a public outreach catalogue. Although a new user category would facilitate volunteer work from people around the world to search the catalogue and suggest a possible match, most opportunistic contributors are happy to just contribute and know that their photos are going to be used for research. Perhaps a public catalogue could be developed in the future, but first the SHBWC pressing issues needs to be addressed.

5) Role of regional coordinators

The need to have a regional coordinator was decided by the *initial contributors* when the SHBWC was initiated in 2008. The only reference is "*Given the large number of researchers involved, this will be facilitated through one coordinator within each region*"[1]. The initial appointment of the regional coordinator was decided among the contributors of the same region and since then has not been modified.

Solution found: To avoid future confusion over the role of coordinators, a section has been added to the guidelines and protocols (see Annex).

6) Software developments and IWC data requirements

Over the years, the software has been continually modified, in order to improve its interface; attend the needs encountered when it has been used; and include the data requirements requested by IWC.

Mandatory data requested to upload information in the software database includes: group owner, photographs (left, right and/or fluke) and region. Voluntary data include: date of sighting, photo quality, pigmentation, color and skin lesions. Additional comments can be added to a WhaleID. In 2014 there was some concerns regarding, which information should be mandatory and which was voluntary.

The limited access to data related to photoID is an agreement reached by *initial contributors*. When the IWC supported the SHBWC, it was clear that only photo-ID would be available to compare with other catalogues as well as the contributor's contact and the associated region where the photos were taken[2]. This was further reinforced when ToR and Sharing Agreement were adopted.

Possible solutions:
- Current software modifications will allow including information on location of the whale, sex and availability of biopsy on a voluntary basis.
- It has been suggested to leave further data inclusion protocol as it is (voluntary). Otherwise the SHBWC would have to get all the contributors to sign new ToR and Data Sharing agreements. The current system is a good one: if a user finds a match s/he must contact SHBWC to facilitate collaboration for access to the corresponding match data. This system is appealing to research groups that are wary of collaborative catalogues because it avoids abuse by users with selfish interests.

The following Annex is a draft proposal on protocols and procedures of the Southern Hemisphere Blue Whale Catalogue that should be considered, amended and adopted by IWC Scientific Committee. It may be advisable to include it on the SHBWC website to ensure clear communication of the terms of reference of the catalogue to current, pending and future contributors.

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[1] SC Report 2008, Annex H, Appendix 6
[2] *SECURITY AND DATABASE ACCESS: Authorised researchers will be allocated a login and password to search a web-based database for matches. **The web-based database will consist of all photos, but will only include the contact information of the "owner" of the photo, and region of location. It will then be up to the researcher to contact the "owners" to decide on exchange of information and further collaboration, beyond making this information available for reporting to IWC.** Due consideration will be given to incorporating the IWC data availability agreement into the protocol to enable maximum benefit to the work of the IWC Scientific Committee whilst protecting the rights of the data holder.* (Extract SC Report 2008, Annex H, Appendix 6)

Annex
DRAFT - Protocols and procedures of the Southern Hemisphere Blue Whale Catalogue

The Southern Hemisphere Blue Whale Catalogue (SHBWC) is an international collaborative effort to improve knowledge on southern hemisphere blue whales by comparing photo identification catalogues among different researchers and institutions.

Specially designed software facilitates the sharing process of simultaneous catalogues of individual blue whales. It allows to host several blue whale catalogues and to make inter-regional comparisons.

Currently, major contributions of photographs have been received and comparisons made among different regions in the Southern Hemisphere. The results of these comparisons will improve understanding of basic questions relating to blue whale populations, such as defining population boundaries, migratory routes and model abundance estimates. To date, they have provided interesting results on long-term resightings.

Any researcher or institution working on photo identification of blue whales in the Southern Hemisphere is welcome to contribute to the SHBWC. Contributions of opportunistic photo-identifications are also welcome.

Contributors

Blue Whale Researchers/Institutions:

Researchers that works with blue whales in southern Hemisphere and are interested in contributing their photo-identification catalogues to the SHBWC, they should contact the administrator at shbwc@bluewhalecatalogue.org to inquire about the process.

A data sharing agreement and terms of references will be forwarded to interested contributors. Once a signed copy of the data sharing agreement and terms of references is received, basic information regarding contact details and geographic research area will be requested by the catalogue curator (Centro de Conservacion Cetacea). Contributor's contact details will also be forwarded to the regional coordinator of the contributor's geographic research area.

Contributors will first receive a basic user ID and password (researcher user) that will allow them to upload and manage their own photo-identification catalogue. Upgraded access will only be granted to those who contribute photos, therefore after uploading all their catalogues contributors must notify the catalogue curator. An upgraded user ID and password (chief researcher user) will be granted and will allow contributors access to all whales included in the SHBWC, to be able to compare photographs and make matching suggestions between different catalogues.

When a match is found, catalogue owners will be contacted and informed of the finding by email. The information will be used for publication after approval of use is obtained, except in the context of the International Whaling Commission (IWC), when the information may be able to be used in unpublished papers that contribute to the Committee work (IWC Data availability agreement).

Opportunistic contributors

People interested in contributing their blue whale photographs to this international collaborative effort are welcome to submit their photographs to shbwc@bluewhalecatalogue.org, along with information on date and location of the whales.

Each region has "opportunistic" catalogue in Southern Hemisphere. Contributed opportunistic photographs will be uploaded to these catalogues and the contributor's name will be associated to the WhaleID record. If any match is found, the contributor will be informed by email of the finding and will be acknowledge in any future publication that refers to the match.

Uploading Catalogues

Contributors to the catalogue that have been granted a user ID will be able to directly upload their photos to their catalogues. Alternatively, if they do not have time to do so, they may wish to request the SHBWC curator to upload their catalogues on their behalf.

Only the best left, right and fluke photos for each whaleID with its associated data should be uploaded. Additional photographs that will complement the whaleID are also welcome.

If contributors have photographs from multiple geographic areas (for example Antartica and Eastern South Pacific), they should clearly state it at the moment their user ID is created, to be able to upload photographs on different areas. In case they have requested SHBWC curator to upload their catalogues, they should submit the photos and associated data organized by geographic regions.

Matching Process

One or more experienced matchers are appointed to be responsible for all comparisons. Multiple matchers, as long as experienced, have the advantage of the work being conducted by someone if others have commitments.

An agreement between research groups, matchers, and the appropriate regional SHBWC coordinator is developed in order to determine e.g. what photos will be matched, time frame, and scheduled check-in to assess progress.

Regional Coordinators

The work of all regional coordinators is in-kind. The role of regional coordinators is:
1) to persuade blue whale groups to contribute to the SHBWC,
2) to update contributors with any news, reports, finding, advances, modifications, etc. and any other development of the SHBWC,
3) to encourage contributors to upload their catalogues,
4) to appoint, in consultation with other contributors from the region, one or more persons to conduct the matching process and keep track of comparisons, and
5) to participate in working groups, conferences, etc. in order to facilitate any development needed to improve the work of the SHBWC and propose solutions to any challenge faced. Usually the regional coordinator engages in discussions with all the contributors from the region in order to reach any agreement, receive comments, etc.

At least once a year, the regional coordinators from different areas engage in email discussions in order to submit progress report to IWC, communicate the advances on the different regions and propose solutions to any problem encounter, among others.