SC/68B/RP/33

SH - RP03B - Southern Hemisphere Blue Whale Catalogue 2021 - matching of new photo-IDs (right hand side only) from Centro Ballena Azul and Universidad Austral de Chile

IWC

INTERNATIONAL WHALING COMMISSION

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PROJECT PROPOSAL REQUEST

1. PROPOSAL TITLE

Please provide the title of the project or the name of the workshop/meeting.

Southern Hemisphere Blue Whale Catalogue 2021 – matching of new photo-IDs (right hand side only) from Centro Ballena Azul and Universidad Austral de Chile

2. BRIEF OVERVIEW OF THE PROPOSAL AND ITS EXPECTED OUTCOME

Give a very brief overview (max 150 words) on your proposal and its expected outcomes. Use bullet point to list outcomes. Be succinct and clear as this may be used to summarise your project for the report.

The Southern Hemisphere Blue Whale Catalogue (SHBWC) is an international collaborative effort to facilitate cross-regional comparison of blue whale photo-identifications catalogues. To date more than 1,700 individual blue whales have been contributed to the SHBWC from researchers groups working on areas off Antarctica, Chile, Peru, Ecuador-Galapagos, Eastern Tropical Pacific, Australia, Timor Leste, New Zealand, Indonesia, Sri Lanka and Madagascar.

The Scientific Committee is currently working on Comprehensive Assessment of non-Antarctic Southern Hemisphere blue whales, with emphasis on Australia and southeast Pacific blue whales. The SHBWC is assisting in matching catalogues in order to deliver regional photo-ID based mark recapture assessments of blue whale abundance. Recently, the Committee is also considering the suitability of Sri Lanka blue whale datasets for potential mark recapture analysis as a high priority.

The SHBWC has become the largest repository of Southern Hemisphere blue whale photo-identifications. This is a long-term initiative with more than 10 years of development and the platform need to be upgraded to newer versions of software language.

The 2021 project will focus on 1) match new photo-IDs received; 2) consolidate Sri Lanka catalogues for future assessments; and 3) photo quality coding of new entries from New Zealand and Chile 3) upgrade the SHBWC software version (see RP-03). In 2020, the Centro Ballena Azul and Universidad Austral de Chile proposed to submit 12 years of photo-ID images from the blue whale catalogue (developed between 2003-2015) to SHBWC. This is anticipated to represent roughly 200 left and 200 right side images of blue whales. The current proposal is for additional intersessional matching of these newly submitted images to the SHBWC. Because of the size of the additional catalogue, we propose to do this in two stages, first matching right sides (this intersessional year) and matching left sides during 2021/22.

3. RELEVANT IWC SCIENTIFIC COMMITTEE GROUPS OR SUB-GROUPS

List all the IWC Scientific Committee groups or sub-groups that the outcomes of this work would be relevant to and provide a brief (1-2 lines) explanation of how it would contribute more widely to their ongoing programmes of work. Where possible, do not simply list only the sub-committee within which or for which the project proposal was generated.

- **Southern Hemisphere Sub-Committee**: Currently conducting Southern Hemisphere blue whale assessments and the SHBWC provide useful blue whale mark-recapture datasets to assist abundance estimate models.
- **Ad hoc Working Group on Guidelines for Photo-identification Databases**: the SHBWC is currently one of the major photoID catalogues supported by IWC and therefore its work and database management has been a central part to the work of this ad-hoc working group.

4. TYPE OF PROJECT (PLEASE TICK)

Research project	X
Modelling	
Workshop/meeting	
Database creation/maintenance	X
Compilation work/editing *(e.g. on whalewatching regulations, SOCER, etc.)*	
Other *(please specify below)*	

5. BRIEF DESCRIPTION OF THE PROPOSAL AND ITS CONNECTION WITH SCIENTIFIC COMMITTEE RECOMMENDATIONS (DO NOT EXCEED 1500 WORDS)

(A) BACKGROUND, RATIONALE, AND RELEVANCE TO THE PRIORITIES IDENTIFIED BY THE IWC SCIENTIFIC COMMITTEE:

Provide a clear explanation of the background and rationale for the proposal and its relevance to Scientific Committee identified priorities. Clearly identify the most relevant and recent Scientific Committee recommendations.

Collaboration among blue whale researchers and sharing of photo-identification catalogues is critical to better understand population boundaries, conectivity, migratory movements and abundance estimates among others.

The International Whaling Commission has been supporting the project "Southern Hemisphere Blue Whale Catalogue (SHBWC)" as an international collaborative effort to facilitate cross-regional comparisons of individual blue whale photo-identification catalogues and contribute to Southern Hemisphere blue whales assessments (IWC, 2009).

The SHBWC uses specially designed online software that allows for simultaneous upload and comparisons between catalogues from regions off Antarctica, Chile, Peru, Ecuador-Galapagos, Eastern Tropical Pacific, Australia, Timor Leste, New Zealand, Indonesia, Sri Lanka and Madagascar.

The IWC Scientific Committee is currently conducting blue whale assessments on non-Antarctic blue whales and the work of the SHBWC has focused over the past years in comparing photo-IDs from these regions in order to provide useful data to model abundance estimates.

Matching within Australia and southeast Pacific catalogues continue to be a high priority and the Sri Lanka photo-ID catalogue are starting to be considered for assessment purpose. Major comparisons off Australia, New Zealand, Sri Lanka have been completed with data received prior to 2018. Currently major comparisons within ETP and South America are underway. Since then at least 160 new photo-IDs entries have been received specifically for New Zealand and Chile. In addition, valuable data from Sri Lanka has been contributed but still require processing before uploading to the SHBWC is possible.

The Southeast Pacific blue whale catalogue currently has 619 left side images (559 from Chile) and 625 right side images (572 from Chile). Intersessional work described in RP03 will increase the catalogue size to 629 left and 642 right sides from Chile. This proposal is to match an additional ~200 right side identifications within this catalogue, and to quality code these additional photographs.

(B) SPECIFIC OBJECTIVES OR TOR AND DELIVERABLES/OUTCOMES:

Provide the specific objectives and the expected deliverables. In the case of workshops and meetings, include the Terms of Reference (ToR) and expected outcomes.

- Matching new photo-IDs expected for Chile (+400 IDs from 2003-2015) with the Chilean catalogues, to be included on the ongoing matching process. This is anticipated to take 1,017 hours in total.

(C) METHODOLOGICAL APPROACH/WORK PLAN/ADMINISTRATIVE DETAILS

Specify the methods to be applied (novel methods require more explanation than standard ones) and the broad workplan – the detailed timetable appears under Item 5 below.

In the case of workshops and meetings, include the broad work plan including any pre-requisites for the workshop/meeting to take place (apart from funding, e.g. completed analyses, papers etc.) and administrative details (e.g. location, dates, number of participants).

Uploading of photographs:

Contributors to the catalogue that have been granted a user ID are responsible to directly upload their photos to their catalogues. 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. Data from BF will be uploaded directly by the Curator of the catalogue after it has been reconciled. Eutropia and CCC have committed to upload their photographs during 2020 so they can be available for the ongoing matching process with regional catalogues. Once Centro Ballena Azul / Universidad Austral de Chile catalogue has been uploaded, this will be matched to the catalogue.

Matching process:
Individual blue whales are identifiable from unique patterns of mottling on both sides of the body near the dorsal fin (Sears *et al*., 1990) and in some cases, permanent scars can be used to identify or confirm individuals.

At least two 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. It takes 2.4 minutes to match 10 images. For right hand sides, there are 200 new images to match against 642 in the catalogue: 200 x 642 x 0.24 minutes = 30816 minutes (513.6 hours).

Photo quality-coding:
The photo-identification expert (or small team of experts, trained together) will code all of the newly contributed +400 photographs of blue whales from Chile. A reference guide to photo quality based on lighting, focus, and angle to the whale (Olson *et al.* 2018) will be used. Coding identification photos for quality is a standard methodological approach in the use of photo-identification data prior to analysis (e.g. Calambokidis *et al*., 2008; Friday *et al.,* 2000; Mizroch and Harkness, 2003). Photo quality codes will be entered directly into the SHBWC software which will allow for the extraction of the highest quality data for use in analysis.

(D) SUGGESTIONS FOR OUTREACH

Please, note that successful proponents will be requested to produce ad hoc material that will be used by the IWC Secretariat for dissemination and outreach.

The results will be reported within the annual progress report on the SHBWC as well as papers reporting results from matching process, presented to the Scientific Committee of the IWC.

Peer reviewed publications and press releases may also be considered when matches are found.

6. TIMETABLE FOR ACTIVITIES AND OUTPUTS

Specify the timetable for project activities and expected out puts separately. For projects with multiple distinct elements please indicate interim goals and timeframes. Add as many rows as you need to the tables below. If publications are an expected output please note whether you will submit the manuscript to the IWC's Journal of Cetacean Research and Management.

Activity to be undertaken	Key person(s)	Start(mm/yy)	Finish (mm/yy)
Regional matching process with new contributions from Chile (Centro Ballena Azul and Universidad Austral de Chile)	Barbara Galletti & Paula Olson	10/20	04/21
Photo-quality coding of new entries from Chile	Barbara Galletti & Paula Olson	01/21	04/21
SHBWC progress report 2021	Barbara Galletti, Paula Olson & Chandra Salgado-Kent	05/21	05/21

Expected outputs	Completion date (mm/yy)
Regional matching of new photo-IDs within Chile	04/21
Preliminary report on progress 2021	05/21

7. RESEARCHERS' (OR STEERING GROUP) NAME(S) AND AFFILIATION

Please, also specify if the project team has any direct connection (e.g. same research group or institute, collaborator on common project) with people involved or likely to be involved in taking the funding decision (e.g. IWC SC heads of delegations, SC convenors, etc.). Add as many rows as you need to the table below.

Name	Affiliation	Connection with decision
Bárbara Galletti	Centro de Conservación Cetacea	SHBWC curator and regional coordinator
Paula Olson	NOAA	Regional coordinator
Chandra Salgado-Kent	Ocean Blueprints	Regional coordinator

8. TOTAL BUDGET

Breakdown into: (1) salaries/wages (include name/position of each individual and breakdown of time and duties i; (2) travel/subsistence expenses (breakdown by person and justification) unless for IPs for workshops where a total estimate based on an average for the total number of IPs is acceptable; (3) services (e.g. aircraft/vessel time, consultancy fees, ARGOS fees, etc.; (4) reusable capital equipment (e.g. reusable equipment such as a hydrophone, cameras, etc. Note that this equipment will have to be registered at the IWC Secretariat and will remain property of the IWC at the end of the project), (5) expendable capital equipment (e.g. consumables, tags, stationery), (6) shipping costs, (7) insurance costs, (8) in kind co-funding (specify whether other funding is available for personnel/name, equipment, venues, etc.). Note that "Overheads" are not admissible. Add as many rows as you need to the table below.

Type	Detailed description	Cost in GB pounds 2021
(1) Salaries (by person)	Matching of new photo-IDs of Chile (200 right side images) 514 hours at £20 GBP/hour	10,028
	Photo-quality coding (right side only) 200 images/20 hours of time at £20 GBP/hour	400
(2) Travel/subsistence (by person or est. total for IPs)		
(3) Services (by item)		
(4) Reusable equipment		
(5) Consumables		
(6) Shipping (by Item)		
(7) Insurance (by item)		
(8) Co-funding		
(9) Other		
Total		**10,428**

9. DATA ARCHIVING/SHARING

Please state your plans for data archiving and sharing. Note that data collected primarily under IWC grants are considered publicly available after an agreed period of time for publication of papers, usually about two years. The work of the IWC depends on the voluntary contribution of data to the various databases and catalogues IWC supports. Please consult the Secretariat (secretariat@iwc.int).

All data is uploaded to the SHBWC, a repository catalogue that is available to all contributors and can also be used for IWC purposes. When registering to the SHBWC, contributors signed the data sharing agreement that includes the IWC data sharing agreement. Currently the SHBWC is being migrated to an IWC server.

10. PERMITS (PLEASE TICK)

Do you have the necessary permits to carry out the field work and have animal welfare considerations been appropriately considered?	Not applicable
Do you have the appropriate permits (e.g. CITES) for the import/export of any samples?	Not applicable

If 'Yes' please provide further details and enclose copies where appropriate:

Appendix 2 – DRAFT SCORING SHEET

If a project presents multiple primary objectives which are achieved using sub-projects, a sheet should be used to evaluate each single sub-project. Note that not all criteria are equally applicable depending on the nature of the project (e.g. field work versus workshops).

IWC SCIENTIFIC COMMITTEE PROPOSALS FOR FUNDING - REVIEW CRITERIA - TEST				
TITLE OF THE PROJECT/sub-projects:				
PRINCIPAL INVESTIGATOR:				
Key criteria		**Explanation of scoring**	**Score**	**Supporting Remarks**
Relevance to Scientific Committee priorities				
1	How well aligned are the scientific outcomes of the project/activity with the current SC priority areas?	1 - Not aligned/poorly aligned (e.g. too vague or generic reference to general SC priorities) 2 - Reasonably aligned (e.g. some aspects may be vague or links are not clear) 3 - Well aligned (e.g. outcomes clearly deliver in the most part on priority areas, may also address longer term or potential future issues). 4 – Closely aligned (e.g. of interest for multiple sub-groups or delivers on specific SC high priority topics/recommendations in the immediate or short term).		
2	To what extent will the outcomes of the project/activity contribute to improvements in the conservation and management of cetaceans?	1 -Not at all 2 - Poorly 3 - Reasonably or over the longer term 4 - Well or over the medium term 5 - Excellently or to almost immediate effect		
Note: if in each of the two above key criteria under this section the project does not score singularly at least 2 points, do not proceed in further evaluation. Of course, proposals within a sub-group would only be developed if in their estimation scores were of 4 or above.				
Approach and methodology				
3	What degree of scientific merit/value is there in carrying out the work?	1 - Not demonstrated or of low scientific value 2 - Useful/basic scientific value 3 - Very good scientific value 4 - Excellent/innovative scientific value		
4	Is the proposed methodology scientifically sound and feasible in terms of field and analytical methods?	1 - Feasibility unrealistic & poor methodology or not properly addressed 2 - Feasibility & methodology acceptable but would benefit from some substantial amendments		

		3 - Feasibility & methodology good, some small changes beneficial 4 - Feasibility & methodology excellent or a highly promising innovative approach to an important question facing the Committee		
5	What is the likelihood of success based on the proposed overall approach and methodology?	1 – No chance of success 2 - Low chance of success/better approaches available 3 - Medium chance of success/some changes to the approach necessary 4 - High chance of success/little or no changes to the approach necessary		
5a	Are objectives of the research likely to be achieved within the proposed time-frame?	1 – No or unlikely 2 – Partially or potentially ambitious 3 - Yes with some minor suggestions 4 – Yes		
5b	Are any proposed intermediary targets timely and achievable?	1 – No or unlikely 2 – Partially 3 - Probably 4 - Yes		
5c	Is the proposed time-frame/work necessary (e.g. can the project produce results in a shorter time period)?	1 – No or unlikely 2 – Partially 3 - Probably 4 - Yes		
5d	Is the sample size adequate to achieve the stated objectives?	1 – Not demonstrated/not properly addressed 2 – No or unlikely (too low/too high) 3 – Probably (additional analysis needed) 4 - Yes		
6	Is the project likely to affect adversely the population(s) involved?	1 - Not properly addressed/ unknown 2 - Yes severely 3 – Possibly at a low level 4 - No		
6a	**IF YES**, are analyses provided on simulations of the effects using different time-frames for the project if applicable?	1 – No 2 – Partially 3 - Yes		
Note: if in each of the above key criteria under this section the project does not score singularly at least 2 points, do not proceed in further evaluation. Of course, proposals within a sub-group would only be developed if in their estimation scores were of 3 or above.				
Project team and Project management				

7	To what extent does the team have the relevant expertise, experience, and balance?	1 – Poor or not demonstrated 2 – Sufficient 3 - Very good 4 - Excellent		
8	Contingency plan: To what extent have potential problems/risks been considered and appropriate mitigation proposed?	1 – Poor or not demonstrated 2 – Sufficient but could be improved 3 - Fully or requiring only minor suggestions or not applicable		
Value for Money				
10	Does the project represent good value for money?	1 – No or significant amendments would be needed 2 – Yes but with some minor amendments 3 – Yes		
11	Have sufficient links been made to the wider research community/other organisations/capacity building.	1 – No 2 – Some but significant amendments needed 3 – Yes but with some minor additions 4 – Yes or not applicable		