



SCAR Sub-Group

EG-BAMM

SG

LS

Person
Responsible:

Mark Hindell

SCAR Delegates Report 2020

Expert Group on Birds and Marine Mammals (EG-BAMM)

2018-2020 Report

Summary

Report Author(s)

Mark Hindell (Australia) and Yan Ropert-Coudert (France)

Summary of activities from 2018-20

EG-BAMM has been in existence for 10 years, after being reviewed and renewed by the SCAR delegates in 2017. The group maintained many of its usual activities in 2019 and 2020, participating in several international fora, such as CCAMLR and SOOS, as well as being part of several SCAR programs, most notably SCATS, ANT-Eco and ANT-Era. However, the COVID19 situation has also curtailed several activities, most notably participation in the Science program at the cancelled Open Science Conference in Hobart and our annual general meeting. We have also had to delay the implantation of three new working groups (cetaceans, functional responses and demography), but we anticipate these will begin in 2021.

This will be the last year that Hindell and Ropert-Coudert will be CI and secretary. Their replacements have been nominated and await approval from the SCAR Delegates, with a hand-over to take place in Hyderabad at the OSC in 2022

Below are the specific reports for activities that are part of EG-BAMM:

A. RETROSPECTIVE ANALYSIS OF ANTARCTIC TRACKING DATA

PIs: Mark Hindell (University of Tasmania, Australia), Yan Ropert-Coudert.

The RAATD program reached an important milestone in early 2020 with the publication of (i) the publicly available Antarctic Tracking database (Ropert-Coudert, Y. et al. The retrospective analysis of Antarctic tracking data project. *Scientific Data* 7) and (ii) the initial synthesis of the data (Hindell, M. A. et al. Tracking of marine predators to protect Southern Ocean ecosystems. *Nature* 580, 87-92). The RAATD team is now working on two more publications, one that reviews the statistical modelling approaches that can be used when using animal tracking data in habitat models and another detailing the community composition of Southern Ocean Areas of Ecological Significance. The core team is also preparing information papers on the outcomes of the study for ATCM and CCAMLR to facilitate their spatial management planning decisions.

B. TAG RE-SIGHTS

There is on-going demand for EG-BAMM to coordinate tag and band re-sights. This year we continued to circulate photos to the broad EG-BAMM membership we were able to successfully identify the individual animals. This is an important scientific and also outreach activity, as often the re-sights are made by members of the public. Due to increasing demand for this capacity and the time constraints it imposed on the group, Monica Muelbert, Mark Hindell and Yan Ropert-Coudert have decided to initiate an on-line tag re-sight portal as part of the EG-BAMM web. Ben Wallis from Ocean Expeditions has offered to use his informatic resources to develop a portal and an alpha version is currently being tested. This portal will serve the EGBAMM scientific community but will also receive inputs from tourists as sightings from non-scientists have been increasing and represent a potentially useful contribution.

B. WG TROPHIC INTERACTIONS

PI: Jose Xavier (University of Coimbra, Portugal)

WG TROPHIC INTERACTIONS has concluded its objective by publishing the book below. In the last 4 years, the trophic interactions group focused on the crustacean guide for the Southern Ocean. The developmental stages for the guide included: Step 1. Review of importance of crustaceans in top predators from the Southern Ocean; Step 2. Assess the most importance crustacean species and evaluate their distribution, allometric equations, relevance in top predators diets and identification features; Step 3. Various sections reviewed by all co-authors. Step 4. Add photographs of each crustacean species (when possible) and diagrams needed for the guide.

The book is now in press and can be assessed free in:

Xavier JC, Cherel Y, Boxshall G, Brandt A, Coffey T, Forman J, Havermans C, Jażdżewska AM,

Kouwenberg K, Schiaparelli S, Schnabel K, Siegel V, Tarling GA, Thatje S, Ward P, Gutt J (2020)

Crustacean guide for predator studies in the Southern Ocean. Scientific Committee on Antarctic Research, Cambridge, UK, 253 pp.

https://www.dropbox.com/s/a4v99ikoz9s9zyc/Crustacean%20Guide_FINAL.pdf?dl=0

C. WG EDUCATION AND OUTREACH

PIs: Jose Xavier and Mary-Anne Lea (University of Tasmania, Australia)

The WG has been active and has contributed a number of publications, including to the ATCM, as well as attending several important events. These are detailed below:

Papers on Education and Outreach

Roop H, Wesche G, Azinhaga P, Trummel B, Xavier JC (2019). Building collaborative networks across disciplines: A review of polar educators international's first five years. *Polar Record* 55: 220-226 <https://doi.org/10.1017/S003224741800061X>

Xavier, J. C., Mateev, D., Capper, L., Wilmotte, A., Walton, D.W.H. (2019). Education and Outreach by the Antarctic Treaty Parties, Observers and Experts under the framework of the Antarctic Treaty Consultative meetings. *Polar Record* 55: 241-244 <https://doi.org/10.1017/S003224741800044X>

Antarctic Expedition Educational activities

Blog during an Antarctic Expedition in 2019 to Antarctic Peninsula onboard of the RRS James Clark Ross on Antarctic ecology studies (including studies on trace metals, microplastics, genomics/transcriptomic analyses in marine organisms). We focused our report at 2 levels: World Wide Web (blog, facebook and website) and contact with schools.

World Wide Web

EG-BAMM: 2018-2020 Report, cont.

A blog (www.cientistapolarjxavier.blogspot.com) provided, on a regular basis in English and Portuguese, interesting information on the science and the living onboard of the James Clark Ross during the JR19001 cruise. Various scientists and crew participated on the blog, either by accepting to be photographed or interviewed, or providing photographs or input in writing.

During the duration of the cruise, more than 2700 hits from more than 10 countries worldwide were recorded. These top 10 countries visiting the blog were: Portugal, UK, USA, Switzerland, Brazil, Russia, Ukraine, New Zealand, Germany and Mexico. Regular updates of the cruise were carried out at the personal facebook pages, with 13 posts which resulted in 2870 likes, 129 comments and 55 shares.

Contact with schools and other educational institutions

Prior to the cruise, oral presentations about the expeditions took place on more than 10 schools and educational institutions (involving > 1 700 students, teachers and educators directly). The flags of these schools and councils were brought by scientists, in which photographs were taken during the cruise, on the ship and on land.

Jose Xavier gave a talk as an invitee of the Universidad de Magallanes (Punta Arenas, Chile) focusing on the most recent results on Antarctic science related to the needs of the Antarctic Treaty (<https://www.youtube.com/watch?v=siz8Wz6hiQM>), at the “American corner”. Additionally, a TV interview at TV RED (Chilean TV at Punta Arenas), by Iván Yutronic and Alfredo Soto Ortega, to Jose Xavier on the relevance of Antarctic science to Chile and international cooperation in science, policy and education.

Papers to Antarctic Treaty Consultative Meetings

2019- Portugal, Germany and United Kingdom. Evaluation of Antarctic educational activities. ATCM XLII/IP69

2019- Bulgaria, Belgium, Brazil, Chile, Spain, Portugal and United Kingdom. Third report of the Intersessional Contact Group on Education and Outreach. ATCM XLII/WP33

2019- Italy, Germany, India and Portugal. Results of PEI International Workshop on Education and Outreach April 2017, Rovereto, Italy. ATCM XLII/IP95

Workshops and Conferences related to Education

2020- Fialho, P., Santo, M. E., Silva, P. & Xavier, J. C. (2020). IV National Workshop on Education & Outreach: from polar research to the classroom. ES VL Santo António, Algarve, Portugal (6-7 March)

2019 – Xavier, J. C., H. Guimaro, J. Fragão, P. Fialho, J. Abreu, M. Araújo, F. Bessa, F. Ceia, A. M. Gonçalves, J. Loureiro, J. C. Marques, F. Martinho, R. Matias, M. Pardal, V. Paiva, J. Pereira, V. Pereira, J. Queirós, J. Ramos, I. Ribeiro, J. Seco (with J. Lourenço and A. Soares) (2019). XI Conference on Polar Sciences + APECS Workshop. MARE, University of Coimbra (24-25 October)

2019 – Weeks, S., Rees, G., Wilkenning, B., Casiraigh, M., Martinez, D., Xavier, J. C. (2019). Education Meets science: Bringing polar research into the classroom. IV PEI Workshop, 8-11 April, Cambridge, UK.

Activities with Schools

Working closely with Polar Educators International (PEI) and Association of Polar Early Career Scientists (APECS), on the International educational activity POLAR WEEKS (used to promote EGBAMM related research). Science talks on polar research in schools or events included in Belem Palace (to the President Marcelo Rebelo de Sousa of Portugal during the event “Scientists in Belem Palace”), ES José Falcão (Coimbra), ES Arganil, EB2 Arganil, EB2,3 Frei Estevão Martins (Alcobaça), EB Mandim (Maia), E Padre António Macedo, E Camilo Castelo Branco, ES D. Dinis (Coimbra), 4 Meeting of Science Cândida Madureira, ES Tondela, Agrupamento de Escolas de Castelo de Paiva, Event Celebrating 500 years of the circumnavigation by Fernão de Magalhães, Event Investigators night, Biology students Union of the University of Coimbra (NEB), Agrupamento de Escolas de Azambuja, Lisbon book fair and IV PEI Workshop, 8-11 April, Cambridge, UK

D. IMPORTANT MARINE MAMMAL AREAS

PIs: Yan Ropert-Coudert, Ryan Reisinger (CEBC-CNRS, France)

Several EG-BAMM experts participated to a workshop of the IUCN Task Force for Marine Mammals Conservation in Brest in late 2018. This workshop was part of the process to identify Important Marine Mammal Areas IMMAs (similar to the Important Bird Areas of Birdlife International). During all of 2019 the review process of the candidate IMMAs has taken place with exchanges between reviewers and the EG-BAMM authors. In early 2020, the accepted IMMAs (13 in total) were presented. One IMMA remained at the stage of candidate waiting for future improvements. The IMMAs will soon be included in the e-Atlas of the IUCN-IMMA web portal.

Summary Budget 2019 to 2022

	2019	2020	2021	2022
	Spent	Allocated	Request	Request
(US\$)	5000	5000	6000	6000

Progress to date

Sub-group Outcomes Summary

(Summarize the above and in each case provide your sub-group name in left hand column to assist Science Group COs in compiling their reports)

Sub-group	Activity/Outcome/Benefit/Achievement
EG-BAMM	First RAATD papers published
EG-BAMM	Crustacean Identification Guide published
EG-BAMM	Several papers on polar education and outreach published
EG-BAMM	IMMAs available on IUCN portal

Sub-group Cash Flow

(From previous Delegates meeting to date)

Sub-group	Allocation	Amount spent		
		2018	2019	2020
EG-BAMM		5000	5000	0

Future plans

Planned activities in 2020 to 2022

Sub-group	Planned activity
EG-BAMM	Continue with RAATD analysis, and information products for ATS and CCAMLR
EG-BAMM	Continue with Wildlife Health Initiatives
EG-BAMM	Continue with education and outreach activities through interactions with APECS
EG-BAMM	Institute new working groups on (i) demography, (ii) functional responses and (iii) cetaceans

Planned use of funds for 2020 to 2022

Year (YYYY)	Purpose/Activity	Amount (in USD)	Contact Name	Contact Email
2020		0	M.Hindell	
2021		6000	M. Hindell	
2022		6000	M. LaRue	
Total				

Any additional detail on funds usage and desired results/outcomes

Primary expenditure is for EG-BAMM leadership to travel to SCAR meetings (\$5000). We also provide travel assistance to ECRs from developing Antarctic Programs to attend these meetings.

Percentage of the budget to be used for support of early-career researchers

2020: 16% (\$1000/\$6000)

2021: 16% (\$1000/\$6000)

2022: 16% (\$1000/\$6000)

Percentage of the budget to be used for support of scientists from countries with developing Antarctic programmes

2020: 16%

2021: 16%

2022: 16%

Membership**Leadership**

Role	First Name	Last Name	Affiliation	Country	Email	Date Started	Date Term is to End
CO	Mark	Hindell	IMAS	Australia	Mark.hindell@utas.edu.au	2010	2021
Deputy	Yan	Ropert-Coudert	CNRS	France	docyaounde@gmail.com	2010	2021
*CO	Michelle	LaRue	Canterbury Uni	NZ	michelle.larue@canterbury.ac.nz	2021	2026
*Deputy	Ryan	Reisinger	UCSC	USA	ryan.r.reisinger@gmail.com	2021	2026
*Secretary	Manuela	Basso	University of Rio Grande do Norte	Brasil	manu.basso@gmail.com	2021	2026

Please identify early-career researchers with * in first column

Other members

First Name	Last Name	Affiliation	Country	Email
Jose	Xavier	MARE	Portugal	jxavier@zoo.uc.pt
Mary-Anne	Lea	IMAS	Australia	maryanne.lea@utas.edu.au
Andy	Lowther	NPI	Norway	Andrew.Lowther@npolar.no
*Sara	Labrousse	WHOI	USA	sara.labrousse@gmail.com
Anton	Van de Putte	KU Leuven	Belgium	antonarctica@gmail.com
*Ryan	Reisinger	UCSC	USA	ryan.r.reisinger@gmail.com
Andreas	Barbosa	MNCN	Spain	barbosa@mncn.csic.es
Monica	Muelbert	IMar	Brasil	monica.muelbert@furg.br

Please identify early-career researchers with * in first column

Additional information (optional)

It is not possible to list all the EG-BAMM members as we include all interested bird and mammal biologists working in the Southern Ocean. Above, we've listed leaders of EG-BAMM working groups. Attendance at EG-BAMM meetings are typically more than 50, many of which are ECRS and postgraduates

Notable Papers

(Five to ten most notable papers – see the example below, which includes a brief statement (shaded) indicating the link to the group)

1. Hindell, M. A. *et al.* Tracking of marine predators to protect Southern Ocean ecosystems. *Nature* 580, 87-92, doi:10.1038/s41586-020-2126-y (2020). This work was a direct result of the SCAR RAATD project run by EG-BAMM
2. Ropert-Coudert, Y. *et al.* The retrospective analysis of Antarctic tracking data project. *Scientific Data* 7, doi:10.1038/s41597-020-0406-x (2020). This work was a direct result of the SCAR RAATD project run by EG-BAMM.
3. Brasier, M. J. *et al.* Observations and models to support the first Marine Ecosystem Assessment for the Southern Ocean (MEASO). *Journal of Marine Systems* 197, 103182, doi:10.1016/j.jmarsys.2019.05.008 (2019). EG-BAMM has been a key contributor to the MEASO project.
4. Thiebot, J.-B. *et al.* Adélie penguins' extensive seasonal migration supports dynamic Marine Protected Area planning in Antarctica. *Marine Policy* 109, 103692, doi:10.1016/j.marpol.2019.103692 (2019). Another example of EG-BAMM input into marine spatial planning

Direct support from outside organisations received for your activities

(Numbered list with values indicated if direct cash support. Please restrict in-kind support to substantive in-kind support only)

1. CESAB, \$194 000 (2016-19, including post doc grant to Ryan Reisinger)
2. World Wildlife Fund \$7000 (2019)
3. BEST (European grant, 2019, \$8000)

Major collaborations your Science Group has with other SCAR groups and with organisations/groups beyond SCAR

Within SCAR

1. EG-ABI
2. AntEco
3. Ant-Era
4. ICED
5. ISSA

Outside SCAR

1. SOOS
2. GOOS
3. CCAMLR
4. ATS

Outreach, communication and capacity-building activities

Brief highlights of any activities undertaken since the SCAR Delegates meeting in 2018.

The EG-BAMM Education and Outreach WG has been active and has contributed a number of publications, including to the ATCM, as well as attending several important events. These are detailed below, but see full report above:

Papers on Education and Outreach

Roop H, Wesche G, Azinhaga P, Trummel B, Xavier JC (2019). Building collaborative networks across disciplines: A review of polar educators international’s first five years. Polar Record 55: 220-226
<https://doi.org/10.1017/S003224741800061X>

Xavier, J. C., Mateev, D., Capper, L., Wilmotte, A., Walton, D.W.H. (2019). Education and Outreach by the Antarctic Treaty Parties, Observers and Experts under the framework of the Antarctic Treaty Consultative meetings. Polar Record 55: 241-244 <https://doi.org/10.1017/S003224741800044X>

SCAR fellowship reviewers

Please list one or more people (name and email address) from your group who would be willing to serve as reviewers for the next few years, along with 1-3 keywords on their principal expertise.

First Name	Last Name	Email	Principal Expertise
Yan	Ropert-Coudert	docyaounde@gmail.com	Top predators, marine ecology