MINUTES EG-BAMM MEETING

Davos, 16th June 2018

Congress Center Davos, Room B Pischa

The meeting started @ 08.20 and finished @ 12.05

1. Apologies

Dan Costa, Mike Goebel, Jose Xavier and Mary-Anne Lea sent apologies for not coming.

2. Opening comments: Mark Hindell

Welcome by Mark Hindell (MH).

3. Minutes of the previous meeting: Mark Hindell

Minutes of the previous meeting (emailed July 29th, 2017): minutes approved unanimously.

4. Reports from EGBAMM working groups:

i. AG Remote Sensing Action Group Report (Hans-Ulrich Peter)

- Remote Sensing Session in SCAR OSC 2016: 20 talks and 16 posters.
- SCAR and European Space Agency (ESA): researchers have now access to freely available and high quality multispectral imagery data from Sentinel-2 satellite based on a 10 days revisit time.
- Action Group meeting during SCAR OSC 2016: Joint meeting of the SCAR Action Group on remote sensing of animals and the new SOOS working Group Censusing Animal Populations from Space (CAPS).
- Workshop *"Drones in Polar Biology*" during SCAR Biology Symposium (9th July 2017). Publication of the workshop results: Mustafa O, et al. (in press): State of knowledge on Antarctic wildlife response to unmanned aerial systems. Polar Biology.
- Invited the group to a meeting on POLAR 2018 entitled: Workshop in the following day about Remote Sensing approach to monitor birds and animals, and to attend the talks/posters about the subject (> 70 talk and many posters).
- >30 publications in the last 2 years.

ii. Trophic Interactions (Anton van de Putte (AVP))

- The main output is the SCAR Southern Ocean Diet and Energetics Database, which contains information on diet and energy flow, which is fundamental to a range of studies. Website: https://data.aad.gov.au/trophic/
- AVP spoke about the importance of researchers to provide data.
- How they can get data from the database: There is a R package to work with the data set; R package library (sohungry). The contact person for this project: ben.raymond@aad.gov.au
- MH commented that this project is an important outcome from EG-BAMM.

iii. Health monitoring (Andres Barbosa (AB))

- The Health monitoring WG organized and co-convening the workshop entitled "Polar Wildlife – Ecology, Health and Disease" at the Open Science Conference in Polar2018 (15 June 2018).
- AB presented the outcomes and relevant information about this workshop (Meagan Dewar has notes about this meeting). Key outcomes were: Contributions to protocols dealing with pathological sampling diseases; Polar Biology publications about gap of knowledge, opportunities for research and fundamental questions on Antarctic wildlife health; elaboration of a Code of Conduct about mass mortality events of wildlife to be endorsed by SCAR and submitted to the Committee of Environmental Protection of the Antarctic Treaty through SCATS, working together with the SCAR Expert Group on Human Biology and Medicine.
- The group continues working with Adélie Penguin Health Network (Yan Ropert-Coudert, Daniel Gonzalez-Acuña, Martin Ansaldo, Andres Barbosa).
- Future activities: new workshop on methodology to study disease and health status in Antarctica.
- AB also commented about the proposal summary from the Workshop focusing on One-health based approach to monitor Antarctic wildlife.
- AB considered an important output of this workshop: "Strengthen relationships with Arctic wildlife disease research community to work together on polar wildlife health.

iv. Outreach initiatives (Jose Xavier, Mary-Anne Lea)

- Yan showed slides sent by Jose Xavier for the outreach component.

v. Retrospective Analysis of Antarctic Tracking Data (Mark Hindell)

- RAATD is a multi-species assessment of Antarctic top predators to identify areas of ecological importance. It has collated data from 79 contributors from 46 institutions, resulting in 4060 tracks from almost 3,000,000 location fixes.
- The approach is to develop Habitat Utilisation Models for each of 17 species, use the models to make global predictions indicating areas of importance.
- To identify Areas of Ecological Significance (AES) the importance maps for the17 species are combined. From these, eco-regions can be identified (e.g. sea-ice zone, marginal IZ, Sub-Antarctic, open ocean zone), using K-means clustering. Within each eco-region, "Core" AES can be highlighted
- The EAS can be subject to threat assessment too factors such as sea-ice changes, SST changes, fishing effort, cumulative impact.
- The work also addresses the evaluation of the effectiveness of spatial management planning.
- George Watters (USA) questioned the relatively low importance of the Ross Sea according to the maps. MH replied that this is in part due to thegeographic variability in species richness, and was dealt with in the eco-regionalisation step. Aleks Terauds (AAD) commented about the possible effects of regional research effort. Ryan Reisinger (France) said that predicting the fitted HUMs

for all known colonies of each species minimised bias in the analysis. Prabir Dastidar (India) inquired about the representation of the species (and gender) in the models. Willi Hagen asked about the Weddell Sea model representation.

5. ***Extra presentations:***

i. EG-ABI report (Anton van de Putte)

- AVP showed the new Portal (http://data.biodiversity.aq) and how it works, showing the contribution of data sets (with more than 1,500,000 records).

ii. Important Marine Mammal Areas (IMMA) (Susan Gallon, France)

- SG invited the group to the IMMA Southern Ocean Workshop that will happen in Brest, France from 15th to 19th October 2018. Website: marinemammalhabitat.org. This is part of the IUCN task force bringing together Marine Conservation and Management initiatives, which can utilise products of the IMMA Process.

iii. New Technologies: MinION (Meagan Dewar, Australia)

- The MinION is a useful device for DNA sequencing (3rd Generation Sequecing). The equipment is not expensive (1,000 USD), which is quite affordable for research groups. The analysis can be carried out in the field, and there is no need to bring samples to labs, which is essential if dealing with a contaminated material (diseases). The group is working on protocols to standardise the methodology for such device.

iv. Social Networks of Animals: an investigation into social-biology of penguins in Antarctica (Prabir Dastidar, India)

- This is a multi-disciplinary project considering social networks in penguins bringing together nanoscopy, genetic, game theory, image analysis of colonies, meteorology and geophysics, Bayesian network, scientometrics & bibliometrics. The objectives of the research are to study the social systems of penguins and establish a causal relationships with anatomy, social complexity, the environment and evolutionary strategies. The initial step is to organise a planning workshop in India.

6. ***Other business:***

There was discussion around the proposed Scientific Research Program "Integrated Conservation Planning for Antarctica and the Southern Ocean (Ant-ICON)" (Aleks Terauds).

AT introduced the effort of bringing people interested in planning and developing a proposal for a new interdisciplinary Scientific Research Programme with a focus on integrated conservation planning in Antarctica and the Southern Ocean. He emphasised that the SCAR horizon questions were considered in the proposal, as well as the development of practical mitigation strategies. Moreover, the project identified four potential research themes, and the "socio-ecological approaches to conservation planning" is a new and essential topic. Links to existing initiatives such as SOOS, ANTOS, ICED, MEASO were highlighted. The proposed core membership list was presented. The full SRP proposal will be presented in Hobart, 2020.

Open discussion on potential new directions for EG-BAMM, and in particular, new projects and working groups.

- EGBAMM was acknowledged to be continued for another 8 year term by EXCOM after external review.
- Mônica Mulbert (Brazil) suggested that a tag re-sight working group to build an important network to standardise and exchange data. Other participants also contributed to this discussion about integrating tag re-sight data, demographic information, etc. Yan will request information on tagging programs from National Representatives on tagging programmes from their countries at the upcoming LSG meeting.
- The participants proposed a working group on cetaceans. Manuela Bassoi (Brazil) mentioned that the goal of the working group on cetaceans should be to connect and integrate the researchers/projects of EG-BAMM with other essential programmes/organisations such as IWC, SOOS working groups, CCAMLR, etc. MH suggested a scoping paper should be prepared to identify the key issues that this group could address.
- Four new working groups (WGs) were recommended for scoping documents and the following people expressed interest in getting involved in managing them:

  1. Functional Response: George Watters (penguins, pinnipeds), Andy Lowther (pinnipeds, penguins).

  2. Tag Re-sight Database: Hans-Ulrich Peter (birds), Monica Muelbert (pinnipeds).

  3. Demographic Synthesis: Peter Boveng (crabeaters), Yi-Ming Gan (database EGABI), Nathan Pacoureau (birds/pinnipeds), Sara Labrouse (birds), Clive McMahon (pinnipeds, oceanography), Monica Muelbert (pinnipeds).

  4. WG on Cetaceans: Ryan Reisinger (modelling), Manuela Bassoi (distribution/modelling), Alexa Hasselman (acoustics), Elisa Seyboth (isotopes/distribution).

- There were discussions around a possible fifth working group that would look at integrating physical data recorded by animal-attached data loggers (various resolution, precision, species) with the behaviour of animals at a circumpolar level. Luis Huckstadt, Yan Ropert-Coudert (YR-C) and Clive McMahon expressed interest in looking if there is a scope for a working group on the topic (with possible links with other relevant institutions like the Bio-logging Society).

EG-BAMM Leadership.

Both CO Hindell and Deputy CO Ropert-Coudert plan to step down from their roles after the 2020 Open Science meeting. Leading up to this they will consider the best options for the new leadership team, and ensure a transition process that will not interrupt existing EG-BAMM projects. They will provide EXCOM with suggestions for the new team (CO and Deputy CO, and possibly a Secretary) early in 2020. Anyone interested was invited to talk with MH and YR-C.