



WP 7a
Agenda Item: 4.1.2

Person Responsible: G Hosie

**XXXIV SCAR Delegates Meeting
Kuala Lumpur, Malaysia, 29-30 August 2016**

SSG-Life Sciences

Executive Summary

(Draft – to be revised after the SSG-LS meeting)

Authors: G. Hosie (CO), M. Shepanek (Deputy-CO), Y. Ropert-Coudert (Secretary), B. Danis, B. Raymond, M. Hindell, K. Takahashi, J. Ayton, E. Kohlberg, A. Hicks, H-U. Peters, C. Cary, V. Cummings.

Background: SSG-LS is primarily responsible for four Expert Groups (EG-ABI, EG-BAMM, EG-CPR and the SCAR-COMNAP JEGHBM) and four Action Groups (ANTOS, ISSA, Ocean Acidification and Remote Sensing). ANTOS and ISSA are cross disciplined with PS and GS. Ocean Acidification and Remote Sensing are shared with PS.

Important Issues or Factors: It is proposed that EG-CPR transitions to a new Expert (or Task) Group, the SO-CPR Database Group, to focus on maintaining the highest methodological standards in CPR sampling and taxonomic methodology, and subsequently the QA/QC of the data entered into the SCAR Southern Ocean CPR Database (a SCAR Business Product). This will be achieved primarily through conducting standardisation and training workshops. The group is expected to be long term. Its continuance will be subject to review at the biennial SCAR Business Meeting. Similarly, AG-ANTOS is now ready to evolve to the Expert (or Task) Group level in order to further develop and implement the plans for the Antarctic Near-shore and Terrestrial Observing System. This group is expected to have an extended duration of 4+ years subject to progress. Full proposals are included in the respective group reports attached. EG-BAMM has reached the nominal life span of an Expert Group. This is a highly productive and influential group, addressing numerous key issues of interest to SCAR, CCAMLR and other Antarctic organisations. They also obtain an external financial support to organize further workshops and hire a post-doctorate fellow. We recommend continuation of this group for the foreseeable future.

Recommendations/Actions and Justification: *additions and updates to be made at the LS Meeting*

We request the Delegates to approve:

- The continuation of the Birds and Marine Mammal group
- The transition of EG-CPR to the SO-CPR Database Group
- AG-ANTOS transitions to Expert (or Task) Group status

Budget Implications: Budget requests for 2017 and 2018 from existing groups are \$36,500 (2017) and \$18,000 (2018).

SSG-Life Sciences

1. Chief Officers

CO: Graham Hosie (AUS); Deputy CO: Marc Shepanek (USA); Secretary: Yan Ropert-Coudert (FRA).

2. Highlights – Action and Expert Groups

Details of activities, outcomes, publications and future plans are detailed in the individual AG/EG reports attached. This section presents highlights of each group.

EG-ABI – Antarctic Biodiversity Informatics

The Group has been involved in a series of projects and developments pertaining to the exploration of complex data to delineate patterns in ecological, biogeographic or taxonomic processes. The projects ABI was involved in include:

- The Biogeographic Atlas of the Southern Ocean (BASO)
- The Register of Antarctic Marine Species (RAMS), now expanding to terrestrial and limnetic realms
- The microbial Antarctic Resources System (mARS)
- The Retrospective Analysis of Antarctic Tracking Data (RAATD)

Its members have participated in several workshops dedicated to these projects, and met remotely on several occasions.

EG-BAMM – Birds and Marine Mammals

The group participated in several international forums, such as CCAMLR and SOOS, as well as being part of several SCAR programs, most notably SCATS, ANT-Eco and ANT-Era (participation to the Tri-SRP meeting, Barcelona, September 2015). One highlight of the year, was the workshop (full report available from the SCAR website) held at the Hanse-Wissenschaftskolleg, Delmenhorst, Germany in April 2016, for EG-BAMM's major project, the Retrospective Analysis of Antarctic Tracking Datasets. The RAATD dataset now consists of more than 3000 individual animal tracks from 14 species. The next meeting of the RAATD group will be in Kuala Lumpur. Below RAATD, the health monitoring working group of EG-BAMM was commissioned to Antarctic to write an Information Summary section paper for the Environments Portal about Antarctic wildlife diseases. The group also organized a workshop entitled "Antarctic microbial/parasite impacts" that was held in August 2015 in Sydney, Australia. The trophic interactions working group set up the premise of a Stable Isotope database with on-going discussion regarding how to combine already-collected information with those contained in the Australian Antarctic Data Centre.

Future works include: i) The RAATD work has attracted a French CESAB funding which will support 4 more international workshops in France over the next two years, as well as a full time post-doc to work on the project; ii) Due to increasing demand, EG-BAMM will initiate an on-line tag and band re-sight portal with the help of an IT engineer who will be specifically hired for this occasion; iii) the Health monitoring WG will organize a workshop on disease and Antarctic wildlife, launch an exploratory activity based on "citizen science" to detect diseases and outreach the importance of disease on Antarctic wildlife, and finally propose the creation of an Adélie penguin network using this penguin as a sentinel for health surveillance.

EG-BAMM has reached the nominal life span of an Expert Group. This is a highly productive and influential group, addressing numerous key issues of interest to SCAR, CCAMLR and other Antarctic organisations. We recommend continuation of this group for the foreseeable future.

EG-CPR – Continuous Plankton Recorder

The SO-CPR Survey continues to expand. In the last two years the Survey has completed about 150 CPR tows during the 2014/15 and 2015/16 Antarctic field season from seven vessels from Australia, Japan, New Zealand, South Africa and France. Brazil has commenced its CPR tows. Approximately 250,000 nautical miles have been sampled since the commencement of the SO-CPR Survey in 1991, representing some 50,000 samples for nearly 250 zooplankton taxa coupled with environmental data. A methodology and taxonomy training workshop was conducted in March 2015 at the Cape Town for South African CPR personnel, via support from an inaugural the Scientific Committee on Antarctic Research (SCAR) Visiting Professorship awarded to Dr Graham Hosie and the support of the Departmental of Environmental Affairs (DEA) South Africa. A similar training workshop is planned for India at the National Centre for Antarctic and Ocean Research (NCAOR), Goa.

The EG-CPR proposes to transition to the SO-CPR Database (Task) Group focused on maintaining the quality control and assurance of data entered into the SCAR Southern Ocean CPR Database (a SCAR Business Product), achieved primarily through conducting standardisation and training workshops.

JEGHBM – Joint Expert Group on Human Biology and Medicine.

JEGHBM is looking to continue supporting SCAR, COMNAP and ACTM, the JEGHBM with peer professional and operational support for medical operations and programs. In order to honour individual, organizational, national priorities, boundaries, and confidentiality, JEGHBM provides input and analysis mostly upon request. SCAR Horizon Scan input with key questions 56 and 80 addressed climate change and infectious disease in Antarctica as well as how humans and disease adapt to Antarctica. The APECS group will interact with the JEGHBM to facilitate wider participation of the next generation of human biology and medicine researchers. The JEGHBM Telehealth Workshop was convened at Tromso Norway in 2015. JEGHBM National Medical Facilities Database fields developed under MEDINET were provided to COMNAP and implemented as a COMNAP facilities database resource.

JEGHBM is advising international research expeditions on medical support matters for the upcoming Antarctic Circumnavigation Expedition voyage. Encouraging collaborative and cross disciplinary research amongst member nations as part of the upcoming SCAR Biology symposium, Antarctic microbiome workshop and space analogue. JEGHBM is keeping abreast of upcoming threats and clinical evidence-base requirements from emerging infectious disease and changing operational paradigms for overwinter practice.

AG-ANTOS – Antarctic Near-Shore and Terrestrial Observing System

A workshop was held in August 2015 to develop an implementation plan for ANTOS. Pilot terrestrial and coastal observing systems have been installed at Cape Adare and Terra Nova Bay, respectively, in summer 2015/16. One of the terrestrial units is fully telemetered and has been providing a continuous data stream since deployment. The Group is now ready to advance to the implementation phase and request that it evolves to an Expert Group (extended Task Group) level to develop ANTOS.

AG-ISSA - Integrated Science for the Sub-Antarctic

No report received at this stage.

AG-Ocean Acidification

No annual report was received as the Group is expected to present the principal report at the Kuala Lumpur Business Meetings.

AG-Remote Sensing

The Group has developed a session (No. 21) for the Kuala Lumpur OSC to highlight the remote sensing work. During the Business Meetings, the Group plans to hold a joint workshop with the new SOOS working Group Censusing Animal Populations from Space (CAPS). The Group has also been actively working on multi-disciplinary approaches to use new satellite remote sensing platforms to animal populations, glaciological, marine cryosphere, oceanographic, meteorological studies and interactions, plus the production of digital elevation models (DEMs) of Antarctic regions. The Group has also be working on the use of Unmanned Aerial Vehicles (UAV), plus protocols, for the monitoring of bird and seal populations.

3. XIIth SCAR Biology Symposium

The XIIth SCAR Biology Symposium “Antarctic Biology it is a matter of scale” is set for 10 to 14 July 2017 in Leuven, Belgium. The Co-Chairs of the Local Organising Committee are Anton Van de Putte (RBINS), Bruno Danis (ULB). The contact person is Anton Van de Putte at antonantarctic@gmail.com. *Anton and Bruno to add further details at LS Meeting.*

4. SSG-Life Science Comments on Structural Review

comments from the LS meeting – likely to produce recommendations to the delegates, e.g.:

Change of name from Standing Scientific Group on Life Sciences

Restructuring of Action and Expert Groups to Task Groups

Change of format of SSG meetings

5. Budgetary Implications

Estimated budget requests for 2017 and 2018 from existing subsidiary groups are \$36,500 for 2017 and \$18,000 for 2018. ANTOS and Remote Sensing will receive funds from PS and GS as shown in parentheses. *The AG Ocean Acidification is presumed to have concluded its work.*

Group	Contact	Purpose	2017	2018	
EG-ABI	Bruno Danis	ABI workshop July2017	7000	?	
EG-BAMM	Mark Hindell	CO to attend SCAR Biology in 2017 WG Wildlife Disease Workshop 2017 Tag and isotope databases	12500		
EG-CPR	Kunio Takahashi	Standardisation-Training workshops	3500	3500	
JEGHBM	Jeff Ayton	Secretariat support 2017 Meeting support 2018 Capacity Building Awards 2018	2000	3000	
AG Remote Sensing	Hans-Ulrich Peters	Travel for young scientists to conferences	500 (500)	500 (500)	LS PS
AG-ANTOS	Craig Cary, Vonda Cummings	Technical workshop July2017 Database development June 2018	6000 (2000) (2000)	6000 (2000) (2000)	LS GS PS
AG-ISSA	Steven Chown, Gary Wilson		?	?	

SSG-LS	CO	Travel for meetings, supporting early career/student travel, contingency	5000	5000	
Total			36,500	18,000	