

SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH

**STANDING SCIENTIFIC GROUP ON
LIFE SCIENCES**

REPORT TO DELEGATES

OCTOBER 2004

SCAR LIFE SCIENCES STANDING SCIENTIFIC GROUP (LSSSG)**Draft Report of the meeting at XXVIII SCAR
Bremen, Germany, 25 – 31 July 2004****ATTENDEES****a. Country members**

N Coria (Argentina); J D Ayton, H Marchant (Australia); C. de Broyer (Belgium); L. S. Campos, E. S E Fanta (CCAMLR Representative) (Brazil); K Conlan (Canada); J Valencia, (Chile); J Hassi (Finland); C Bachelard (Deputy CO EG–HBM), P Koubbi (France); W E Arntz, E Kohlberg, (Germany); A Peri (CO EG–HBM), G di Prisco (Deputy CO SSG–LS), S Pillon, (Italy); M Fukuchi, G Ohno (Japan); S-H Kang, (Korea); A H L Huiskes, (Secretary SSG–LS) (Netherlands); C Howard-Williams (New Zealand); T Tveraa (Norway); I Ansoorge C Chimimba S L Chown (CO SSG–LS) (South Africa); L G Sancho (Spain); I Grant (Secretary Expert Group Human Biology and Medicine), P G K Rodhouse (CO SPG EVOLANTA) (United Kingdom); M C Kennicutt II (Secretary SC–ATS), M L Palinkas, (Deputy CO SSG–LS), M Goebel, A Murray (United States); G A Knox (IUBS representative)

b. Additional members

D Bergstrom (CO SPG RiSCC) (Australia); A S Blix (CO EG on Seals) (Norway); V Gallardo (Vice-Chair, Scientific Committee CoML) (Chile); J C Priscu (CO SPPG SALE) (United States); D W H Walton (CO SC–ATS) (United Kingdom); E J Woehler (CO EG on Birds) (Australia)

c. Observers

D M Stoddart (Australia); S Nunes Brandão (Brazil); C Otto (Canada); Y Le Maho (France); A Brandt (Germany); K Bernhard (South Africa); S Kaartvedt (Norway).

A list of names and addresses is at **Annex 1**.

AGENDA

1. Welcome and Apologies
2. Adoption of Agenda
3. Reports SSG–LS meeting, WG–B meeting, and WG–HBM meeting, XXVII SCAR, Shanghai, 2002
4. Scientific matters arising from ATCM
 - a. Marine Acoustics
 - b. Bio prospecting
 - c. Revision of Annex II
 - d. Specially Protected Species
 - e. State of the Antarctic Environment Reporting (Walton)
5. Specially Protected and Managed Area plans (Walton)
6. Strategic Plan for SCAR
7. Matters Arising from the Expert Group on Human Biology and Medicine
 - a. Progress report 2002–04
 - b. Plans for the next session 2004–06
 - c. Items that should be brought to the attention of the Delegates Meeting (Peri)
8. Matters Arising from the Expert Group on Seals
 - a. Progress report 2002–04
 - b. Plans for the next session 2004–06
 - c. Items that should be brought to the attention of the Delegates Meeting (Blix)
9. Matters Arising from the Expert Group on Bird Biology
 - a. Progress report 2002–04
 - b. Plans for the next session 2004–06
 - c. Items that should be brought to the attention of the Delegates Meeting
 - d. Approach distances to birds – COMNAP request (Woehler)
10. Progress report of the Action Group on Biological Monitoring
 - a. Progress report 2002–04 and report on the Workshop (<date?>)
 - b. Plans for the next session 200–06
 - c. Items that should be brought to the attention of the Delegates Meeting (Kennicutt/Walton)
11. Progress report of the Scientific Programme Planning Group on Evolution and Biodiversity in Antarctica
 - a. Progress report 2002–04
 - b. Discussion on the draft Science Plan
 - c. Census of Marine Life and the IPY (Chief Officer)
 - d. SCAR-MarBIN project (De Broyer)
 - e. Plans for the next session 2004–06
 - f. Items that should be brought to the attention of the Delegates Meeting (di Prisco)

12. Progress report on the EASIZ programme
 - a. State of affairs Final Symposium (Croatia)
 - b. After EASIZ
 - c. Items that should be brought to the attention of the Delegates Meeting (Clarke)
13. Progress report on the RiSCC programme
 - a. Progress report 2002–04
 - b. Plans for the next session 2004–06
 - c. Items that should be brought to the attention of the Delegates Meeting (Bergstrom)
14. Progress report on the EVOLANTA programme
 - a. Progress report 2002–04
 - b. Plans for the next session 2004–06
 - c. Items that should be brought to the attention of the Delegates Meeting (Rodhouse)
15. Report of the CCAMLR observer (Fanta)
16. Progress report Action Group Subglacial Antarctic Lake Exploration (Priscu)
17. Progress Report Scientific Programme Planning Group on Antarctic Climate Evolution (Barrett)
18. Antarctic Conservation in 21st Century (Walton)
19. 9th SCAR Biology Symposium (Fanta)
20. Other meetings in the intersessional period 2004 – 2006 (Chief Officer)
21. Highlights of National Research Programmes (Summary by Chief Officer on written accounts from National Representatives)
22. IPY activities
23. Financial Requests – Integration (Chief Officer)
24. Recommendations.
 - a. Review of Previous Recommendations
 - b. New Recommendations. (Chief officer)
25. Future meetings (Chief Officer)
26. Additional Items
27. Election of Office Bearers (Chief Officer)
28. Next LSSSG Meeting
29. Approval of Report and Closure

1. Welcome and Apologies

The CO opened the meeting on Sunday 25 July, 13.30pm. He welcomed country members, additional members, and the observers to the LSSSG meeting. No apologies were received. The CO noted that the meeting had a busy agenda but less time than during former SCAR meetings. He read out a time schedule for the various agenda items, which was distributed subsequently.

2. Adoption of Agenda.

The CO asked approval for the agenda drafted for the meeting. Item 27 was changed: As the CO was retiring as from this meeting, elections for a new CO were in order. The CO explained the election procedure. The position of the 2nd deputy was going to be discussed in the light of the developments around the EBA programme.

3. Reports LSSSG meeting, WGB meeting, and WGHB&M meeting, XXVII SCAR, Shanghai, 2002

The reports were adopted unchanged.

4. Scientific matters arising from ATCM

D. Walton highlighted some items from his report.

SCAR presented a report on marine acoustic technology and the Antarctic environment to the XXVII ATCM, held in Cape Town, South Africa, 24 May – 4 June, 2004 as an information paper. This report was drafted after a workshop called by SCAR to address this subject for the CEP. No research equipment seemed to have any adverse effect on sea mammals, in some cases some avoidance movement could be detected. This was not comparable with military equipment, which had harmful effects on marine mammals. The report provided a risk analysis. The German and Spanish delegations to the ATCM expressed the wish to comment on the information paper. These delegations were given until the end of August, after that date the paper will be published as a SCAR report. D. Walton mentioned a lecture on this subject during the SCAR open science meeting. He also mentioned a forthcoming international workshop to be held in London and organised jointly by the US Marine Mammals Commission and the UK Joint nature Conservancy Council. The focus would be on assessments systems and regulations in use. Details on this workshop could be obtained from E. Vos (evos@nmc.gov).

The SCAR lecture to the ATCM was given by R. Bell titled “The secret life of Lake Vostok”. It was very well received. At the XXVIIIth ATCM in Stockholm another SCAR lecture will be presented. D. Walton mentioned that so far no biologist had served as a lecturer, the LSSSG might be proactive in this matter by suggesting a title to the SCAR Executive. S. Chown proposed as a lecture title “How isolated is Antarctica”, a lecture with this title would cover actual topics of interest to the ATCM such as introduction of non-native species and ballast water as a potential source of marine introductions. There was wide support from the meeting for this proposal. The CO agreed to take this proposal to SCAR Executive. D. Walton added that the speaker should be someone who can talk a language lawyers can understand.

The information paper by SCAR on Antarctic Specially Protected Species was well received. This paper became part of the discussion on the revision of Annex II to the Environmental Protocol. The paper provided an opportunity to lay out at the next ATCM how scientists

considered specially protected species should be chosen. D. Walton explained that the Treaty regulations needed to be updated to modern conservation criteria. These should be part of a revised Annex II to the Protocol. However, an attempt by SCAR and others to make major changes to Annex II failed. Selection criteria for specially protected species, reporting on them, and developing protection guidelines will however still be covered by annex II. Another topic in this framework was delisting species currently given Specially Protected Status – in the present case Fur Seal and Ross Seal. In order to do this properly, data were needed from the Seals Expert Group. The CEP was expecting proposals from SCAR on this at the next meeting.

The workshop on biological monitoring was postponed and will take place in 2005 in the USA. The outcome of the workshop would be the basis for a Working Paper to the ATCM.

During the recent ATCM it became clear that input from SCAR was needed on bioprospecting. It is intended that the standing Committee consider if there is enough information available for a working paper on on this topic. D. Walton stressed the importance of this topic to SCAR: Bioprospecting might hamper research for instance when gene sequences were patented. Other issues in need of SCAR input were invasive species, oil spills, and the use of antifouling paint, an issue raised by ASOC.

D. Walton also brought to the attention of the meeting that the president of SCAR believed that SCAR should be more alert on conveying its discoveries and breakthroughs to the ATCM. In that respect the CO asked members to be aware of this and inform D. Walton if they wanted to convey anything to ATCM?

The Antarctic Treaty System has established its Secretariat in Buenos Aires. It will be operational as of September 1st 2004.

The liability annex might finally be operational after the next ATCM. SCAR scientists will almost certainly be expected to play a role in it (especially in issues such as the assessment of the degree of damage, and whether or not damage is reparable) by their national governments.

The CO thanked D. Walton for his report.

5. Specially Protected and Managed Area plans

Management plans for two Antarctic Specially Managed Areas were adopted at ATCM XXVI:

- ASMA 2 McMurdo Dry Valleys, Southern Victoria Land;
- ASMA 3 Cape Denison, Commonwealth Bay, George V Land.

McMurdo Dry Valleys was a major achievement as it comprised a large area with various uses.

Management plans for five Antarctic Specially Protected Areas were adopted:

- ASPA 113 Litchfield Island, Arthur Harbour, Anvers Island, Palmer Archipelago;
- ASPA 122 Arrival Heights, Hut Point Peninsula, Ross Island;
- ASPA 139 Biscoe Point, Anvers Island;
- ASPA 142 Svarthamaren, Mühlig-Hofmannfjella, Dronning Maud Land;
- ASPA 160 Mawson's Huts, Commonwealth Bay, George V Land, East Antarctica.

The cumbersome nature of the previous multiple Intersessional Contacts Groups was noted and a single ICG was established to deal with all future ASPA and ASMA proposals.

The CO asked D. Walton if the LSSSG was still obliged to produce recommendations on management plans of SPA's? D. Walton explained that since the reorganisation of SCAR this now was the task of the Standing Committee on the Antarctic Treaty System. However, the management plans are available on the web to examine and comment on. There were very few comments from the SCAR community. D. Walton urged members to examine these plans, as most plans are drawn up by a single country and might have an impact on research objectives of other countries. After adoption of the plan, the regulations will apply to all countries. J. Valencia proposed that the LSSSG stay involved in the assessment of the management plans. The CO stressed the importance of reviewing the management plans, as they might involve restrictions to science. Comments should be conveyed to D. Walton preferably within the week. M. Kennicutt made the point that the LSSSG had much knowledge that is of considerable value for the assessment process. The SC-ATS is too small and is not a repository of sufficient knowledge. The meeting agreed that it should be brought to the attention of the SCAR Executive that in matters of management plans the SC-ATS needed support from the LSSSG. The procedure on the adoption of management plans did not seem very clear. The SCAR Executive suggested to the LSSSG that it should find some members to assist the SC-ATS. E. Fanta, J Valencia, E Woehler, and L.G. Sancho were elected to do so.

Two other issues were available on the web and of importance to the LSSSG: a request by Russia asking SCAR to assist in a baseline study of protected areas to assess future changes and the message that New Zealand was compiling a GIS of SPA's. The CO raised the point that with the coming IPY also observations on areas that need protection should be carried out.

Marine protected areas continued to be a problem. Both the ATS and CCAMLR could have authority to declare protection. Terra Nova Bay was an example where both organisations cooperated. In larger areas this might be difficult, as catch quotas of fish might complicate the negotiations. E. Fanta mentioned the recent establishment of a discussion group on this matter within the framework of CCAMLR which was an encouraging decision.

Seven new management plans will require comment during the coming year:

- ASPA 132 Potter Peninsula, King George Island, South Shetland Islands;
- ASPA 133 Harmony Point, Nelson Island, South Shetland Islands;
- ASPA 149 Cape Shirreff and San Telmo Island, Livingston Island, South Shetland Islands;
- ASPA new Dashkin Gongotri Glacier Snout, Dronning Maud Land;
- ASPA new Edmonson Point, Wood Bay, Ross Sea;
- ASPA new Scullin and Murray Monoliths, Mac. Robertson Land, East Antarctica;
- ASMA new Deception Island.

The CO thanked D. Walton for his report

6. Strategic Plan for SCAR

The meeting noted that all scientific programme proposals were already mentioned in the plan. The CO explained that this was done deliberately, as leaving out one or more proposals at this stage, would be improper as they were still in the draft stage. The CO advised the

SPPG for EBA to revise the draft science plan in such a way that it complied with the rules SCAR set out for the compilation of such plans and with the vision the Executive set out in the strategic plan for SCAR.

The new SCAR Executive Director highlighted the major topics of the draft long-term strategic plan. He mentioned that input was requested from all people involved in SCAR. Six main objectives were set out:

1. to initiate, develop, and co-ordinate leading edge international scientific activity in the Antarctic region, and on the role of the Antarctic region in the Earth System;
2. to provide objective and independent scientific advice to the Antarctic Treaty Consultative Meetings and other organizations on issues of science and conservation affecting the management of Antarctica and the Southern Ocean.
3. to facilitate free and unrestricted access to Antarctic scientific data and information;
4. to develop scientific capacity in all SCAR Members, especially with respect to younger scientists;
5. to promote the incorporation of Antarctic science in education at all levels;
6. to communicate scientific information to the public.

When approved by the Delegates Meeting an implementation plan will be drafted. The Executive Director was tasked to find financial support for the funding of the objectives, one of the cross-cutting objectives of the plan, the other being to increase the efficiency of SCAR. Another important issue in the plan was the establishment of MoU's with organisations, also working in the Antarctic, such as SO-GLOBEC.

The CO encouraged the meeting to provide comments on the Draft Strategic Plan. Comments should be sent to the SCAR Executive Director by no later than August 15, as the final version had to be published one month before the Delegates Meeting.

The CO conveyed to the Executive Director that the meeting was very supportive of the Strategic Plan. There was, however, a concern that if the science community of SCAR was going to develop a number of major research plans the budgets would be substantial. The Executive Director was convinced that if well prepared and scientifically exciting the proposals should be sufficiently inspiring to allow him to solicit extra funding to support them.

Several members expressed concern about the financial requests the Executive Director submitted through the LSSSG. The requests were in aid of a renewed agreement with SCOR and SO-GLOBEC (and later IMBER) to co-sponsor biological and physical research in the Southern Ocean. The meeting noted that this was an important issue and the financial requests were supported.

The CO thanked the Executive Director for the additional information on the Strategic Plan.

7. Matters Arising from the Expert Group on Human Biology and Medicine

A. Peri delivered the report of the expert group. The group reviewed current research projects and developed plans for the next intersessional period.

1. To continue ongoing projects which include
 - a. Polar T3 syndrome prevention
 - b. Selection of Antarctic personnel
 - c. Concordia Project

- d. Cross Cultural Research
 - e. Individual and Group adaptation to life in the Antarctic
 - f. Cold Adaptation
 - g. E-health
 - h. Multinational behavioural project
 - i. Implementing guidelines and procedures based upon the evidence collected.
2. Increasing cooperation between national programmes in respect of applied operational research including:
 - a. Common standards for screening
 - b. Common standards for healthcare provision
 - c. The incidence of unexplained and subjective health complaints in the antarctic population
 - d. Commence a follow up study on the effects of “re entry / reintegration” to society
 - e. Enhance applied healthcare research in many areas
 3. Hold an intersessional symposium and meeting in conjunction with colleagues from arctic and space medicine, probably in San Diego in May / June 2005.

The CO thanked A. Peri and stressed the parallels between biological and medical research in the research projects the group is executing.

The group came to the conclusion that it would operate more effectively if it amalgamated with the COMNAP group MEDINET. The meeting agreed to submit a resolution to the SCAR Delegates to effectuate this.

Given that the IPY 2007-8 provided a unique opportunity of an observatory period, to build capacity, and to develop an coordinate an innovative international Human Biology and Medicine research the Expert group asked the LSSSG to submit a recommendation to SCAR in support of the development of a human biology and medical research programme during IPY. The meeting agreed to endorse the recommendation.

The EG suggested that we explored areas where cooperation is possible between ourselves and other groups within the LSSSG for mutual benefit. For example, little was known about the microbiological flora of seal mouths, yet seal finger is relatively common and seal bites are difficult to treat. The EG could provide the expertise to investigate this but needed samples. The EGS agreed to make these samples available. Similarly, Ixodes ticks were known to exist in southern bird populations, but it was not known whether there was a risk of transmission of Lyme disease to those who work with them. This matter should be a collaborative effort with EGB. A third common research topic was how the shedding of viruses (such as CMV) which is known to increase in the Antarctic human population is likely to affect indigenous animals. The EG invited any interested members of LSSSG to contact the CO of the Expert Group.

The meeting supported the plans to establish common research projects. The CO thanked A. Peri for his report.

Recommendation XXVIII-LSSSG-1 (Internal)

Concerning the Amalgamation of EGHB&M and MEDINET.

Noting that there are currently 2 medical groups:

- The Expert Group on Human Biology & Medicine (EGHB&M) that reports to and advises SCAR through the Life Sciences Standing Scientific Group, has an operational medicine subgroup.

- MEDINET which reports to and advises COMNAP through COMED, shares some common membership with the LSSSG, and has been tasked by COMNAP to investigate common standards, guidelines and protocols.

Considering that:

- This incurs duplication of effort and the potential for conflicting advice.
- Most medical research is applied research.
- There is common ground for work with other groups within LSSSG, which would also encourage synergy, intellectual stimulation, and provide a framework for meetings.
- There is also a need for research to inform COMNAP on medical matters.
- Wider membership would enhance research by increasing cooperation, increasing national involvement, and reducing organizational differences, as well as enhancing the support to COMNAP by facilitating standardised operational methods.

The LSSSG recommends that:

- amalgamation of EGHB&M and MEDINET into a single group should take place as soon as practicable.
- The new group should continue to report to SCAR through LSSSG and to COMNAP through COMED.

Recommendation XXVIII-LSSSG-2 (Internal)

Concerning the International Polar Year 2007-8

Noting that:

- The International Polar year provides opportunities for multidisciplinary research to provide an epidemiological snapshot of human health and interaction with the environment of polar regions.
- International Polar Year projects may provide the facility of opportunistic research in human biology

Considering that:

- This provides increased opportunities for international, interdisciplinary research, and comparisons between Antarctic and Arctic communities
- The excellent opportunity to establish an observatory on humankind's interaction with the Antarctic environment will not be repeated for many years

The LSSSG recommends that SCAR supports the development of a comprehensive scientific programme of human biology and medical research during the International Polar Year.

8. Matters Arising from the Expert Group on Seals

A. Blix reported on the activities of the EGS. He mentioned that the website was now up and running. The group produced a document for delisting Fur Seals from the list of specially protected species of the CEP. This document was now available to SCAR, which would draft a working paper for the ATCM regarding the delisting of species.

A. Blix expressed concern about the APIS programme. The APIS website was not updated since 2000, and the EGS lost contact with the programme group of APIS. Although the programme was at the end of its lifetime, APIS had the task to deliver a report. The EGS proposed a recommendation to SCAR to prompt the APIS group for this. Data in this report were urgently needed for management purposes, especially on the status of the Ross Seal. A. Blix also protested the removal of 2003 funds from the EG-Seals by the LSSSG CO.

The EGS planned a workshop during the 9th SCAR Biology Symposium in Curitiba. A. Blix explained that membership of the EGS was open to everyone interested, only the officers were nominated and brought to the attention of the LSSSG. With respect to financial requests, the CO of the LSSSG explained that SCAR did not finance attendance to SCAR meetings; this is the task of the national committees.

The CO thanked A. Blix for his report. It was agreed that the secretary of the LSSSG should invite submission of the delisting document from EGS to the CO of SC-ATS. The meeting also requested that A. Blix do all that is required to ensure that the outcomes of the APIS programme, and especially population data on Antarctic seal species, are made available as soon as possible.

9. Matters Arising from the Expert Group on Birds

E. Woehler gave the report on the activities of the Expert Group on Birds. All activities of the group could be found on the website of the group which should be up and running shortly after the SCAR meeting in Bremen. The group met in Texel, the Netherlands in July 2004. The Group collaborated with Bird Life International to compile a list of candidate Antarctic Important Bird Areas (IBAs). An assessment of the status and trends of Antarctic and Sub-Antarctic seabirds, the fourth to be compiled, would be provided to CCAMLR WG-EMM.

The EGB was unable to host a third workshop on human interactions with Antarctic and Sub-Antarctic seabirds.

Highlights of the EGB meeting included:

- a. a significant improvement in the conservation status of numerous subantarctic islands through listing on the World Heritage Register, eradication of feral vertebrate predators, declaration of marine protected areas, etc.
- b. extensive discussions intersessionally had been conducted with COMNAP re aircraft operations near wildlife concentrations.
- c. ratification of ACAP (Agreement for the Conservation of Albatrosses and Petrels) that seeks to enhance the conservation of Southern Ocean seabirds by reducing the extent of bycatch in fisheries.
- d. ongoing progress in compiling contemporary and historical data on the distribution and abundance of Southern Ocean seabirds. These data have been used to identify Antarctic IBAs, and were used for the assessment of Status and Trends Workshop. These data will also be used for the planned Atlas of Antarctic Seabirds
- e. extensive discussions and interactions regarding Specially Protected Species, with a small workshop planned to assess the IUCN status of all birds at regional scales, as requested by the LSSSG. The EGB will also produce an assessment of the status of Southern Giant Petrels *Macronectes giganteus* for the CEP as a SCAR contribution to the ATCM in 2005
- f. extensive discussions regarding new scientific data on the detrimental effects of flipper bands on penguins, with the majority of reports now indicating adverse effects
- g. initial discussions on the need for marine ecosystem reference areas in the Southern Ocean to assist in the assessment of human-related influences on the ecosystem.

Financial support was going to be discussed under item 23.

The group submitted to the LSSSG recommendations to SCAR. The meeting agreed to bring these forward to SCAR.

It was agreed that the matter about the effect of lights and masts on birds should be taken up with COMNAP.

Regarding the IBAs, the EGB was encouraged to make a proper distinction between areas of scientific interest and potential ASPAs, as it might otherwise cause confusion for the ATS. SCAR could propose new ASPA's to this effect. The EGB preferred following the same procedure as for other IBA's in the world. The meeting urged the EGB to liaise with SC-ATS about the procedure for the ATS. A regional assessment for specially protected species was going to take more time as the ATS has no proper procedure for this.

The EGB would like to achieve Protection of marine areas, which are the feeding areas of birds. This would be extremely difficult, because CCAMLR may have problems with protected areas. However, a change in policy in this matter seemed imminent.

With respect to flipper bands it was mentioned that SCAR had already a code of conduct for this. It was suggested that the EGS should revisit this document

With respect to the recommendation on kitchen waste it was suggested to expand 'kitchen waste' to 'kitchen- and other food' waste. The recommendation should be compared with recommendations from earlier meetings.

The EGB was also involved in guidelines for aircraft operations. The group made guidelines for approach distances for different kind of aircraft. Minimum approach distances were 750m for single-engine helicopters, 1000m for twin-engine helicopters, 450m for small fixed-wing aircraft and 1000m for big fixed-wing aircraft. COMNAP adopted these guidelines. The meeting suggested that a similar set of guidelines should be drafted for lights, aerials and kitchen- and food waste.

The CO thanked E. Woehler for the report.

Recommendation XVIII-LSSSG -3(External)

Concerning the Agreement for the Conservation of Albatrosses and Petrels (ACAP)

Recollecting Recommendations SCAR XXVI-Biol 8, SCAR XXVII-Biol 1 and SCAR XXVII-LSSSG 13, covering threats to Southern Ocean seabirds due to mortality in longline fisheries, and

Noting the entry into force of the Agreement on the Conservation of Albatrosses and Petrels in 2004,

SCAR requests relevant National Committees to contact the relevant adhering body within their country to ensure that they have produced their FAO National Plans of Action – Seabirds and/or ratified the Agreement on the Conservation of Albatrosses and Petrels.

Recommendation XVIII-LSSSG -4 (external)

Concerning the use of flipper bands on penguins

Recollecting Recommendations SCAR XXVII-Biol 2 and SCAR XXVII-10, discouraging the use of flipper bands for external marking of penguins,

Noting the substantial and increasing scientific evidence for adverse long-term impacts of these bands,

Recognizing that banding studies are still underway within some national programmes;

SCAR recommends that caution should be taken when designing research programmes that require the external marking of penguins, especially when using current designs of metal flipper bands for demographic and other long-term studies, and to implement alternative methods of marking penguins immediately.

10. Progress report of the Action Group on Biological Monitoring

D. Walton reported on the activities of the group. The number of members of the action group was increased by asking a member from the Antarctic Environmental Officers Network to join. Also E. Fanta was invited to join to provide a liaison with CCAMLR. In spring 2005 an open workshop will be held in College Station, Texas. D. Walton was compiling the terms of reference for the workshop. The workshop will include people working outside the Antarctic region. The outcome of the workshop would be a working paper for ATCM in Stockholm. This document will be brought to the attention of the LSSSG for comments. As the CEP has an ICG on this topic, chaired by Y. Frenot, the programme planning group should establish a connection with this group. D. Walton also mentioned that COMNAP was enthusiastic that the LSSSG will develop guidelines.

The CO thanked D. Walton for his report.

11. Progress report of the Scientific Programme Planning Group on Evolution and Biodiversity in Antarctica

The CO introduced this item by pointing out that two new initiatives were proposed intersessionally, that could be incorporated in the EBA proposal. He wanted the meeting to learn more about these initiatives first.

A proposal for a CircumAntarctic Census of Marine Life was presented by H. Marchant. The objective is to describe and define the biodiversity of marine life in the oceans surrounding Antarctica. The time line is October 2003 – 2010 and the main work period coincides with the IPY. So far six countries had indicated their interest in participating: Australia, France, Italy, Japan, Korea, and New Zealand. Because of the short time line, the consortium had to act quickly especially for logistic support. The group had already established links with CCAMLR, with Arctic scientists and talked to physical oceanographers. The project was open to scientists from all interested parties. A scientific plan was being drafted. The initiators saw clear links with the SCAR-MarBIN initiative. The LSSSG was asked to support the Circum-Antarctic CoML as a major project for the IPY, to develop the CoML as an activity of the LSSSG, to develop an Action Group that would constitute a scientific steering committee in the language of the International Census of Marine Life (a multi-national programme already in existence outside SCAR), and to support the activities of this Action Group. It was agreed that the LSSSG AG would liaise with physical scientists and seek additional collaboration. Several members indicated that they were in the possession of substantial collections and/or datasets that could make a valuable contribution to the Circum-Antarctic Census of Marine Life. The LSSSG agreed that these inputs, as well as those from all taxonomic experts would be invaluable to ensure the success of the proposed CoML. V. Gallardo, Vice-Chair of the Scientific Committee of the International Census of Marine Life outlined the basic requirements of participants in the International Census of Marine Life. He expressed his delight that this initiative was being proposed and indicated that SCAR-MarBIN would be very well received. He agreed to provide information to the Action Group to be established for the Circum-Antarctic Census of Marine Life, and suggested that a KUU (Known, Unknown, Unknowable) Workshop be held for the region as soon as possible. He emphasized the short time that is available to do the required work and suggested that support for these activities might be available from the International Census of Marine Life. M. Stoddart agreed to take the matter further on behalf of the LSSSG.

The second initiative was the SCAR-MarBIN project, which was introduced by C. De Broyer.

This project was initiated by the EASIZ community. SCAR-MarBIN is a database. The terms of reference of the proposed SCAR-MarBIN were: (1) To compile, link, integrate and disseminate Antarctic marine biodiversity information for scientific, management, monitoring and conservation purposes; (2) To help SCAR contributing in a coordinated fashion to global biodiversity information initiatives; (3) To give feedback to marine biodiversity information requirements from the Antarctic Treaty System and SCAR; (4) To contribute to assess the present state of knowledge and to promote further marine biodiversity research in Antarctica.

The database could be used for scientific purposes but also for environmental management, biomonitoring, and capacity building. SCAR MarBIN should be integrated with international biodiversity networks. MarBIN should become the Antarctic node of the biodiversity programmes OBIS and GBIF. Belgium agreed to host SCAR MarBIN and has already deployed three staff people for a period of five years. SCAR MarBIN should be fully functional by the start of the IPY. The LSSSG was asked to endorse the project.

The CO noted that these proposals both fitted the EBA programme. He therefore proposed that these initiatives should be included within the EBA Scientific Research Programme if this programme was accepted by the delegates, or if not, that they are to be supported by the LSSSG as an Action Group (CoML) or a database initiative (SCAR-MarBIN) functioning within the LSSSG. The meeting agreed on nesting CoML in EBA as CoML was a short-term initiative developed as a proposed IPY activity and provided the opportunity to link taxonomy with the genomics research planned in the EBA programme. The meeting strongly supported this view and also supported the proposal to combine SCAR MarBIN with EBA to serve as the data input point for the Circum-Antarctic CoML. However, it was stressed that should the EBA programme not be accepted that the Circum-Antarctic CoML and SCAR-MarBIN should go ahead with the required funding (\$ 5000 each per annum).

The meeting agreed to propose officers for the SPG of EBA of which one officer would be tasked to liaise with an Action Group, still to be appointed, co-ordinating CoML and SCAR MarBIN. The EBA science plan should be amended : CoML should added as the IPY focus of EBA. Several members had additional comments on the EBA science plan and it was agreed to send these directly to the newly appointed SPG. This group would make the necessary alterations and present the updated document to the Delegates Meeting. The meeting agreed on a recommendation to the Delegates Meeting to adopt the scientific merits of the draft science plan. D. Bergstrom (Australia, to whom amendments on the draft science plan should be sent), A. Brandt (Germany) and G. di Prisco (Italy) were proposed as the SPG members. It was agreed that the new CO, A. Huiskes, The Netherlands should be an *ex officio* member of the SPG as required by the new SCAR Rules of Procedure. The Circum-Antarctic CoML Action Group members are: M. Stoddart (Australia), W. Arntz (Germany), P. Rodhouse (United Kingdom), C. de Broyer (Belgium and co-ordinator of SCAR-MarBIN), L. Campos (Brazil), A. Murray (United States of America), and A. Brandt (Germany, the liaison between EBA and CoML). This Action Group serves as the scientific steering committee in accordance with International CoML arrangements. It was noted that this Action Group should be enhanced by one person for each country providing a ship for Circum-Antarctic CoML in accordance with International CoML requirements. The meeting agreed. The group was encouraged to communicate with CCAMLR through the SCAR observer E. Fanta.

Two separate recommendations to the SCAR Delegates Meeting were drafted : for EBA and for CoML. The meeting noted that when the EBA science plan was adopted by the Delegates Meeting the programmes EVOLANTA and RiSCC would cease to exist and their respective SPG members would be retiring.

The LSSSG CO thanked members of the LSSSG for the constructive discussion.

Recommendation XVIII-LSSSG -5 (internal)

On the Evolution and Biodiversity in the Antarctic Scientific Research Programme

Recognizing the importance to global science of an integrated approach to understanding the evolution and future of biodiversity in the Antarctic;

Noting that the science outlined in the Draft Scientific Research Programme Science and Implementation Plan is topical, exciting and conforms to the required scientific standards;

The Life Sciences Standing Scientific Group endorses and strongly supports the Evolution and Biodiversity in the Antarctic Scientific Research Programme.

Recommendation XVIII-LSSSG -6 (internal)

On the CircumAntarctic Census of Marine Life

Recognizing the opportunity for a multinational, time-limited programme that can leave a legacy of biodiversity information, so conforming with International Polar Year project requirements;

Noting the existence and relevance of the International Census of Marine Life to achieving such a programme in the Antarctic;

The Life Sciences Standing Scientific Group recommends the establishment of an Action Group for the Census of Marine Life, which will act as the scientific steering committee for this collaborative activity in accordance with the requirements of the International Census of Marine Life .

Recommendation XXVIII-LSSSG-7 (internal)

Concerning the establishment within SCAR of a “Marine Biodiversity Information Network”

Recognizing the needs for optimizing the compilation, integration and dissemination of Antarctic marine biodiversity data for scientific, management, conservation and monitoring purposes,

Considering the advantages to present a coordinated SCAR contribution to the relevant global biodiversity information initiatives such as GBIF and OBIS,

Considering the potential requirements for biodiversity information from the Antarctic Treaty System,

Recognizing the interest of integrated information as an efficient tool for the accurate assessment of the marine biodiversity knowledge,

The Life Sciences Standing Scientific Group recommends that SCAR support the establishment of the Marine Biodiversity Information Network (SCAR-MarBIN).

12. Progress report on the EASIZ programme

P. Rodhouse presented the report on the activities of EASIZ in absence of A. Clarke. The main activity of the programme was the organisation of the closing symposium. So far 50 contributions have been submitted for the symposium, which was planned for the end of September in Croatia. So far registration has been low but the organisers are confident that this will increase. Proceedings will be published in Deep Sea Research. The symposium will probably just break even financially. The number of participants is going to be lower than

expected. The rapporteur mentioned the competition with the SCAR Open Science Meeting in this respect. A discussion on the SCAR Open Science Meeting was moved to item 26.

The CO thanked P. Rodhouse for his report.

13. Progress report on the RiSCC programme

D. Bergstrom presented the report on the RiSCC programme. She highlighted the existence of the website, the RiSCC Biodiversity Database, and the three field campaigns: (1) the three island study (Marion, Kerguelen, and Heard), (2) the Peninsula transect (Netherlands-United Kingdom), and (3) the LGP in Victoria Land (New Zealand-Italy-United States of America). The RiSCC community was also planning research in the Arctic, the Northern RiSCC, to be hosted by Canada. Since SCAR XXVII two workshops were organised: In July 2003 in Varese (It.) where participants reported on their results. The proceedings of this workshop will be published in *Terra Antarctica*. In July 2004 in Paimpont the participants set out populating the database, based at AAD. In connection with this, a paper in a leading journal will be written on examined patterns in biodiversity, which will be finalised in July 2005. D. Bergstrom mentioned also the publication of a major review on invasive species, the production of a book, and the publication of over 100 papers since RiSCC was launched. During IPY the terrestrial and limnetic ecologists planned to focus on remote areas and on quantification of all human-carried propagules into the Antarctic. They also wanted to liaise with groups like ITEX to have a significant bipolar activity during IPY.

On the matter of human-carried propagules, it was asked if RiSCC was also going to study ballast water as a possible source of human carried propagules. The SC-ATS had already plans to draft a paper on ballast water and on antifouling paint which was going to be sent to the COMNAP ships operations group. The study of temperate flora and fauna present on the hulls of icebreakers, would be more opportune to study than ballast release as container ships go down full; however ballast could be dumped to either side of the Antarctic Convergence, marine larvae from Patagonia were already found in the Antarctic.

D. Bergstrom subsequently presented a draft for a code of conduct for terrestrial field research in Antarctica. The document focussed not only on intercontinental but also on intracontinental transfer. The document contained a draft risk assessment and recommendations with regard to fieldwork. During SCAR XXV a code of conduct for the ice-free areas was accepted. This Code of Conduct is now in operation for the LTER in the McMurdo Dry Valleys. It would be advisable to compare the draft document with the Code of Conduct for the Dry Valleys. D. Bergstrom explained that the Code of Conduct was especially drafted for scientists. Tourist rules were much more rigorous already. Propagules carried by birds were not taken into account in the document, as no hard evidence for this was available. The meeting was cautioned that the existence of a Code of Conduct could have logistic and budgetary implications. The RiSCC community was therefore invited to produce evidence to underpin the rules set in the document. A recommendation was drafted to the SCAR Delegates Meeting to invite the RiSCC programme to communicate with AEON group of COMNAP to draft an updated version of the document and also to discuss the status of the document. The meeting agreed.

Recommendation XXVIII-LSSSG-8 (internal)

Concerning the transport to and threat of alien species in the Antarctic

Considering the need for protection of the Antarctic environment and in furtherance of the stated SCAR objectives of conservation, the Life Sciences Standing Scientific Group

advises that recent scientific data and analysis has identified routes of transport of alien organisms through logistic activities of national programmes.

Recognizing the need to review and establish current best practises for conservation in the Antarctic in context of transport of alien propagules through the logistic activities

The Life Sciences Standing Scientific Group recommends that SCAR inform COMNAP of the current understanding and discuss possibilities of jointly developing best practice methodologies.

14. Progress report on the EVOLANTA programme

P. Rodhouse delivered the report on the activities of the EVOLANTA programme. A workshop on adaptation was held in Siena (It.). The proceedings have been published in the journal *Antarctic Science*. The website was ready to be launched; it is hosted in Curitiba. During the 9th SCAR Biology Symposium another workshop is going to be held. Like RiSCC and EASIZ, EVOLANTA was involved in the EBA proposal.

The CO thanked P. Rodhouse.

15. Report of the CCAMLR observer

E. Fanta gave a short presentation on the activities of CCAMLR. CCAMLR takes care of the marine system in the treaty area. The CCAMLR region and Treaty region do not completely overlap: the CCAMLR region extends further north in certain areas and is divided in subregions. CCAMLRs aim is to maintain a sustainable fishery. There are a number of target species. A brief report on several different target species was provided. Krill: there is an increase in krill catches. The Mackerel Icthyofish catch has declined, although it is not clear whether this is a consequence of declining stocks. The Crab fishery is presently not economically interesting. However, a research protocol for assessing stocks is in place. Squid fishery: there was no catch recently in the CCAMLR area. The management of toothfish stocks (2 species) is difficult, due to a large amount of illegal and/or unreported catches. The total catch is thought to be far higher than the reported catch. A solution has been proposed in the form of certification of legal catches, making illegal catch landings more difficult.

However, the Catch Documentation Scheme is not fully working yet as more countries need to join. As toothfish are usually caught by means of a longline fishery which, without measures to prevent bycatch of seabirds can cause high seabird mortality, a suite of conservation measures are in place. Limits to the bycatch of invertebrates and other fish are trying to be set by allowable quotas per fishing area. These conservation measures were constructed by the CEMP program, which uses data from a.o. the SCAR EGB and the SCAR EGS. Although these conservation measures are efficient, illegal fishing activities do not observe them and bycatch is estimated to be high. A suggestion was made to improve the ban on illegal fishing by making use of the recently implemented worldwide port security measures. This is probably more effective as the Southern Ocean is very poorly policed. Other means to minimize IUU fishing is by having a VMS on board, inspections for compliance, and a list of vessels engaged in IUU fishing. Marine protected areas and closed fisheries are also being discussed. The suggested possibility to link SCAR-MarBin with CCAMLR, for instance by linking the respective databases was supported. However, some of CCAMLR information is Commercial in Confidence.

Edith Fanta also noted that CCAMLR is slowly beginning to discuss ecosystem protection.

To close E. Fanta remarked that there should be more interaction between SCAR and CCAMLR.

The CO thanked E. Fanta for her presentation

16. Progress report Action Group on Subglacial Antarctic Lake Exploration

J. Priscu gave a presentation on the programme on Subglacial Antarctic Lake Exploration. The programme was conceived by SALEGOS, a group of 10 people during five meetings. J., Priscu set out the time schedule and objectives of the programme plan, which also comprised formal delineation of IPY activities. He requested the LSSSG to endorse the programme. As the SALE programme was already approved by the SCAR Executive it was unclear if endorsement was really needed. C. Howard-Williams was asked to clarify the need for endorsement and also how these new programmes are financed. A letter from the Executive Director on this matter stated that in the matter of endorsement the SSGs were asked to endorse or support the science plan of the programmes and that in the matter of financial support it was the task of the Executive Director to find funds for these programmes.

The meeting had no concerns regarding the scientific contents of the research plan. A recommendation for the delegates meeting to this effect was drafted.

The CO thanked J. Priscu for his presentation.

Recommendation XVIII-LSSSG-9 (internal)

On the Subglacial Antarctic Lake Exploration Scientific Research Programme

Recognizing the opportunity and value of adopting an integrated and interdisciplinary approach to understanding the subglacial lake environment;

Noting that the science outlined in the Draft Scientific Research Programme Science and Implementation Plan conforms to the required scientific standards;

The Life Sciences Standing Scientific Group endorses and strongly supports the Subglacial Antarctic Lake Exploration Scientific Research Programme.

17. Progress Report Scientific Programme Planning Group on Antarctic Climate Evolution

P. Barrett gave a short lecture on the programme Antarctic Climate Evolution. The programme provided interaction between modellers and geoscientists. The meeting noted clear links with the objectives of EBA and urged the SPG for EBA to get in contact with the ACE group.

The CO thanked P. Barrett for his presentation.

18. Antarctic Conservation in the 21st Century

D. Walton reported that the workshop planned for 2004 will now be held prior to the 9th SCAR Biology Symposium. The workshop report should be discussed at a meeting concurrent with the symposium in Curitiba. Conservation had evolved over the last decades but this was not taken up by the Treaty and implemented in protocols. The objective of the workshop was to use the document on conservation produced by the IUCN in 1991 and then

to show how conservation has changed and how this can be brought into Treaty protocols. Participants of the workshop would be parties from the ATS and SCAR involved in conservation matters, but also those from outside the Antarctic community. The workshop will be held in March 2005, in Europe. The CO announced that a request to SCAR for financial support was already completed.

The CO thanked D. Walton for his report.

19. 9th SCAR Biology Symposium

E. Fanta chair of the local organising committee reported on the state of affairs of the organisation of the 9th SCAR Biology Symposium. The symposium will be held 25 – 29 July 2005, at the Pontificia Universidade Católica do Paraná. The complete building of the biology centre will be used for this. This meant that there were enough rooms for parallel sessions, break out groups, and especially ample room to keep the posters up for more days. Financial support had been secured from the university, and the Brazilian Science Foundation. SCAR and other organisations will also be asked to support. The LOC involved all groups working in the Brazilian Antarctic Programme. A central theme for the symposium was chosen: Evolution and Biodiversity in Antarctica: the response of life to change. Together with the international steering committee of the LSSSG four main themes for the sessions were defined: (1) Evolution and adaptation; (2) Ecological processes; (3) Conservation and management; (4) Patterns and Processes in biodiversity. There would also be an open session. The deadline for submission of abstracts was set for March 1st, 2005. Abstracts will be published on paper as well as on a CD-ROM. Prior to the symposium three workshops have been scheduled; the EBA programme will be discussed in a workshop during the symposium. Any other planned workshops needed to be brought to the attention of the LOC not later than the first week of August. The proceedings of the symposium will be published as a book. There are ample possibilities for publishers both in Brazil and abroad.

Special cheap accommodation will be found for students.

The CO thanked E. Fanta for her report and for all the organisational activities already taken place.

20. Other meetings in the intersessional period 2004–06

The EG HB&M mentioned their symposium in San Diego in 2005, already announced in their presentation. W. Arntz mentioned the EASIZ symposium in Korcula, Croatia in September 2004. S.-H. Kang announced a Korean Polar Symposium. M. Fukuchi mentioned the third Japanese Symposium on Arctic research held in Tokyo in February 2005 which encompassed the Ny Alesund seminar. Also provided was the first circular for the XXVII Symposium on Polar Biology, 2-3 Dec. 2004 in Tokyo, Japan.

21. Highlights of National Research Programmes

The CO summarised the highlights of National Research Programmes. He noted that many interesting research projects are being undertaken and encouraged members to study the reports.

22. IPY activities

These activities were already discussed under item 11 of the agenda. The CO repeated that Circum-Antarctic CoML should be the main activity of the LSSSG community. The SPG for EBA was asked to investigate the possibility for a terrestrial observing system. The CO mentioned finally the plans for coordinated research during the IPY of the EG HB&M

23. Financial Requests - Integration

The CO explained the list of financial requests. As the meeting adopted the EBA research plan, including the merger with CoML and SCAR MarBIN, and RiSCC and EVOLANTA ceased to exist, a number of requests were redundant. No financial requests were drafted for EBA or SALE as these programmes were going to be funded by SCAR directly. The remainder of the budget requests by the LSSSG activities were reasonable, and the meeting agreed to the financial requests with no change.

The LSSSG received the following requests:

*a. Expert Group on Human Biology and Medicine***2005**

A. Meeting Costs	US\$ 1,500
B. Publications	US\$ 500
C. Website	US\$ 500

2006

A. Meeting Costs	US\$ 2,000
B. Website	US\$ 500

*b. Expert Group on Seals***2005**

A. Meeting Costs	US\$ 1,200
B. Travel	US\$ 5,000
C. Other (database)	US\$ 2,000

2006

A. Meeting Costs	US\$ 500
B. Travel	US\$ 5,000
C. Other (database)	US\$ 1,500

*c. Life Sciences Standing Scientific Group***2005**

A. LSSSG Homepage	US\$ 1,000
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2006

A. LSSSG Homepage	US\$ 1,000
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*D. SCAR president***2005**

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| A. | SO-GLOBEC travel | US\$ 2,000 |
| B. | SCAR/SCOR travel | US\$ 2,500 |

2006

- | | | |
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| A. | SO-GLOBEC travel | US\$ 2,000 |
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*e. Expert group on Birds***2005**

- | | | |
|----|-------------------------|------------|
| A. | Historic data gathering | US\$ 500 |
| B. | Database | US\$ 2,000 |
| C. | IUCN Criteria workshop | US\$ 4,000 |

2006

- | | | |
|----|----------|------------|
| A. | Database | US\$ 2,000 |
|----|----------|------------|

24. Recommendations

Albeit announced, no recommendation on how to write recommendations was received from the SCAR Executive. Therefore the group used the format that was used in Shanghai. A list of recommendations was added to this report split into internal recommendations, going to the delegates and external recommendations to go to national committees and bodies outside SCAR.

Previous recommendations proposed by the group were revisited. The meeting agreed that:

SCAR XXIV-3 should stand.

SCAR XXVI-1 should lapse as it was replaced by SCAR XXVII-8, which should stand.

SCAR XXVII-9 should lapse and was replaced by a new recommendation.

SCAR XXVII-10 should stand.

SCAR XXV-3 should lapse as it was redundant because these activities were taken up by SC-ATS

The internal recommendations SCAR XXVII-LSSSG-2, 3, 4, 5, 8 should lapse, as they were redundant

25. Future meetings

None noted.

26. Additional Items

An additional item was tabled to evaluate the SCAR Open Science Conference. Although the individual members had very different views on the meeting, It was noted that it was the best attended SCAR meeting ever, and, so far, it did not hamper the business meetings of the LSSSG. Although interaction between disciplines could be better developed it was noted that

the keynote addresses were attended by a wide range of scientists. The wide choice of topics could also be an asset as people were offered a wide choice. It should also be noted that there were a great many young people. The competition with the Biology Symposium in Curitiba was thought to be minor. The meeting in Curitiba is reporting to the community; the Open Science Symposium is generating ideas and interactions. This symposium competes with other biological and ecological symposia. In general the meeting was positive about the Open Science Symposium. A few comments were made: (1) The Open Science Meeting should not intermingle with the business meeting, it should be before or after. (2) Sessions should start with a keynote speaker and maybe three to four shorter presentations, followed by a discussion. A recommendation on the last point was drafted.

The CO thanked the meeting for the valuable discussion.

Recommendation XVIII-LSSSG-10 (internal)

On the Open Science Conference

Recognizing the great success of the First SCAR Open Science Conference;

Noting the importance of providing a forum for further enabling interdisciplinary insight and interaction;

The Life Sciences Standing Scientific Group recommends that the organizers of the next SCAR Open Science Conference include one session of a few keynote presentations.

Following discussion with the SCAR Executive, the Chief Officer LSSSG was requested to clarify the status of the expert and Action Groups within the LSSSG. It is noted that the Expert Group on Birds, the Expert Group on Seals, the Action Group on Biological Monitoring, the Action Group on the Circum-Antarctic Census of Marine Life, and the Scientific Programme Group of EBA (if the Scientific Research Programme is supported) should all continue at a minimum until 2006, at which time they will be re-assessed. If the EBA Science Plan is accepted then the EASIZ, APIS, EVOLANTA and RiSCC SPGs will cease to exist and be replaced by the EBA. If not the Delegates should fall back on Recommendation SCAR XXVII – LSSSG-4.

Recommendation XXVIII-LSSSG-11

On the endorsement of three expert groups within the LSSSG

Recognizing that the Life Sciences Standing Scientific Group has subgroups with ongoing, specialized research development and reporting requirements;

Noting the value of these groups for generating scientific activities and advice;

the Life Sciences Standing Scientific Group recommends that SCAR extends the mandate of the Expert Group on Birds (E. Woehler, Chief Officer), the Expert Group on Seals (A. Blix, Chief Officer), the Expert Group on Human Biology and Medicine (I. Grant, Chief Officer), the Scientific Programme Planning Group on the EBA programme (G. di Prisco, Chief Officer), which will be renamed Scientific Programme Group after adoption of the programme, and the Action Group on Biological Monitoring (D. Walton, Chief Officer) within the Life Sciences Standing Scientific Group, with membership and terms of reference set out in the report on the meeting of the Life Sciences Standing Scientific Group during the SCAR XXVII meeting until 2006.

27. Election of Office Bearers

The Chief Officer expressed the wish to step down from office. According to the new rules for SCAR the election was run by the Executive Secretary. Nomination papers for the new CO should be handed in by Wednesday 16.00 pm. Each member country had one vote. As there was only one nominee, A. Huiskes, the Netherlands, the present secretary, he was elected by acclamation.

Following that an election for a secretary was in order. Nomination papers should be handed in by Thursday 16.00pm. As there were two nominees a secret ballot was conducted. Kathleen Conlan (Canada) was elected.

28. Next LSSSG Meeting

It was agreed that the next meeting of the group should be during SCAR XXIX probably in Hobart, Australia.

29. Approval of Report and Closure

It was agreed to place the draft report on the LSSSG website, so that all attendees were able to comment on it. Comments should be mailed to A. Huiskes before August 15. For the benefit of the Delegates the LSSSG webpage for SCAR XXVIII would be linked to the SCAR website for underlying documentation of the present report. The CO thanked Germany for the outstanding organization, excellent venue, and exciting meeting. He also thanked the Secretary and Rudy Janse from the Netherlands for their effective and efficient document delivery and support. The CO was thanked by the deputy CO for all his work for the LSSSG. With that the CO declared the meeting closed.

Life Sciences Standing Scientific Group

List of recommendations

Internal recommendations

Recommendation XXVIII-LSSSG-1 (Internal)

Concerning the Amalgamation of EGHB&M and MEDINET.

Noting that there are currently 2 medical groups:

- The Expert Group on Human Biology & Medicine (EGHB&M) that reports to and advises SCAR through the Life Sciences Standing Scientific Group, has an operational medicine subgroup.
- MEDINET which reports to and advises COMNAP through COMED, shares some common membership with the LSSSG, and has been tasked by COMNAP to investigate common standards, guidelines and protocols.

Considering that:

- This incurs duplication of effort and the potential for conflicting advice.
- Most medical research is applied research.

- There is common ground for work with other groups within LSSSG, which would also encourage synergy, intellectual stimulation, and provide a framework for meetings.
- There is also a need for research to inform COMNAP on medical matters.
- Wider membership would enhance research by increasing cooperation, increasing national involvement, and reducing organizational differences, as well as enhancing the support to COMNAP by facilitating standardised operational methods.

The LSSSG recommends that:

- amalgamation of EGHB&M and MEDINET into a single group should take place as soon as practicable.
- The new group should continue to report to SCAR through LSSSG and to COMNAP through COMED.

Recommendation XXVIII-LSSSG-2 (Internal)

Concerning the International Polar Year 2007-8

Noting that:

- The International Polar year provides opportunities for multidisciplinary research to provide an epidemiological snapshot of human health and interaction with the environment of polar regions.
- International Polar Year projects may provide the facility of opportunistic research in human biology

Considering that:

- This provides increased opportunities for international, interdisciplinary research, and comparisons between Antarctic and Arctic communities
- The excellent opportunity to establish an observatory on humankind's interaction with the Antarctic environment will not be repeated for many years

The LSSSG recommends that SCAR supports the development of a comprehensive scientific programme of human biology and medical research during the International Polar Year.

Recommendation XVIII-LSSSG -5 (internal)

On the Evolution and Biodiversity in the Antarctic Scientific Research Programme

Recognizing the importance to global science of an integrated approach to understanding the evolution and future of biodiversity in the Antarctic;

Noting that the science outlined in the Draft Scientific Research Programme Science and Implementation Plan is topical, exciting and conforms to the required scientific standards;

The Life Sciences Standing Scientific Group endorses and strongly supports the Evolution and Biodiversity in the Antarctic Scientific Research Programme.

Recommendation XVIII-LSSSG -6 (internal)

On the CircumAntarctic Census of Marine Life

Recognizing the opportunity for a multinational, time-limited programme that can leave a legacy of biodiversity information, so conforming with International Polar Year project requirements;

Noting the existence and relevance of the International Census of Marine Life to achieving such a programme in the Antarctic;

The Life Sciences Standing Scientific Group recommends the establishment of an Action Group for the Census of Marine Life, which will act as the scientific steering committee for this collaborative activity in accordance with the requirements of the International Census of Marine Life .

Recommendation XXVIII-LSSSG-7 (internal)

Concerning the establishment within SCAR of a “Marine Biodiversity Information Network”

Recognizing the needs for optimizing the compilation, integration and dissemination of Antarctic marine biodiversity data for scientific, management, conservation and monitoring purposes,

Considering the advantages to present a coordinated SCAR contribution to the relevant global biodiversity information initiatives such as GBIF and OBIS,

Considering the potential requirements for biodiversity information from the Antarctic Treaty System,

Recognizing the interest of integrated information as an efficient tool for the accurate assessment of the marine biodiversity knowledge,

The Life Sciences Standing Scientific Group recommends that SCAR support the establishment of the Marine Biodiversity Information Network (SCAR-MarBIN).

Recommendation XXVIII-LSSSG-8 (internal)

Concerning the transport to and threat of alien species in the Antarctic

Considering the need for protection of the Antarctic environment and in furtherance of the stated SCAR objectives of conservation, the Life Sciences Standing Scientific Group *advises* that recent scientific data and analysis has identified routes of transport of alien organisms through logistic activities of national programmes.

Recognizing the need to review and establish current best practises for conservation in the Antarctic in context of transport of alien propagules through the logistic activities

The Life Sciences Standing Scientific Group recommends that SCAR inform COMNAP of the current understanding and discuss possibilities of jointly developing best practice methodologies.

Recommendation XVIII-LSSSG-9 (internal)

On the Subglacial Antarctic Lake Exploration Scientific Research Programme

Recognizing the opportunity and value of adopting an integrated and interdisciplinary approach to understanding the subglacial lake environment;

Noting that the science outlined in the Draft Scientific Research Programme Science and Implementation Plan conforms to the required scientific standards;

The Life Sciences Standing Scientific Group endorses and strongly supports the Subglacial Antarctic Lake Exploration Scientific Research Programme.

Recommendation XVIII-LSSSG-10 (internal)*On the Open Science Conference**Recognizing* the great success of the First SCAR Open Science Conference;*Noting* the importance of providing a forum for further enabling interdisciplinary insight and interaction;**The Life Sciences Standing Scientific Group recommends** that the organizers of the next SCAR Open Science Conference include one session of a few keynote presentations**Recommendation XXVIII-LSSSG-11***On the endorsement of three expert groups within the LSSSG**Recognizing* that the Life Sciences Standing Scientific Group has subgroups with ongoing, specialized research development and reporting requirements;*Noting* the value of these groups for generating scientific activities and advice;**the Life Sciences Standing Scientific Group recommends** that SCAR extends the mandate of the Expert Group on Birds (E. Woehler, Chief Officer), the Expert Group on Seals (A. Blix, Chief Officer), the Expert Group on Human Biology and Medicine (I. Grant, Chief Officer), the Scientific Programme Planning Group on Evolution and Biodiversity in the Antarctic (G. di Prisco, Chief Officer), which will become a Scientific Programme Group after adoption of the programme by the Delegates Meeting, and the Action Group on Biological Monitoring (D. Walton, Chief Officer) within the Life Sciences Standing Scientific Group, with membership and terms of reference set out in the report on the meeting of the Life Sciences Standing Scientific Group during the SCAR XXVII meeting until 2006.**External recommendations****Recommendation XVIII-LSSSG -3(External)***Concerning the Agreement for the Conservation of Albatrosses and Petrels (ACAP)**Recollecting* Recommendations SCAR XXVI-Biol 8, SCAR XXVII-Biol 1 and SCAR XXVII-LSSSG 13, covering threats to Southern Ocean seabirds due to mortality in longline fisheries, and*Noting* the entry into force of the Agreement on the Conservation of Albatrosses and Petrels in 2004,**SCAR requests** relevant National Committees to contact the relevant adhering body within their country to ensure that they have produced their FAO National Plans of Action – Seabirds and/or ratified the Agreement on the Conservation of Albatrosses and Petrels.**Recommendation XVIII-LSSSG -4 (external)***Concerning the use of flipper bands on penguins**Recollecting* Recommendations SCAR XXVII-Biol 2 and SCAR XXVII-8, discouraging the use of flipper bands for external marking of penguins,*Noting* the substantial and increasing scientific evidence for adverse long-term impacts of these bands,

Recognizing that banding studies are still underway within some national programmes;

SCAR recommends that caution should be taken when designing research programmes that require the external marking of penguins, especially when using current designs of metal flipper bands for demographic and other long-term studies, and to implement alternative methods of marking penguins immediately.

Annex 1**Names and addresses of members and observers**

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Annex 2**List of Acronyms and Abbreviations**

AAD	Australian Antarctic Division
ACAP	Agreement for the Conservation of Albatrosses and Petrels
ACE	Programme plan on Antarctic Climate Evolution
AEON	Antarctic Environmental Officers Network
AG	Action Group
APIS	Research programme on Antarctic Pack Ice Seals
ASMA	Antarctic Specially Managed Area
(A)SPA	(Antarctic) Specially Protected Area
ASOC	Antarctic and Southern Ocean Coalition
ATCM	Antarctic Treaty Consultative Meeting
ATS	Antarctic Treaty System
AWI	Alfred-Wegener-Institut für Polar- und Meeresforschung
BPRC	Byrd Polar Research Center
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CD-ROM	Compact Disc – Read Only Memory
CEMP	CCAMLR Ecosystem Monitoring Programme
CEP	Committee for Environmental Protection
CNRS	Centre National de la Recherche Scientifique
CO	Chief Officer
COMED	Medical Coordinating Group
CoML	Census of Marine Life
COMNAP	Council of Managers of National Antarctic Programmes
EASIZ	Research programme on Ecology of the Antarctic Sea Ice Zone
EBA	Evolution and Biodiversity in the Antarctic: the response of life to change
EG	Expert Group
EGB	Expert Group on Birds
EG HB&M	Expert Group on Human Biology and Medicine
EGS	Expert Group on Seals
EMM	Ecosystem Monitoring and management
EVOLANTA	Research programme on Evolution in Antarctica
FAO	Food and Agriculture Organisation (of the United Nations)
IBA	Important Bird Area
ICG	Intersessional Contact Group
IMBER	Integrated Marine Biogeochemistry and Ecosystem Research
IPY	International Polar Year (1 March 2007 – 1 March 2009)
ISC	International Steering Committee (of the SCAR Biology Symposium)
IUBS	International Union of Biological Sciences
LOC	Local Organising Committee (of the SCAR Biology Symposium)
LSSSG	Life Sciences Standing Scientific Group
MEDINET	Medical Network
RiSCC	Research programme on Regional Sensitivity to Climate Change in Antarctic Terrestrial and Limnetic Ecosystems
SALE	Research programme on Sub Antarctic Lake Exploration
SALEGOS	Group of Specialists on Sub Antarctic Lake Exploration
SCAR MarBIN	SCAR Marine Biodiversity Information Network
SCAR	Scientific Committee on Antarctic Research

SC-ATS	Standing Committee on the Antarctic Treaty System
SCOR	Scientific Committee on Oceanographic Research
SO-GLOBEC	Southern Ocean – Global Ocean Ecosystem Dynamics Research
SPG	Scientific Programme Group
SPPG	Scientific Programme Planning Group
WG HB&M	Working Group on Human Biology and Medicine (predecessor of EG–HB&M)
WGB	Working Group on Biology (predecessor of the LSSSG)