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# SCAR **bulletin**

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## **Policy Advice**

**Reports of SCAR's Interactions with  
the Antarctic Treaty Consultative Meeting (ATCM),  
the Committee on Environmental Protection (CEP), and  
the Commission for the Conservation of Antarctic  
Living Marine Resources (CCAMLR)  
between October 2006 and July 2008**



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## **Report from the SCAR Delegation to XXX ATCM in New Delhi, 2007**

### **1. Introduction**

The meeting in New Delhi took place at Vigyan Bhavan from 30 April to 11 May 2007.

The SCAR Delegation comprised Colin Summerhayes (Head), Steven Chown, and Chris Rapley who presented the SCAR lecture. The Director of the IPY-IPO was initially included in the SCAR Delegation, though it later turned out that ATCM provided him with a separate IPY-IPO name-plate.

Most of the Members of SC-ATS attended the meeting (S. Chown, C. Kennicutt, H. Miller, S. Marensi), which facilitated decision making on key issues concerning SCAR's presentations to the CEP and the ATCM.

The SCAR lecture took place between 1130 and 1300 on Wednesday May 2. SCAR hosted a reception immediately after the lecture to bring delegates together. The Indian organisers shared the costs of the reception.

### **2. SCAR Input**

SCAR provided 3 Working Papers and 9 Information Papers, but unfortunately had to withdraw one of the papers. Papers comprised those dealing with requests put to SCAR as well as those providing information to the CEP. The papers, downloadable from <http://www.scar.org/treaty/atcmxxx/index.html>, were:

**WP 1** (withdrawn): Proposal to List Southern Giant Petrel as a Specially Protected Species under Annex II

**WP 26**: The Application of IUCN Endangerment Criteria at the Regional Level of the Antarctic Treaty Area

**WP 27**: Current Status of the Ross Seal (*Ommatophoca Rossii*): A Specially Protected Species under Annex II

**IP 05**: State of the Antarctic and Southern Ocean Climate System (SASOCS)

**IP 06**: SCAR Annual Report to XXX ATCM

**IP 15**: Subglacial Antarctic Lake Environments (SALE) in the International Polar Year 2007-2008

**IP 32** (jointly with Australia): Census of Antarctic Marine Life (CAML)

**IP 37**: Hull fouling as a source of marine invasion in the Antarctic

**IP 49** (jointly with Australia): IPY Aliens in Antarctica

**IP 52** (jointly with IPF, UNEP and IAI): The sixth Continent Initiative: Capacity Building in Antarctic Research during IPY 2007-2008

**IP 73**: IPY Report for ATCM XXX

**IP124**: SCAR Lecture - 'Climate Change and the Antarctic: What Next?'

### **3. Committee for Environmental Protection X**

#### **3.1 Disturbance effects on birds (and seals): review of science.**

During a discussion of Site Guidelines, several Parties enquired how approach distances were determined and how overnight 'rest periods' from tourist visits had been decided on. After some discussion, France suggested that SCAR might be able to provide a review of the current science concerning disturbance effects on birds. The CEP then formally enquired whether SCAR was able to undertake such work. SCAR agreed to provide a review of the scientific information available on the effects of land-based disturbance on pelagic birds and seals, covering the available information for the Antarctic region and with some review of information available from other areas. At the meeting, South Africa offered to participate in and perhaps facilitate such a review. The CEP requested Parties to contribute whatever information they might have on disturbance issues to SCAR.

#### **3.2 Southern Giant Petrel as a Specially Protected Species under Annex II to the Protocol**

The proposed listing of the Southern Giant Petrel has a considerable history, being part of a process concerning an objective basis for identifying species that deserve recognition as Specially Protected Species under Annex II to the protocol. SCAR initially submitted a paper to XXIX ATCM on the global status of the species, but then withdrew that Working Paper at the meeting as a consequence of new information that had become available outside the Antarctic Treaty Area.

Recognizing a recent change in the global status of the species, Resolution 4 (2006) of XXIX ATCM requested that SCAR undertake a further review of the status of Southern Giant Petrel using all available data and provide a report at this meeting. SCAR undertook this review and, based on data in the public domain, submitted a Working Paper to the Treaty Secretariat for XXX ATCM.

Subsequent to that submission, SCAR's attention was drawn to the fact that new, **unpublished** data on the species at the South Orkney Islands had been collected, and that these data suggested that the designation of the species as 'critically endangered' might require revision.

The South Orkney Island trend was suggested to be an increase as follows:

3200 in 1968 (Patterson et al. in press)  
1600 in 1975 (Patterson et al. in press)  
1093 in 1984 (Patterson et al. in press)  
2257 in 2001 (BAS unpublished)  
2351 in 2006 (BAS unpublished)

Given that the large majority of the regional, that is Antarctic, population of the Southern Giant Petrel is found on the South Orkney and South Shetland Islands, The Chief Officer of SC-ATS immediately requested additional, unpublished information and advice from a range of scientists working in these areas, and from other organizations which have an interest in this species. The Chief Officer of SC-ATS also re-reviewed all available information in the public domain concerning this species in light of these data and the opinions expressed.

Based on careful consideration of all of the available data and opinions, SCAR presented the view through a “Non-Paper” at CEP X that the status of the regional population of the species could not be convincingly determined. SCAR noted that much of the data has not been subject to thorough review, or is considered only partially reliable, and the opinions of the experts working on the species are often contradictory. For example, those working at the South Orkneys argue that the populations are increasing, whilst those working at the South Shetlands are of the view that the opposite might be happening, though surveys are too incomplete to provide a definitive answer. Indeed, one expert noted:

*“In general, in areas with human impact giant petrels are decreasing, only partly compensated by other areas to which some birds relocate. A stronger protection is very important, not only in areas like King George Island with the highest density of stations in the Antarctic!”*

SCAR further noted that the scarcity of data, the lack of review of data that are available, and the inability of experts to reach consensus, meant that the picture was much more complex than SCAR's Working Paper originally suggested. This complexity meant that SCAR could not offer the CEP a clear, scientifically defensible statement about the status of the regional population of the Southern Giant Petrel.

Given that SCAR's role in the Antarctic Treaty System is to provide unambiguous, independent scientific information on questions of concern to the Treaty Parties, and because of the ambiguity of the current situation, SCAR elected to withdraw its Working Paper.

Given the situation, and Resolution 4 of 2006, SCAR proposed that it would facilitate a meeting of experts to review thoroughly the available information (of all kinds), and suggested that it might be held in conjunction with a CCAMLR workshop discussing similar issues (to be held in July 2008), to provide a final perspective on this issue. SCAR also proposed that, if requested to, it would

report back to CEP XII on the outcome of that review meeting, though noting that the scientific perspective might well remain unchanged.

Many members of the CEP expressed their regret at the withdrawal of the SCAR Working Paper, and SCAR's actions generated a great deal of discussion. Indeed, one might argue that this was the most substantive discussion at the CEP meeting. Following this discussion, the CEP requested that SCAR expedite the workshop it was planning and report back to the CEP. The CEP also encouraged its members to provide appropriate data to SCAR, in a timely manner.

The entire situation was unfortunate for SCAR and raised concerns, at least in some quarters, about SCAR's ability to provide credible, timely advice to the ATS. This was particularly true because it was the second year in a row in which SCAR had withdrawn a Working Paper on this species. In consequence it raises several issues pertinent to the internal functioning of SCAR, amongst which the most significant are:

- The quality control and review process used by Expert Groups and others within SCAR when providing data to the SC-ATS.
- The communications from Members, to whom the Draft Working Paper was submitted for comment, to the appropriate scientists with their countries.
- The ways in which the efficacy of current SCAR structures to provide timely, current information could be improved.

To address this particular aspect of SCAR's advice to the ATS (i.e. status and trends of populations), SC-ATS has made a proposal to the SCAR Executive concerning changes to the way in which such information is gathered and reviewed, and presented to the ATS. Nonetheless, SC-ATS is grateful to all who have provided information for this process to date.

To address the request put to SCAR by the CEP, the SC-ATS proposes that, in collaboration with several other organizations, SCAR should hold a small meeting, in May 2008, to assess comprehensively the current status of the species. SCAR should then report back to the CEP (see Appendix 2). The Chief Officer of SC-ATS will arrange this meeting with the assistance of the SCAR Secretariat (provisional proposal is for a Cambridge meeting given that the location is central). This action has financial implications because it was not anticipated in the SC-ATS budget. Nonetheless, given that SCAR's reputation is very much at stake in this instance, it is proposed that the meeting go ahead, and that SC-ATS and LSSSG co-fund it, with additional budgetary assistance if required.

### **3.3 Application of IUCN Endangerment Criteria at the Regional level of the Antarctic Treaty Area**

SCAR introduced Working Paper 26 on the Application of IUCN Endangerment Criteria at the Regional level of the Antarctic Treaty Area, noting the several important differences between regional and global listing procedures, the potential utility of the regional criteria for designation of Specially Protected Species under Annex II to the protocol, and the information required to undertake such a regional listing.

The CEP thanked SCAR for its work in this regard, which it found extremely helpful. New Zealand proposed that the CEP consider adding the guidelines contained in the paper to the CEP's own guidelines for managing specially protected species.

SCAR has now completed the request put to it by the CEP on guidelines for listing species at the regional level.

### **3.4 Current status of the Ross Seal as a Specially Protected Species**

The status of the Ross Seal also has a considerable history. SCAR had noted previously that it would provide an update on this species (as with Fur Seals, for which the matter was resolved at XXIX ATCM). However, some delays were experienced in so doing because of the absence of analysis of data particularly from the Antarctic Pack Ice Seals Programme.

Nonetheless, the Expert Group on Seals provided a review of this species that was used as a basis for a Working Paper presented to the ATCM. Thus, at the CEP meeting, SCAR introduced Working Paper 27, noting that the current status of the Ross Seal was based on a thorough review of available information, appended to the paper. SCAR further noted that the species was listed as 'Lower Risk, Least Concern' by the IUCN, but that on the basis of the available information the species could be considered data deficient.

In such a situation the IUCN Criteria suggest that no change should be effected to the species status. SCAR therefore recommended that further information should be collected to improve knowledge, especially given the baseline information now available from the Antarctic Pack Ice Seals Programme, and that the species remain on Annex II to the protocol. The CEP accepted SCAR's recommendation, and the Ross Seal remains the only Specially Protected Species under Annex II to the Protocol.

SCAR has now completed the request put to it by the CEP on the status of the Ross Seal.

### **3.5 Hull fouling**

SCAR presented Information Paper 37, on hull fouling, indicating that it is an important route for the transport of marine non-native species to the Antarctic region. SCAR drew attention to the research required to fully understand the sources of and species contributing to hull fouling and the extent to which hull fouling could be reduced as a risk of introducing non-native species. The CEP thanked SCAR for this information.

### **3.6 Non-indigenous species in Antarctica**

Australia and SCAR presented Information Paper 49 on the IPY Aliens in Antarctica project. They noted that substantive information would become available on the origins and transport routes of propagules of non-native species to the Antarctic. The CEP requested that SCAR and Australia keep the Parties informed about the outcome of this work.

As part of the general discussion on non-indigenous species, several other papers were presented, including one on routes of transport of non-native species from New Zealand to Antarctica, and two on the Global Invasive Species Information Network and the contribution that the IUCN could make to documenting invasive species impacts in the region.

In response to these papers, SCAR noted that its scientists hold a substantial database (the RiSCC/EBA database) on both indigenous and non-indigenous species found in the Antarctic region, including the Southern Ocean islands. Given the papers presented by IUCN, and the long history of collaboration between SCAR and the IUCN Invasive Species Specialist Group (IUCN-ISSG), it would be worthwhile for SCAR to consider how the interaction with IUCN-ISSG might be further explored.

During further discussions of non-indigenous species, the CEP requested an update from SCAR on its proposal that it would review codes of conduct for limiting the transfer of non-indigenous species among areas in Antarctica. SCAR noted that a workshop on codes of conduct was to be held in May 2007 and that the outcome of this meeting would be reported to the CEP. The meeting requested that SCAR make the report of this meeting available to the ATS Secretariat as soon as it was available, to facilitate discussion and comment by Parties. SCAR agreed to do so.

### **3.7 Environmental Domains Analysis**

At previous CEP meetings, SCAR agreed that it would provide a review of the environmental domains analysis that had been developed by New Zealand. The CEP requested an update of progress on this matter. SCAR reported that the review was in progress, but that rather than providing a desktop review it would perhaps be of more value to provide a review based on a biological data layer



(the environmental domains analysis is based solely on abiotic variables). SCAR's RiSCC/EBA terrestrial species database would provide a basis for doing the latter. The CEP agreed that a review based on biological data would indeed be helpful and urged SCAR to have that review ready by CEP XI.

### **3.8 Marine Acoustics**

Several papers were provided on marine acoustics, outlining the outcomes of recent workshops, providing information on new research on this topic undertaken elsewhere (especially Russian work, published in Russian, from the Barents Sea), and suggesting action to be taken by Parties. The workshop outcomes differed little from those of the previous SCAR workshops in terms of marine acoustic use for academic research (rather than for industrial purposes). The CEP thanked the various parties for the information presented.

Noting that Germany drew attention in the report of the CEP to effects of acoustics on marine mammals and strandings of cephalopods, SCAR asked that the ATCM report on the deliberations of the CEP reflect the fact that the reported strandings of squid had not taken place in the Antarctic. The wording proposed by Germany to cover the introduction of its Information Paper, and adopted in the CEP report, did not indicate whether the effects on marine mammals had been demonstrated in the Antarctic Region (they had not). This does not necessarily mean that species in the Antarctic would not be affected by acoustics, but does contrast strongly with the conclusions of the reports produced by SCAR on non-industrial acoustics.

Germany also provided information on a scientific meeting to be held on Marine Acoustics in Denmark later in 2007. It is suggested that SC-ATS send a member to this meeting (and requesting D.W.H. Walton to attend would seem most sensible given his ongoing involvement in the issue, and cost-effective, given the venue of the meeting).

### **3.9 Bioregionalization of the Southern Ocean**

Several papers were presented on bioregionalization of the Southern Ocean, and a very useful summary of the outcome of the first workshop on this issue held jointly by CCAMLR and the CEP was also made available. This work is going ahead and SCAR is represented by Dr. Graham Hosie (Member of SC-ATS). Much scope exists for interaction with SCAR-MarBIN, and indeed SCAR-MarBin scientists (e.g. Bruno Danis) will be involved in the second workshop.

A small side meeting drew interested parties' attention to the forthcoming second bioregionalization workshop to be held in Belgium. SCAR is participating in this meeting via a SC-ATS representative and the SCAR MarBin programme.

### **3.10 Subglacial Antarctic Lake Environments**

SCAR introduced IP 015 on “Subglacial Antarctic Lake Environments in the International Polar Year”, noting the exciting research going on, and drawing attention to recent research suggesting from satellite data that subglacial lakes discharge from time to time into subglacial hydrological systems and in so doing may contribute to the speeding up of glaciers and ice streams. The Russian delegation noted that this was at present an unconfirmed hypothesis, while reporting that they had made little progress in further drilling at Lake Vostok, the drill having become stuck in the hole for a considerable period during the last season.

### **3.11 State of the Antarctic and Southern Ocean Climate System**

SCAR introduced IP 05 on the “State of the Antarctic and Southern Ocean Climate System”, noting that this was complementary to the SCAR Lecture (IP 124), which had been given to the ATCM by Professor Rapley, the SCAR President. IP5 represents Phase I of the review of Antarctic climate that SCAR had introduced at XXIX ATCM, and addresses what is known of the physics of the climate system of Antarctica and the Southern Ocean. The review will not be known as an ‘assessment’, but as the Review of Antarctic Climate and Environment. Phase II, which SCAR hopes to present to XXXI ATCM, will include a review of the response of the biota to climate change. These reviews are seen as essential aids to deciding what observations need to be made in future in the systems that are currently being designed to monitor the behaviour of the climate system and its effects, as the basis for understanding processes and underpinning forecasts of future change. SCAR drew attention to the fact that we know much less than might be imagined about the behaviour of ice sheets in a warming world, particularly as far as their mechanical degradation is concerned. A significant collaborative international research effort is needed to improve and enhance the capabilities of numerical models of ice sheet decay. Such research would help to ascertain the likelihood of there being thresholds within the climate system beyond which rapid decay of ice sheets might be expected that would lead to rapid rises in sealevel. SCAR pointed out that the deliberations of the Intergovernmental Panel on Climate Change were deliberately conservative on this issue, and that some scientists considered that there was a possibility that sealevel may rise up to 5 m by 2100, rather than the somewhat less than 1 metre forecast by the IPCC. The higher forecast was consistent with what we know of the last interglacial (125,000 years ago) when temperatures were approximately 2-3°C more than today’s and sealevel was 2-4 m higher. SCAR urged Parties to (i) improve, enhance and sustain observations of the climate system in the region, so as to detect, understand and underpin forecasts of climate change; and (ii) as a matter of some urgency to work together with SCAR to improve models of ice sheet dynamics in relation to sealevel rise. Delegates approved the Resolution in Appendix 3.

### **3.12 International Polar Year**

Chris Rapley introduced IP 73 and explained progress with the IPY. A number of Parties introduced papers describing their own activities within the IPY.

### **3.13 Resolution on Sustained Observations**

In response to the interventions on Antarctic climate and on the IPY, the Parties supported a Resolution regarding the need to maintain and extend monitoring and sustained observations of the environment and the climate system.

### **3.14 Census of Antarctic Marine Life (CAML)**

Australia introduced IP 32, Census of Antarctic Marine Life, noting that this SCAR programme was off to a good start with a cruise at the beginning of the year on Polarstern to look at re-colonisation of the seabed beneath the collapsed ice shelves in the Weddell Sea.

## **4. XXX ATCM**

### **4.1 The SCAR Report**

The SCAR President, Prof. Chris Rapley, introduced the SCAR Report to XXX ATCM (IP 06), drawing attention in particular to the need to develop observing systems as key legacies of the IPY, and noting SCAR's leadership role in this activity.

### **4.2 Hydrography**

The representative of the International Hydrographic Office, in introducing his Information Paper, stressed the need for Parties to undertake comprehensive hydrographic surveys as an aid to navigation, and to exchange hydrographic information.

SCAR noted that hydrographic information (on the bathymetry) was also useful for geological interpretation, as a feature of ecosystems, and as essential input to ocean models, and reported that for undersampled areas of the world ocean, such as the Southern Ocean, SCOR and SCAR had recently written to their national committees asking them to ensure that Principal Investigators collected swath bathymetric data from unsampled areas and forwarded it to the appropriate World Data Centre, where it would contribute to the construction of the International Bathymetric Chart of the Southern Ocean (a SCAR and GEBCO project).

### **4.3 The SCAR Lecture**

The SCAR Lecture - 'Climate Change and the Antarctic: What Next?' – was very well attended, and very well received. Several requests were made for copies of the PowerPoint slides (which are now on the SCAR web site). A press release on the SCAR Lecture was provided to the ATCM organizers, and Colin Summerhayes gave an interview on this topic to the Hindustan Times.

### **4.4 International Polar Year**

Dave Carlson introduced IP 73 (IPY Report for ATCM XXX) with some recent updates from IPY. He reminded the group of central themes from the Edinburgh Declaration on IPY. He then described IPY launch activities. The IPY web site functions as the information centre for IPY activities – it already had a report from this ATCM meeting. Dr. Carlson showed the 228 endorsed IPY projects at the start of IPY, and emphasized the international nature of these projects. In terms of IPY funding, he estimated, for the 2-year IPY period, \$820M in existing science funds (annual polar research resources reprogrammed for IPY) and \$430M in new science funds, for a 2-year total of \$1.25B. He emphasized the need for approximately \$250M of additional funds. Many parties plan new ships and new or refurbished Antarctic bases during IPY. Although difficult to estimate, the total of these infrastructure investments during IPY probably runs to several 100 million dollars.

Dr. Carlson emphasized the urgency of plans for legacy activities, in particular for sustained observational capabilities (see Resolution in Appendix 3) and for networks of young scientists – the future generations of polar researchers. Finally, Dr. Carlson described plans for IPY science conferences approximately every 2<sup>nd</sup> year. He emphasised two such events: a mid-term IPY assessment conference as part of the SCAR/IASC Open Science Conference in July 2008 (St. Petersburg) and an early science conference in May or Jun 2010 in Norway.

### **4.5 Aliens in Antarctica**

SCAR introduced IP 49, IPY Aliens in Antarctica, noting that the cooperation of Parties and of COMNAP was sought to facilitate the collection of samples from visitors to Antarctica, and from cargoes, so as to identify the flux of spores, seeds and other propagules into the continent from elsewhere. SCAR noted that propagules may well have been introduced into Antarctica before Antarctic exploration began, as components of wind-blown dust. There was therefore merit in analysing dust in ice cores for pollen and the like, to establish a baseline for the non-human introduction of propagules.

### **4.6 State of the Antarctic and Southern Ocean Climate System**

SCAR introduced IP 5, State of the Antarctic and Southern Ocean Climate System (SASOCS), noting that it was now clear that the Antarctic climate since

the last glacial maximum has been quite variable on millennial and finer scales, and that observations sustained over the long term are therefore essential to enable us to differentiate between natural and human-induced climate change. This realisation underpins the proposal by the ICSU-WMO Joint Committee for the IPY that one of the IPY legacies should be sustained observing systems, and the proposal that the ATCM support a Resolution in support of sustained observations in the region.

SCAR listed the dramatic changes in climate that had occurred in the region, especially around the Antarctic Peninsula, where there was extraordinary warming, shrinkage of glaciers, shrinkage of sea ice, and the collapse of ice shelves. These changes were now believed to be driven by global warming, further evidence for which was the newly discovered tropospheric warming accompanied by stratospheric cooling over the Antarctic continent, and the warming of Southern Ocean waters.

SCAR noted that although the ice sheets play a critical role in controlling global sealevel, we are currently unable to effectively model the dynamic processes of ice sheet decay. SCAR therefore called on Parties to work closely with SCAR to improve ice sheet dynamic models so as to improve forecasts of sealevel change.

#### **4.7 Subglacial Antarctic Lake Environments (SALE) in the IPY**

SCAR introduced IP 15, Subglacial Antarctic Lake Environments (SALE) in the IPY, noting that these lakes seem to be part of a complex, continent-wide hydrological system comprising interconnected lakes and streams. This system is one of the Earth's last great unexplored frontiers and can be expected to contain clues about fundamental Earth and life processes. The latest SALE report is available through the SCAR web page.

SCAR noted that SALE is one of 5 major research projects detailed in IP 5, the SCAR Report to XXX ATCM, and which include research on the modern climate system, Antarctic climate history, the evolution of biodiversity, and sun-Earth interactions. Key upcoming meetings include the International Antarctic Earth Sciences meeting (Santa Barbara, August 2007), the SCAR-IASC Open Science Conference (St Petersburg, July 2008), and the 10<sup>th</sup> International Antarctic Biology Symposium (Sapporo, 2009).

#### **4.8 The Sixth Continent Initiative**

SCAR introduced IP 52, The Sixth Continent Initiative, noting that this addressed capacity building during the IPY, by means of support for fellowships to undertake research on Antarctic bases or from Antarctic ships. SCAR asked Parties to identify potential candidates for the fellowship programme, which is co-sponsored by the International Polar Foundation (IPF), the United Nations Environment Programme (UNEP), and the International Antarctic Institute (IAI).

## Appendix 1

### Actions for SCAR arising from XXX ATCM

#### 1. Codes of Conduct

- Provide report from codes of conduct workshop to ATS Secretariat as soon as it is available.
- Provide a Working Paper to XXXI ATCM on a proposed general code of conduct.

*ACTION: Life Sciences Standing Scientific Group*

*COST: Covered already*

#### 2. Disturbance effects on birds and seals

- Organize an activity (workshop or review) to provide an overview of the available information on disturbance effects on birds and seals and whether rest periods have any scientific basis (but no recommendations on approach distances etc.).
- Provide a Working Paper on this topic to XXXI ATCM

*ACTION: Life Sciences Standing Scientific Group*

*COST: \$ 5000 (split with SC-ATS and securing additional \$ 5000 possibly from RSA)*

#### 3. Status of Southern Giant Petrel

Organize a workshop to provide a final perspective on the Southern Giant Petrel status and population trends (and any mechanisms underlying these trends) and to make a recommendation regarding its status.

Provide a Working Paper to XXXI ATCM making a well-supported recommendation as to whether the species should be listed under Annex II.

*ACTION: SC-ATS*

*COST: \$ 5000 – \$ 8000 and will need host*

#### 4. Environmental Domains Analysis

Organize an activity to provide a review of the environmental domains analysis based on biological data in the RiSCC/EBA database (ideally a single person does this full time and their review is subjected to web-based review by appropriate experts).

Provide a Working Paper to XXXI ATCM, which constitutes a review of the environmental domains analysis.

*ACTION: SC-ATS and LSSG/EBA*

*COST: \$ 10 000 (\$ 6000 from EBA committed, extra funds required)*

**5. Marine Acoustics**

Arrange for a member of SC-ATS to attend meeting in Denmark.

If necessary, provide an Information paper to XXXI ATCM.

*ACTION: SC-ATS*

*COSTS: \$ 2500*

**6. State of the Antarctic Climate System**

Provide an IP update including effects on organisms, at ATCM XXXI.

*ACTION: AGCS*

*COSTS: \$0*

Possibly also provide an IP detailing progress in establishing observing systems

*ACTION: SECRETARIAT*

*COST:\$0*

**Action Items for SCAR remaining from XXIX ATCM**

**Terrestrial biodiversity**

Provide a Working paper on state of knowledge concerning terrestrial biodiversity.

*ACTION: SC – ATS and LSSG/EBA*

*COST: Already covered*

**Appendix 2****Resolution E (2007)****Conservation of Southern Giant Petrel *Macronectes giganteus***

The Representatives

*Recalling* Resolution 4 (2006) on the Conservation of Southern Giant Petrels;

*Noting* that the CEP is keeping under review the possibility of designating the southern giant petrel as an Antarctic Specially Protected Species under Annex II of the Protocol on Environmental Protection;

*Recalling* that the *Guidelines for CEP Consideration of Proposals for New and Revised Designations of Antarctic Specially Protected Species under Annex II of the Protocol* adopted at CEP VIII, which provide, *inter alia*, for assessments of the status of species at a regional or local level;

*Recognising* that, while the southern giant petrel, in its global distribution, is currently being downlisted from *Vulnerable* to *Near Threatened* by the IUCN, concern has been expressed that populations within the Antarctic Treaty area may fulfil the criteria for higher risk status;

*Recognising* that the life-history characteristics of the southern giant petrel may make it particularly sensitive to human disturbance;

*Noting* ACAP's encouragement to the Antarctic Treaty system to further protect breeding sites of southern giant petrels;

*Noting* that many Parties support a precautionary approach to this matter;

**Recommend that:**

1. All Parties be encouraged to make available existing relevant scientific data and results to SCAR and to implement new research into the population biology of southern giant petrels;
2. SCAR, in collaboration with ACAP, CCAMLR and other relevant bodies as appropriate, complete a review as soon as practical of the population status and trends of the southern giant petrel in the Antarctic Treaty area including an assessment of:
  - a. whether this species fulfils the criteria for designation as a Specially Protected Species under Annex II of the Protocol at a regional scale (the Antarctic Treaty area), and;



- b. the demographic mechanisms underlying any changes in the population size;
3. The Chair of CEP contact the Secretariats of ACAP and CCAMLR to seek information on current conservation management measures for the southern giant petrel;
4. All Parties are encouraged to provide to the CEP website <http://cep.ats.aq> details of all existing national regulations, management plans or site guidelines for all areas with breeding colonies of southern giant petrels which may be at risk of disturbance that may serve as an example to develop an Action Plan for the Antarctic Treaty area under the *Guidelines for CEP Consideration of Proposals for New and Revised Designations of Antarctic Specially Protected Species under Annex II of the Protocol* and better inform local and regional measures to protect southern giant petrels in the Antarctic Treaty area;
5. In the intervening period, all Government and non-Governmental activities in Antarctica be planned so as to limit negative impacts on southern giant petrels.

**Appendix 3****Resolution G (2007)****Long-term Scientific Monitoring and Sustained Environmental Observation in Antarctica**

The Representatives,

*Recalling* the Edinburgh Antarctic Declaration on the IPY 2007-2008 that was agreed at ATCM XXIX, which supports the objective of delivering a lasting legacy for the IPY, and promotes increasing collaboration and coordination of scientific studies within Antarctica;

*Recalling* that the CEP has a continuing commitment to environmental monitoring related to the implementation of the Protocol;

*Noting* that the Arctic Council Ministerial Meeting of 26 October 2005 urged all member countries of the Arctic Council to maintain and extend long-term monitoring of change in all parts of the Arctic as well as to create a coordinated Arctic observing network;

*Recalling* the success of the CCAMLR Ecosystem Monitoring Programme in providing over two decades of circum-Antarctic data on the Antarctic marine ecosystem and biological environment;

*Welcoming and supporting* SCAR's proposal to establish a multi-disciplinary pan-Antarctic observing system, which will, in collaboration with others, coordinate long-term monitoring and sustained monitoring and observation in the Antarctic;

**Recommend** that the Parties:

1. Urge national Antarctic programmes to maintain and extend long-term scientific monitoring and sustained observations of environmental change in the physical, chemical, geological and biological components of the Antarctic environment;
2. Contribute to a coordinated Antarctic observing system network initiated during the IPY (2007-09) in cooperation with SCAR, CCAMLR, WMO, GEO and other appropriate international bodies;
3. Support long-term monitoring and sustained observations of the Antarctic environment and the associated data management as a primary legacy of the IPY, to enable the detection, and underpin the understanding and forecasting of the impacts of environmental and climate change.

## **Report from the SCAR Delegation to XXXI ATCM in Kiev, Ukraine, 2008**

### **1. Introduction**

The meeting in Ukraine took place at the Hotel Rus, Kiev, from 2<sup>nd</sup> to 13<sup>th</sup> June 2008.

The SCAR Delegation comprised Colin Summerhayes (Head of Delegation), Steven Chown (leading the CEP Delegation), Mike Sparrow, and Louis Lanzerotti who presented the SCAR lecture. SCAR also represented the IPY-IPO.

Most of the Members of SC-ATS attended the meeting (S. Chown, C. Kennicutt, H. Miller, S. Marensi), which facilitated decision making on key issues concerning SCAR's presentations to the CEP and the ATCM.

### **2. SCAR Input**

SCAR provided two Working Papers and five Information Papers (two on behalf of the IPY International Project Office). Papers comprised those dealing with requests put to SCAR as well as those providing information to the CEP, specifically:

**WP10:** Status of the Regional, Antarctic Population of the Southern Giant Petrel – progress (and its addendum which included the outcome of the workshop on this question held by SCAR)

**WP 12:** Human Disturbance to Wildlife in the Broader Antarctic Region: A Review of Findings

**IP 59:** International Polar Year 2007-2008 Planning Document: 2008 and Beyond (presented by SCAR on behalf of the IPY)

**IP 60:** SCAR Lecture – Space Weather and its Effects

**IP 62:** Antarctic Climate Change and the Environment: A Progress Report

**IP 74:** SCAR Annual Report 2007 – 2008

**IP 88:** The Antarctic Treaty Summit (presented by SCAR on behalf of the IPY)

The papers are available for download from the SCAR web site at <http://www.scar.org/treaty/atcmxxxi/index.html>

### **3. Committee on Environmental Protection XI**

#### **3.1 Human Disturbance to Wildlife in the Broader Antarctic Region**

SCAR introduced WP 12, noting that the paper was prepared in response to a request made at CEP X for a report on the current state of knowledge with respect to human disturbance of wildlife, and based on a commissioned study undertaken by Dr. Marienne de Villiers of South Africa. SCAR drew attention to the Working Paper's two major conclusions and three recommendations. Specifically, SCAR noted that the effects of human disturbance on Antarctic wildlife are highly variable and that no 'one size fits all' solution can be applied to managing human disturbance effects on wildlife. SCAR also noted with concern the decline in the numbers of long-term studies being undertaken and recommended that parties encourage long-term work that will help improve management of wildlife populations in the region. SCAR also recommended that studies that are site-, timing-, and species-specific are required to produce results that are of use in the management of human activities near wildlife aggregations, and that investigations of interactions between human disturbance and other factors affecting wildlife populations are urgently required.

SCAR was congratulated on its report by many delegations, several of which noted the importance of undertaking long-term research, especially in the context of other factors affecting wildlife populations in the region. SCAR was thanked by the CEP for its comprehensive, informative and useful paper and noted that the contents thereof would be widely used by CEP members.

#### **3.2 Status of the Regional, Antarctic Population of the Southern Giant Petrel**

This matter has a long history and was the subject of some embarrassment to SCAR at CEP X when SCAR had to withdraw its Working Paper on the matter, and issue a statement as to why it had done so. Subsequently a workshop to resolve the status of this species was held in Cambridge (May 2008) and a revision to WP10 based on the outcome of this meeting was produced. SCAR presented WP10 rev.1 to the CEP. This workshop reviewed all available data thoroughly and developed an assessment of the regional status of the Southern Giant Petrel according to the criteria developed by the IUCN.

On the basis of this assessment SCAR recommended to the CEP that according to the IUCN Red List Categories and Criteria, the Southern Giant Petrel population south of 60°S is of Least Concern, and does not qualify as Critically Endangered, Endangered, Vulnerable or Near Threatened. It also pointed out that this was true of the population north of 60°S, based on a similar assessment undertaken at the workshop on data from this region. SCAR thus recommended that the present data and analysis do not support the designation of the Southern

Giant Petrel as a Specially Protected Species under Annex II to the Protocol on Environmental Protection.

SCAR was widely congratulated within the CEP for its excellent report and members commented that this is exactly the way that science and policy should interact in this context. The CEP accepted the SCAR recommendation and took it forward to the ATCM.

As part of its Working Paper SCAR made a call for additional censuses and demographic work on the species. SCAR Delegates should encourage researchers in their countries to examine the recommendations in this regard, to send further comments on the proposals to ACAP, and where possible to send on their data on this species to ACAP. The Working Paper and its addendum can be downloaded from [www.scar.org/treaty/atcmxxxi/index.html](http://www.scar.org/treaty/atcmxxxi/index.html).

### **3.3 International Polar Year 2007-2008 Planning Document: 2008 and Beyond (Also submitted to ATCM)**

On behalf of the International Polar Year (IPY) Project Office, which was unable to attend the meeting, SCAR presented IP 59 on the “IP - Planning for 2008 and Beyond”. The presentation focused on the development of IPY legacies. The various IPY projects represent US\$ 800 million in funding existing activities during the 2 year IPY period, plus US\$ 400 million in new science funds as of early May, making a total spend of \$ 1.2 billion, none of it representing major infrastructure.

Sustaining this funding for science will be an important part of the IPY legacy. The presentation highlighted the need to sustain observing networks; data collection, management and exchange; the development of future researchers; the environmental legacy; political cooperation and an informed public. An informed public could be a key to sustained resources for all the other activities. While the science is well funded, and aspects like observing systems, future researchers, and outreach to inform the public and gain political cooperation and moderately developed, the same cannot be said of data or the environmental legacy. The IPY paper noted that national funding is needed for national IPY data coordinators. Progress is slow and the help of Parties was requested.

The CEP Chairman urged Parties to support IPY Legacy activities.

### **3.4 Antarctic Climate Change and the Environment: A Progress Report (Also submitted to the ATCM)**

SCAR presented IP 62 on this topic. The paper is an update on the paper that SCAR presented in New Delhi, and includes a review not only of the physics of the climate system but also its biological effects. It is the executive summary of a book-sized product that will shortly be out for review by the wider scientific

community. It expands on the IPCC report of February 2007, which was global and could not spare much time for Antarctica. SCAR's presentation focussed on the last 50 years and the next 100 years. The report will be circulated widely for comment, including to the CEP and CCAMLR, to enable feedback to be assimilated before publication.

The report was very well received, but stimulated little debate, the discussion on climate issues focusing instead on the control of emissions in the Antarctic. SCAR was asked to bring updates on Antarctic climate change to future CEP meetings.

### **3.5 Environmental Domains Analysis**

New Zealand submitted the final version of the Environmental Domains Analysis (EDA) (WP 27) which it has been working on for several years. The EDA was accepted by the CEP and it was suggested that this form the basis for explicit conservation planning in the region, and perhaps also for understanding various environmental risks. SCAR agreed to assess the extent to which the EDA might form a useful surrogate for biodiversity information, and report on the extent of the biodiversity information available for the region. SCAR also agreed that as part of this process it could undertake a risk assessment for invasions based on these two different sets of data.

### **3.6 Persistent Organic Pollutants**

A request was made by the Stockholm Convention for information on persistent organic pollutants in the Antarctic Treaty Area, via an Information paper (IP 97) submitted by Chile. SCAR had prepared or this discussion with a briefing paper from the Action Group on Environmental Contamination in Antarctica. Following discussion, SCAR agreed to provide a review of such information for submission to the CEP by CEP XII.

### **3.7 Management plans for ASPAs and ASMAs**

SCAR was requested to resume its provision of advice on these plans, but on scientific issues only, that would be clearly defined in the context of each plan. SCAR noted that this is in keeping with its review of SC-ATS, the outcome of which would be serving at the SCAR Delegates meeting in 2008.

### **3.8 Aliens in Antarctica**

The CEP requested that as soon as provisional information was available from the IPY Aliens in Antarctica project SCAR should make this available in conjunction with the parties leading and undertaking the project.

## **4. Antarctic Treaty Consultative Meeting**

### **4.1 SCAR Annual Report 2007 – 2008**

On behalf of the SCAR President, Vice President Sergio Marensi presented in Spanish a comprehensive report (IP 74) on SCAR's activities in the intersessional period, noting that SCAR's two main functions are international coordination of pan-Antarctic science, and providing scientific advice to the Treaty System, and that this is SCAR's 50<sup>th</sup> anniversary year. SCAR now leads a network of the four main bodies of the International Council for Science (ICSU) that are concerned with scientific research in the Polar Regions and/or the cryosphere; these include SCAR, the World Climate Research Programme (WCRP), the International Arctic Science Committee (IASC), and the newly formed International Association for Cryospheric Sciences (IACS) of the International Union for Geodesy and Geophysics (IUGG). Creation of this 4-component network will help to ensure that polar scientific research is effectively coordinated. SCAR is making major contributions to the International Polar Year (IPY) 2007-2009, and organising the first IPY Science Conference (July 8-11 2008, St Petersburg, Russia). During the intersessional period SCAR's research focused on five key themes in Antarctic science: (i) the modern ocean-atmosphere-ice system and its role in global climate change; (ii) the evolution of climate over the past 34 million years since glaciation began; (iii) the response of life to change; (iv) preparations to study subglacial lakes and their environs; and (v) the response of the Earth's outer atmosphere to the changing impact of the solar wind at both poles. He reminded Parties of the several SCAR papers or the ATCM/CEP meetings, and about the SCAR lecture. He also noted that SCAR is working to improve the way in which it provides advice to the Treaty System, and to that end held a workshop in Cambridge, UK, in May 2008, which was attended by Neil Gilbert (Chair of CEP), and Tito Acero (ATS Secretariat). SCAR is grateful to the assistance of experienced people from the Treaty System in taking this forward.

The report was well received.

### **4.2 SCAR Lecture – Space Weather and its Effects**

The SCAR lecture, on "Space Weather and its Effects", and providing SCAR with an opportunity to highlight the work of ICESTAR, was given by Professor Louis Lanzerotti of New Jersey Institute of Technology, a member of the US National Academy of Engineering, and took place between 11h30 and 12h30 on Wednesday June 4<sup>th</sup>. It was very well received.

### **4.3 Bioprospecting**

A discussion on the question of bioprospecting in the Antarctic Treaty Area arose in the Legal and Institutional Working Group of the ATCM. SCAR was asked to advise on bioprospecting and specifically to provide the following to ATCM XXXII:

1. Review the most recent published research that may involve bioprospecting in the Antarctic Treaty region, and provide an assessment of these efforts from discovery to development to commercialization to product use, based on fundamental scientific principles.
2. Provide a survey of ongoing bioprospecting research being undertaken within the SCAR community.

SCAR agreed to do so. This will involve a review of existing databases, including the Antarctic biological prospecting database.

### **4.4 Climate Change (also addressed under CEP)**

Under Agenda item 13 of the ATCM, SCAR reminded Parties that Paper IP 62 drew attention to 8 statistically significant changes in the Antarctic that had taken place since 1950 or 1970 and that seemed to be caused by global warming associated in some instances with extreme stratospheric cooling caused by the ozone hole; both the warming and the stratospheric cooling were anthropogenic. The eight examples were:

- (i) steepening of the pressure gradient between mid latitudes and Antarctica, causing the circumpolar winds to increase by 15-20% since the late 1970s.
- (ii) fewer but more intense cyclones in the circumpolar trough;
- (iii) summer warming on the eastern side of the Antarctic Peninsula, related to the stronger winds carrying warm air across the Peninsula;
- (iv) decay of the ice shelves on the eastern side of the Peninsula (same cause);
- (v) warming of West Antarctica since 1800 as shown by the Siple Dome Ice Core;
- (vi) loss of ice in the Amundsen Sea embayment at the same rates as ice loss in Greenland (e.g. Pine Island Glacier), caused by a warming ocean undermining the glacier;
- (vii) warming of the Southern Ocean between 700-1000 m;
- (viii) tropospheric warming at 5 km above sea level at rates higher than elsewhere in the world.



#### **4.5 IPY (also addressed under CEP)**

During ATCM agenda item 10, SCAR also introduced IP 62, noting that around 45% of IPY programmes had major funding, and around 30% had at least partial funding, SCAR drew attention to the need to sustain the high output of high quality scientific papers on the Antarctic region that would stem from the IPY investments. SCAR agreed with the Australian delegation's observation that increasing fuel prices would make it even more imperative that scientists collaborate internationally in the future to tackle key scientific questions in an interdisciplinary and pan-Antarctic way. SCAR noted that IPY was leading to more bipolar research, which would lead to improved understanding of topics like ice sheet change and sea level. This trend should continue.

SCAR reminded Parties that observing systems to provide the information required to understand and be able to forecast variability and change are expected to be a key legacy of the IPY, and that Resolution 3 (2007) called for Parties to maintain and extend the appropriate systems to capture this information through long-term monitoring and sustained environmental observation. Two key questions arise: what are the most effective tools and systems to provide the required information? and how can the necessary observations be maintained over terms longer than the traditional research funding grants?

The ATCM Chairman urged Parties to commit to the implementation of Resolution 3 (2007) so as to maintain the IPY legacy.

#### **4.6 Hydrographic Surveying**

Commenting on WP 38 (hydrographic surveying), SCAR noted that in November 2007 together with SCOR it had issued a SCAR Circular (768) on the need for national scientific organizations to gather Southern Ocean bathymetric data and submit it to a recognized database. As pointed out by Dr Schencke during the International Hydrographic Office's Seminar for the ATCM, these data are essential for geological, geochemical and geophysical analysis, the identification of habitats, and as a critical controlling parameter on the output of advanced ocean circulation and tidal models. Bearing that in mind SCAR and SCOR had recommended that funding agencies worldwide should

- (i) encourage project scientists to incorporate in their proposals requests to collect and process multi-beam bathymetric data;
- (ii) fund multi-beam bathymetry data acquisition and processing on all research vessels equipped with multi-beam echo-sounders, whether on transit or on location;
- (iii) ensure that the data are submitted together with track data to the World Data Center for Marine Geology and Geophysics.

In addition SCAR and SCOR recommended that principal investigators use the track maps from that data center to identify gaps that need filling with new data, and allocate sufficient time on transit to fill such gaps. This will contribute to the database for the International Bathymetric Chart of the Southern Ocean (IBCSO), as well as making a contribution to charts for safe navigation.

ATCM Resolution D called for Parties to collect hydrographic and bathymetric data on all voyages, to forward data to the appropriate chart producer, and to improve charting and surveying in the region.

## 5. Products to be delivered by ATCM XXXII

ATCM XXXII will take place in Baltimore, USA, from April 6-17, 2009. As a result of this early date, the deadline for working papers to be submitted to the Antarctic Treaty Secretariat is 20 February 2009. To give effect to its work in the ATCM/CEP, SC-ATS will have to undertake the work undertaken as indicated in the Table below. The work is budgeted for in 2008 and 2009, and in keeping with the need to keep SCAR Delegates informed of budget requests, the budget for 2010 is also included with an indication of what might emerge.

<b>SC-ATS Activity</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Persistent organic pollutants (for 2009)	2500	2500	0
Biodiversity and EDA Assessment (for 2009/10)	5000	3000	0
Alien risk assessment (for 2009)	1000	1000	0
Conservation planning assessment (for 2010)	2000	1000	0
Management plans consideration (all years)	1000	1500	2500
Bioprospecting (for 2009)	3000	2000	0
Aliens in Antarctica (for 2009 and 2010)	0	2500	1500
Matters arising from SCAR SSGs and Delegates	0	1500	2500
ATCM & CEP requests	0	0	3500
Conservation Science for Antarctica (for 2011)	0	0	5000
Climate change update	0	0	0
SCAR Annual Report (all years)	0	0	0
IPY report (on behalf of IPY-IPO) (all years)	0	0	0
Code of Conduct for Fieldwork (2009)	0	0	0
Travel to ACAP/CCAMLR (all years)	5000	5000	5000
<b>Totals</b>	<b>19500</b>	<b>20000</b>	<b>20000</b>

# **Report of the Twenty-Fourth Meeting on the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)**

**(Hobart, Australia, 23 October to 3 November 2006)**

Graham Hosie  
SCAR Observer to CCAMLR

## **Introduction**

1. The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) is an intergovernmental organisation established by an international convention. The Commission is assisted by the Scientific Committee, which is responsible for developing measures necessary for the conservation of the marine life of the Southern Ocean surrounding Antarctica. In turn, the Scientific Committee is assisted by various working groups, sub-groups and workshops that meet intersessionally. Controlled harvesting is permitted under the convention, provided it is carried out in a rational manner while taking into account the potential effects on the marine ecosystem. Targets for fishery are mainly krill, toothfish, and icefish, and on a smaller scale, squid and crabs. For the purpose of managing target species, as well as dependent and related species, the Commission meets annually and decides upon Conservation measures and other recommendations. SCAR is an Observer to the meetings of the Commission.

2. The twenty-fifth annual meeting of the Commission was held at the CCAMLR headquarters in Hobart, Tasmania, Australia, from 23 October to 3 November 2006. The meeting was chaired by Prof. Seo-hang Lee (Republic of Korea). After the opening of the meeting, the Commission typically adjourned for the first week to allow the Scientific Committee to first conduct its activities and report back to the Commission. The Scientific Committee met between 23 and 27 October and was Chaired by Dr Edith Fanta (Brazil). The meeting of the Commission resumed on 31 October. Prof. Lee's term as Chair of the Commission ended at the conclusion of CCAMLR-XXV. The Commission elected Namibia as Chair of the Commission from the end of this meeting to the conclusion of the 2008 meeting (CCAMLR-XXVII). Dr Fanta was re-elected to the Chair of the Scientific Committee for a second term (2007 and 2008).

3. The Commission was attended by all of the 24 members: Argentina, Australia, Belgium, Brazil, Chile, European Community, France, Germany, India, Italy, Japan, Republic of Korea, Namibia, New Zealand, Norway, Russian Federation, South Africa, Spain, Sweden, Ukraine, United Kingdom, United States of America and Uruguay. Observers also attended from four of the ten

acceding nations, People's Republic of China, Mauritius, Netherlands and Peru. Bulgaria, Canada, Cook Islands, Finland, Greece, and Vanuatu did not attend. Observers attended from various non-contracting parties, and international organisations such as SCAR. Details about the Commission, its membership, committees, and working groups can be found at the [www.ccamlr.org](http://www.ccamlr.org) website.

4. SCAR was represented by myself and also by SCAR's Executive Director Dr Colin Summerhayes during the week of the Scientific Committee. Dr Summerhayes attendance at CCAMLR-XXV helped reinforce SCAR's commitment to working closely with CCAMLR.

5. A report on SCAR activities of relevance to CCAMLR was submitted in advance and was registered as Commission background document CCAMLR-XXV/BG/22. This report is available under "Partnerships and Links" on the following web page: <http://www.scar.org/researchgroups/lifescience/>. An additional report (CCAMLR-XXV/BG/23) was submitted reporting on SCAR's third international workshop on marine acoustic studies convened at the University of Cadiz, Spain in January 2006. This report was requested by CCAMLR. I gave a detailed report on SCAR activities to the Scientific Committee (SC) as part of a standing item on the SC Agenda - "Cooperation with other organisations, (i) Cooperation with the Antarctic Treaty System." Dr Summerhayes delivered the acoustics report during this item, drawing attention to the document that had been presented by SCAR to the ATCM in Edinburgh in June 2006, and which can be found at: [\(http://www.scar.org/researchgroups/geoscience/acoustics/\)](http://www.scar.org/researchgroups/geoscience/acoustics/). I reinforced key issues in a second presentation to the full Commission, again as a standing Commission Agenda Item – "Cooperation with other elements of the Antarctic Treaty System, (ii) Cooperation with SCAR".

6. This present report deals with CCAMLR activities of relevance to SCAR, plus comments, discussion and feedback on the SCAR report to CCAMLR, mentioned in (5) above, which should also be read in conjunction with this report.

### **EBA, CAML, CPRAG, SCAR-MarBIN Activities**

7. Progress in the developments of the EBA, CAML, and SCAR-MarBIN projects and the development of the new Action Group on Continuous Plankton Recorder research (CPRAG) was presented. The Commission was advised on the value of these activities to CCAMLR in relation to providing information on the status of the marine biodiversity of the region, which will contribute to monitoring studies, resource management, bioregionalisation and the development of MPAs. These projects will provide information on natural variability in the ecosystem as well as on responses to environmental changes, which CCAMLR will require to meet its objectives. CCAMLR was encouraged to participate fully in these projects, and opportunities for collaboration between CAML and

CCAMLR's IPY krill survey were emphasised. I further suggested that CCAMLR could enhance SCAR-MarBIN by contributing their metadata records to it.

8. In order to facilitate better collaboration and exchange of data between SCAR and CCAMLR, I advised CCAMLR that the SCAR-MarBIN Management will invite CCAMLR's Data Manager Dr David Ramm onto the SCAR-MarBIN Scientific Steering Committee. SCAR-MarBIN looks forward to Dr Ramm's attendance at the next SCAR-MarBIN SSC Meeting in Poland in June 2007. Similarly, CCAMLR was advised that CPRAG was also interested in having a member from CCAMLR on the action group. CCAMLR is likely to be major client of data produced by the Southern Ocean CPR Survey. CCAMLR welcomed the initiatives and is keen to participate.

9. Dr Volker Siegel (EC & Convener of the CCAMLR-2008-IPY Survey Steering Committee) was an invited expert to the CAML Scientific Steering Committee in Bremerhaven, Germany, in June 2006. I reported to CCAMLR that his involvement was greatly appreciated and he has continued to work with CAML to incorporate proposed CCAMLR sampling protocols in CAML protocols so that data may be shared. The CAML SSC intends to invite Dr Siegel to the next planning meeting in Poland in June 2007.

10. Dr Constable (Australia) noted that many of the scientific research programs of SCAR are directed at terrestrial species but theoretical biological questions for marine species related to climate change would be of more interest to CCAMLR. This includes how Antarctic marine species may respond to climate change or how their ranges may alter. I assured CCAMLR that marine research is a significant component of SCAR's research, especially in EBA and particularly in CAML as a key component of EBA. The Oceanography Expert Group and Southern Ocean Observing System (paragraph 12) also addresses climate change issues and will assist CCAMLR.

11. The issue of climate change effects on the Antarctic marine ecosystem was mentioned a number of times in the Commission and Scientific Committee, specifically how the effects of fishing might be distinguished from the effects of climate change. CCAMLR has requested that members consider how climate change effects could be assessed and provide submissions on this item to the next meeting of WG-EMM. SCAR can play a role here in providing information on climate change effects, as well as natural patterns of variation.

### **Expert Group on Birds and Seals**

12. CCAMLR noted the possible merger of the seal and bird groups, which is expected to lead to enhanced expertise in quantitative numerical analyses and modelling, and waits to see how the new group will work with CCAMLR and its Working Group on Ecosystem Monitoring and Management WG-EMM.

## SCAR-SCOR Oceanography Expert Group

13. CCAMLR noted the development of this new group and that one of its tasks is the development of the Southern Ocean Observing System (SOOS) which will provide information on the effects of climate change useful for CCAMLR. Dr Stephen Nicol (Australia) is a member of the expert group and will be a useful link with CCAMLR. Dr Summerhayes and I are on the organising committee of the next SOOS workshop. CCAMLR was asked to join in the discussions at that workshop.

## Future SCAR Meetings

14. CCAMLR was advised of the next SCAR XXX meeting and 3rd Open Science Conference scheduled for St Petersburg, July 2008. CCAMLR was also advised that the 10<sup>th</sup> SCAR Biology Symposium is scheduled for 2009 in Sapporo, Japan, and Prof. Mitsuo Fukuchi is coordinator. Both the 3<sup>rd</sup> OSC and the 10<sup>th</sup> SCAR Biology Symposium are expected to have a strong IPY focus, and CCAMLR's involvement in both meetings would be welcomed.

**Recommendation:** SCAR will again invite the Chair of the Scientific Committee of CCAMLR to be an observer at SCAR-XXX.

## Marine Protected Areas and Bioregionalisation

15. The Co-Conveners of the Bioregionalisation Steering Committee, Drs Penhale (USA) and Grant (UK), presented a report on development of the 2007 CCAMLR Workshop on Bioregionalisation. This workshop is scheduled for 13-17 August 2007 in Brussels, Belgium. The Workshop will focus on the technical development of methods for bioregionalisation of the Southern Ocean. The aim will be to provide advice on bioregionalisation and if possible the fine-scale subdivision of biogeographic provinces.

16. The workshop steering committee noted the Commissions comments from CCAMLR-XXIV (2005) to the effect that there was a strong need for collaboration at technical and policy levels to further develop the MPA concept in the Southern Ocean, and that participants from key elements of the Antarctic Treaty System should be involved - this includes SCAR. The workshop will invite appropriate observers and technical experts, and will be looking for appropriate datasets to assist in the analyses. SCAR-MarBIN will be important for the latter. SCAR will be invited to the workshop. **Recommendation:** When invited, we should nominate Dr Bruno Danis, Scientific Coordinator of SCAR-MarBIN, who is based in Brussels and I am willing to attend in order to maintain continuity (see paragraphs 18-20). Note: Dr Danis is likely to be invited directly by the workshop convenors.

17. The Scientific Committee noted that bioregionalisation analysis may need to consider the effects of climate change, and the results will need to be updated if and when new information becomes available. SCAR can play a role here in providing such information.

18. Dr Andrew Constable (Australia) presented a report on the independent Experts Workshop on Bioregionalisation of the Southern Ocean held in Hobart, September 2006. The workshop was hosted by WWF-Australia and the Antarctic Climate and Ecosystems Cooperative Research Centre (Hobart), and supported by Peregrine Adventures, a tourist operator. Some members of the CCAMLR Bioregionalisation Steering Committee and CCAMLR Secretariat were able to attend. I attended as the SCAR Observer and also as an expert on zooplankton and the pelagic ecosystem in the Indian Ocean sector.

19. The aim of the Experts Workshop was to develop a “proof of concept” for a broad-scale bioregionalisation of the Southern Ocean that would aid CCAMLR in its bioregionalisation work. The workshop mainly used physical environmental data and chlorophyll concentrations derived from satellite data, but data sourced from SCAR-MarBIN and CPR data were also used. New and quite innovative quantitative analytical techniques were applied during this workshop. The report of this workshop was launched during CCAMLR-XXV and is available at [www.wwf.org.au/publications/bioregionalization-southern-ocean](http://www.wwf.org.au/publications/bioregionalization-southern-ocean).

20. The Commission noted the success of the independent Experts Workshop in demonstrating the feasibility of a broad-scale bioregionalisation analysis as an early step towards the identification of MPAs. My assessment is that the methods developed at this workshop will also be of use to EBA and CAML. Further CAML and SCAR-MarBIN will be essential for the ultimate development of MPAs.

### **CCAMLR-IPY Krill Survey**

21. Dr Volker Siegel (Convenor of the CCAMLR-IPY Survey) advised the Scientific Committee that there had been no progress in the development of the survey. Member States had not been able to commit ship time to the project, with the exception of Peru, an Acceding State. Consequently, it will not be possible to obtain a revised estimate of krill biomass in Area 48 (Antarctic Peninsula, Scotia Arc region) in 2008 as a contribution to the IPY.

22. A new CCAMLR-IPY Steering Committee was formed, with Mr Svein Iversen (Norway) and Dr Edith Fanta (Brazil) as convenors, to develop a modified acoustic research project on krill and other species, making use of other vessels operating in Antarctica during IPY. CAML is in a position to assist. Many of the ships in the CAML fleet are expected to have acoustics system and krill sampling nets appropriate for a krill survey. Subsequently, I have been invited as a member of the steering committee to provide a link with SCAR and CAML, with

the agreement of Prof. Michael Stoddart CAML Administrator, as well as for my expertise in krill surveys. Other members are Drs V. Alder (Argentina), M. Azzali (Italy), M. Gutierrez (Peru), S. Hanchet (New Zealand), N. Sanjeevan (India) and D. Ramm (CCAMLR Data Manager). Note: Dr Siegel resigned as convenor as he believed that the new committee should be lead by a member whose country can participate in the new CCAMLR-IPY Survey. Dr Siegel's efforts in attempting to develop the survey were strongly commended.

23. The new CCAMLR-IPY SC will meet in Cambridge in early May 2007 in association with CCAMLR's Subgroup on Acoustic Survey and Analysis Methods (SG-ASAM). SG-ASAM has been tasked with developing the acoustic sampling protocols for IPY 2008. **Recommendation:** I will attend the workshop then convey the protocols and the research plan set for CCAMLR-IPY to the CAML SSC to be incorporated into CAML where possible.

### **US AMLR Research and Monitoring Program**

24. Dr Rennie Holt (USA) advised the Scientific Committee of the difficulties the US Antarctic Marine Living Resources (AMLR) Program is experiencing in securing an appropriate budget and vessel in order to continue its predator-prey ecosystem-based research. AMLR has been operating for 18 years. It provided invaluable data for CCAMLR, which led to the development of population models for krill in the southwest Atlantic. There are few long term continuous biological surveys in Antarctica and its potential closure should be a matter of concern for the whole Antarctic community.

25. AMLR has developed long term collaborations with Chile, Germany, the Republic of Korea and other nations. Cessation of the AMLR Program will probably affect the research of those nations. **Recommendation:** SCAR will need to assess if this will also have an impact on SCAR research activities and may also wish to consider if there is any support or action that may assist AMLR in securing support from its funding agency.

### **Next Meetings and Collaboration with CCAMLR**

26. The next meeting of the Commission CCAMLR-XXVI will be from 22 October to 2 November 2007 at the CCAMLR Headquarters in Hobart.

27. As noted in my report last year on CCAMLR-IV (paragraph 25) CCAMLR's Scientific Committee values the contributions made by Observers in its work and considered ways to enhance expert contributions at future meetings of its working groups. The Scientific Committee agreed that invitations to Observers attending SC-CAMLR meetings could be extended to intersessional meetings of its working groups, subject to the following conditions:



- (i) all Observers participate at meetings in accordance with the Scientific Committee's rules of procedures;
- (ii) Observers with expert contributions submit meeting documents in accordance with the guidelines for the submission of meeting documents at working groups;
- (iii) the meeting convener and the Chair of the Scientific Committee would review each meeting document submitted by Observers and determine the scientific merit of the contribution and its relevance to the objectives of the meeting;
- (iv) subject to approval by the meeting convener and the Chair of the Scientific Committee, Observers who provided a significant scientific contribution (by way of a meeting document) would be invited to participate in the intersessional meeting.

28. SCAR is expected to be invited to the Bioregionalisation Workshop (paragraphs 15 and 16). SCAR may also be invited to the next WG-EMM Meeting, Christchurch, New Zealand July 2007, if we have a significant contribution. **Recommendation:** I will liaise with the WG-EMM Convenor Dr Keith Reid (UK) to ascertain the agenda of the meeting and determine if there is any information or input that can be offered by SCAR. SCAR or specifically SC-ATS may wish to consider other information or reports that should be brought to the attention of WG-EMM.

29. I believe significant progress has been made in the last year in developing stronger collaboration with CCAMLR. SCAR is actively developing joint research activities in addition to providing advice and information. The inclusion of CCAMLR as active members or observers on SCAR-MarBIN SSC, CPRAG and the CAML SSC, collaborative research during IPY, and SCAR's active participation in CCAMLR's Bioregionalisation Workshop will further strengthen links.

30. The Commission welcomed the reports presented by SCAR and the continued cooperation with SCAR.

# **Report of the Twenty-Sixth Meeting on the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)**

**(Hobart, Australia, 22 October to 2 November 2007)**

Graham Hosie  
SCAR-CCAMLR Liaison

## **Introduction**

1. The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) is an intergovernmental organisation established by an international convention. The Commission is assisted by the Scientific Committee, which is responsible for developing measures necessary for the conservation of the marine life of the Southern Ocean surrounding Antarctica. In turn, the Scientific Committee is assisted by various working groups, sub-groups and workshops that meet intersessionally. Controlled harvesting is permitted under the convention, provided it is carried out in a rational manner while taking into account the potential effects on the marine ecosystem. Targets for fishery are mainly krill, toothfish, and icefish, and on a smaller scale, squid and crabs. For the purpose of managing target species, as well as dependent and related species, the Commission meets annually and decides upon Conservation measures and other recommendations. SCAR is an Observer to the meetings of the Commission.

2. The twenty-sixth annual meeting of the Commission was held at the CCAMLR headquarters in Hobart, Tasmania, Australia, from 22 October to 2 November 2006. The meeting was chaired by Mr. P. Amutenya (Namibia). After the opening of the meeting, the Commission typically adjourned for the first week to allow the Scientific Committee (SC) to first conduct its activities and report back to the Commission. The Scientific Committee met between 22 and 26 October and was Chaired by Dr Edith Fanta (Brazil). The meeting of the Commission resumed on 30 October.

3. The Commission was attended by all of the 25 members: Argentina, Australia, Belgium, Brazil, Chile, People's Republic of China, European Community, France, Germany, India, Italy, Japan, Republic of Korea, Namibia, New Zealand, Norway, Russian Federation, South Africa, Spain, Sweden, Ukraine, United Kingdom, United States of America and Uruguay. China was attending its first meeting of CCAMLR as a full member. Observers also attended from four of the nine acceding nations, Cook Islands, Greece, Netherlands and Vanuatu. Bulgaria, Canada, Finland, Mauritius, and Peru and did not attend. Observers attended from various non-contracting parties, and

international organisations such as SCAR. Details about the Commission, its membership, committees, and working groups can be found at the [www.ccamlr.org](http://www.ccamlr.org) website.

4. A report on SCAR activities of relevance to CCAMLR was submitted in advance and was registered as Commission background document CCAMLR-XXVI/BG/36. This report is available under "Partnerships and Links" on the following web page: <http://www.scar.org/researchgroups/lifescience/>. An additional report (CCAMLR-XXVI/BG/37) on the "State of the Antarctic and Southern Ocean Climate System (SASOCS)" was also submitted. This report was originally submitted to the XXX Antarctic Treating Consultative Meeting, New Delhi, 30 April to 11 May 2007. It was submitted to CCAMLR for their interest. This report was requested by CCAMLR. I gave a detailed report on SCAR activities to the Scientific Committee (SC) as part of a standing item on the SC Agenda - "Cooperation with other organisations, (i) Cooperation with the Antarctic Treaty System." I reinforced key issues in a second presentation to the full Commission, again as a standing Commission Agenda Item – "Cooperation with other elements of the Antarctic Treaty System, (ii) Cooperation with SCAR".

5. This present report deals with CCAMLR activities of relevance to SCAR, plus comments, discussion and feedback on the SCAR report to CCAMLR, mentioned in (5) above, which should also be read in conjunction with this report.

## **EBA**

6. The value of EBA programme to CCAMLR was again presented. Despite presenting this in three consecutive CCAMLR meetings, and that the fact that the co-chair of Work Package 5 Dr Edith Fanta is also the SC-CAMLR chair, there is still a perception by some that EBA is purely a terrestrial programme with no relevance to CCAMLR. CCAMLR are well aware of the value CAML, plus SCAR-MarBIN, the SO-CPR Survey and CPRAG (see below), which also contribute to EBA. I don't think that I can present these links more strongly. We need to develop and highlight better the marine work within EBA and on its website.

**Recommendation: develop and highlight the marine research component of EBA.**

## **CAML and IPY**

7. CCAMLR has taken considerable interest in SCAR's Census of Antarctic Marine Life (CAML). CCAMLR commended members for their commitment to IPY and CAML, and recognised the importance of these surveys for the future work of CCAMLR. In turn, CAML has been willing to assist CCAMLR where possible with relevant data collected during CAML, e.g. krill data from hydro-

acoustics and net hauls. I participated in the CCAMLR-IPY planning meeting in Cambridge, UK 2 to 4 May 2007, to ensure appropriate protocols were in place to serve both CAML and CCAMLR.

8. During the Commission meeting, the delegations from New Zealand and Australia presented Resolution 26/XXVI promoting the value of IPY and specifically CAML for investigating the distribution and abundance of Antarctica's marine biodiversity in order to set a benchmark of current biodiversity for the benefit of humankind. CAML will prove useful for bioregionalisation and for understanding impacts of climate change. The resolution encouraged participation of members in CAML. The Commission adopted the resolution, and urged members to support and where possible contribute to IPY and CAML.

### **SO-CPR Survey and CPRAG**

9. CCAMLR was invited to nominate a representative for the SCAR Action Group on Continuous Plankton Recorder Research (CPRAG). CCAMLR is seen as a major user of the Southern Ocean CPR (SO-CPR) data to help distinguish the effects of over harvesting from other patterns in the ecosystem. CCAMLR has also used the CPR data as part of its bioregionalisation studies. Having a member of CCAMLR on CPRAG further strengthens the links between SCAR and CCAMLR. Dr Andrew Constable (Australia) agreed to be the CCAMLR member. Dr Constable is the current convenor of CCAMLR's Working Group on Stock Assessment Methods (WG-SAM), as well as active member of CCAMLR and other working groups on ecosystem monitoring and management, and bioregionalisation. He is an expert in quantitative analysis and modelling, has a very good understanding of the SO-CPR Survey and its value to CCAMLR, and supported the use of the data in CCAMLR's Bioregionalisation Workshop. I expect he will be a valuable member to help promote and expand the CPR research.

### **SCAR-MarBIN and Metadata**

10. The SCAR-MarBIN Scientific Steering Committee invited CCAMLR's Data Manager Dr David Ramm onto the SSC. This provided an opportunity to facilitate better collaboration and exchange of data between SCAR and CCAMLR. Dr Ramm attended the SCAR-MarBIN SSC Meeting in Poland in June 2007, and subsequently gave a detailed report to CCAMLR on the role of SCAR-MarBIN relevant to CCAMLR's work and the value of developing a metadata system for CCAMLR that could be linked to SCAR-MarBIN. SCAR had previously requested that CCAMLR submit metadata to SCAR-MarBIN. CCAMLR currently, does not have a metadata system to describe its data collections. Dr Ramm was keen to develop such a system.

11. CCAMLR agreed that it will develop metadata records for its fishery and scientific datasets held in the CCAMLR database. These will be made available in the public access section of the CCAMLR website and relevant metadata, including metadata from CCAMLR-IPY, will be submitted to SCAR-MarBIN. SCAR-MarBIN can assist by presenting its model for collating and managing metadata. CCAMLR has also provided SCAR-MarBIN with aggregated data on krill occurrences through Dr Volker Siegel (European Community).

## **Bioregionalisation**

12. CCAMLR held a workshop on the Bioregionalisation of the Southern Ocean (Brussels, 13 to 17 August). The meeting was attended by Dr Bruno Danis representing SCAR-MarBIN and Dr Graham Hosie as SCAR-CCAMLR Liaison and representing the SO-CPR data. The SO-CPR data set was used extensively for the pelagic bioregionalisation work, as it is one of the most extensive pelagic data sets using a consistent methodology. Other data from SCAR-MarBIN was used extensively for benthic bioregionalisation.

13. A report from that workshop was table at CCAMLR XXVI and provided details of the data used, bioregionalisation methods, results and advice on the bioregionalisation process of the Southern Ocean. The report was well received and CCAMLR noted that this was good step forward towards developing marine protected areas. The contribution from SCAR was acknowledged. SCAR-MarBIN and the SO-CPR data were recognised as having particular value to the bioregionalisation process and integral to the success of the workshop. CCAMLR supported the recommendations that further bioregionalisation analyses be conducted at a finer scale, and using specific species data. This will include further use of the CPR data and SCAR-MarBIN.

## **SCAR Expert Groups on Birds and Seals and CCAMLR WG-EMM-STAPP**

14. CCAMLR welcomed the proposed merger of our expert groups on seals and birds to form a new EG on Status and Trends on Top Predator Populations. They look forward to close and integrated cooperative efforts between CCAMLR and the new Expert Group.

**Recommendation: ensure that the new EG has the appropriate experts and has the appropriate terms of reference in quantitative analysis and modelling so that we can adequately work with and advise CCAMLR. This will need to be discussed at the SSG-LS meeting at SCAR XXX.**

15. CCAMLR has created a new sub group within WG-EMM, the Sub-group on Status and Trend Assessment of Predator Populations (WG-EMM-STAPP).

The proposed new SCAR EG on Status and Trends on Top Predator Populations will mainly be working with WG-EMM-STAPP. This sub-group will have a workshop in Hobart at the CCAMLR headquarters between 16 to 20 June. SCAR has already been invited to send experts to the meeting. I confirmed that Drs Donna Patterson-Fraser and Bruno Danis (SCAR-MarBIN) will attend on behalf of SCAR. *[Note: added after the meeting. Dr Danis can no longer attend due to family commitments, another suitable and available data expert could not be located.]*

**Recommendation: it might be worthwhile discussing at SSG-LS SCAR XXX the possibilities for a potential eventual merger of the proposed SCAR EG and CCAMLR groups into a single jointly sponsored group.**

## **SASOCS Paper & Climate Change**

16. The issue of climate change effects on the Antarctic marine ecosystem was mentioned a number of times during the previous CCAMLR XXV meeting in 2006, specifically how the effects of fishing might be distinguished from the effects of climate change. CCAMLR had asked its members to consider how climate change could effect the marine living resources of the region and how the impact could be measured. CCAMLR took considerable interest in the SCAR SASOCS paper. There was concern over the reported unprecedented climate change effects of ocean warming and sea-ice reduction in the last 50 years in the west of the Antarctic Peninsula and in the Weddell Sea, as well as the projections of warming of the sea-ice zone, further reduction of sea-ice extent and doubling of atmospheric CO<sub>2</sub> during the 21<sup>st</sup> Century.

17. Later during the Commission meeting, the Norway and UK delegations presented a joint proposal that climate change and its impact of physical and biological processes in the Antarctic marine ecosystem be placed on CCAMLR's agenda. Three were three elements to the proposal:

- i. the issue be included in future agendas of both the Scientific Committee and the Commission,
- ii. there be a scientific assessment of the impact on the Southern Ocean,
- iii. SCAR would be the "organisational nexus" for the project and should appoint a steering committee for the project. Updated information from the project should be reported annually to CCAMLR and ATCM.

18. There was considerable discussion on this point and general agreement that climate change be an agenda item. We should also add climate change should also be a standing item in the SCAR report to CCAMLR. Some members suggested that climate change work should be coordinated between CCAMLR, CEP and SCAR to avoid duplication of effort.

19. I advised CCAMLR that SCAR would be willing to coordinate such a project, and ready to discuss the establishment of a steering committee.

However, SCAR would need to find additional resources in order to undertake such a project. Norway urged members to cooperate with SCAR by making available resources and to proceed with any recommendations.

20. The Commission has asked the Scientific Committee to consider how it will address the climate change issue in relation to the conservation of Antarctic marine living resources in its agenda and how it will provide advice to the Commission.

21. I had further out of session discussions with UK and Norway. Norway has agreed to develop a proper project proposal to conduct an assessment of the effects of climate change on Southern Ocean biota. We can then properly scope the proposal to see if SCAR is in a position to manage the project as the UK-Norway originally proposed. My recommendation is that any such project should be conducted as a joint project with CCAMLR, and perhaps with CEP, in order to meet satisfactorily CCAMLR's requirements, as well as further strengthening ties; this would necessitate the sharing of all our limited resources. We should consider an appropriate leader if the project proceeds. That person may also assist with the scoping of the project.

22. I presented an update in the development of SOOS and the results of the planning meeting in Bremen in October 2008. I highlighted the value of the SOOS for identifying impacts of climate change, as well as general ecosystem patterns. Dr Fanta's report, as the SC-CAMLR Chair and observer, reinforced the value of SOOS for CCAMLR.

#### **Recommendations:**

- **Add climate change as a standing item in the SCAR report to CCAMLR**
- **continue to work with UK and Norway to properly scope the project to see if SCAR can manage this project, preferably as a jointly owned project with CCAMLR**
- **consider an appropriate person to lead, and perhaps help scope the project.**

#### **CCAMLR-IWC Workshop**

23. A joint CCAMLR-IWC Workshop is scheduled for August 2008 in Hobart, Australia, for the purpose of reviewing the information required for developing ecosystem models in order to provide management advice. The workshop will invite experts who can provide expertise in ecological and environmental matters, including marine mammals, birds, fish, squid, krill, plankton and sea-ice. The workshop is more likely to work with metadata rather than reviewing individual data sets. SCAR has not been invited specifically, but individual members may be invited to assist in the analysis or provide metadata. SCAR-MarBIN was identified as a source of metadata.

## **Future SCAR Meetings**

24. CCAMLR was reminded about the SCAR XXX meeting and 3rd Open Science Conference scheduled for St Petersburg, July 2008. CCAMLR members were encourage to participate, and CCAMLR posted the first circular of the SCAR XXX Meeting and 3<sup>rd</sup> OSC on the CCAMLR website. CCAMLR was advised that the Chair of the SC-CAMLR will be invited to be an observer at the SCAR XXX meetings in St Petersburg and at the Delegates meeting in Moscow. CCAMLR also asked that I act as an observer for them at the 3<sup>rd</sup> OSC, SCAR XXX and Delegates meetings.[Note added in proof: this connection becomes especially important with the unexpected demise of Dr Edith Fanta in May 2008]

25. CCAMLR was also reminded about the 10<sup>th</sup> SCAR Biology Symposium scheduled for July 2009 in Sapporo, Japan and again encouraged to participate.

## **Next Meetings and Collaboration with CCAMLR**

26. The next meeting of the Commission CCAMLR-XXVII will be from 27 October to 7 November 2008 at the CCAMLR Headquarters in Hobart.

27. I believe we have continued to make significant progress in developing stronger collaboration with CCAMLR. The inclusion of CCAMLR as active members on the SCAR-MarBIN SSC, CPRAG and the CAML SSC, as strengthened the link, as has our participation in CCAMLR workshops such as the Bioregionalisation Workshop and the predator workshop in June 2008. We should continue to identify and develop collaborative research projects of mutual interest and ownership. This may possibly include the merger of the proposed SCAR and CCAMLR predator groups, and a joint project assessing the impact of climate change on the biota of the Southern Ocean.

28. The Commission welcomed the ongoing and growing cooperation between CCAMLR and SCAR.