

**The International Council for Science**

# SCARbulletin

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THE INTERNATIONAL COUNCIL FOR SCIENCE  
SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH

## SCAR BULLETIN

No 141, April 2001

### Twenty-sixth Meeting of SCAR Tokyo, Japan, 17–21 July 2000

*Executive Committee:* R H Rutford (President); A C Rocha-Campos (Past President); F J Davey, R Schlich, J Valencia, A D M Walker (Vice-Presidents); P D Clarkson (Executive Secretary).

*Delegates:* P Skvarca, J M Acero (Argentina); I F Allison, M Stoddart (Australia); T Van Astenboer, C De Broyer (Belgium); A C Rocha-Campos, A J Teixeira (Brazil); S C Bigras (Canada); J A Valencia, A J Foppiano (Chile); L-Q Chen, Y-L Wu (China); J Hassi (Finland); J-C Hureau, R Schlich (France); J Thiede, G Kleinschmidt (Germany); P C Pandey (India); A Meloni, M Zucchelli (Italy); Y Naito, K Shiraishi (Japan); S-J Han, D Y Kim (Korea); A H L Huiskes (Netherlands); F J Davey, C Howard-Williams (New Zealand); O Orheim, A S Blix (Norway); V M Kotlyakov, M Yu Moskalovsky (Russia); A D M Walker, S L Chown (South Africa); J López-Martínez, J-J Durán-Valsero (Spain); D U Hedberg (Sweden); C G Rapley, D W H Walton (United Kingdom); R H Rutford, M C Kennicutt II (United States); J-J Abdala (Uruguay).

*Union Members:* C A Ricci (IUGS); D J Lugg (IUPS).

*Associate Members:* M D Cacho (Peru); C Schlüchter (Switzerland).

*Observers:* H A Hutchinson (WMO), J H Priddle (SCOR), A A Samah (Malaysia).

#### SCAR Subsidiary Groups

*Working Groups:* Y LeMaho (Biology); A L Clarke (Geodesy and Geographic Information); R A J Trouw (Geology); D-H Qin (Glaciology); A Peri (Human Biology and Medicine); J Turner (Physics and Chemistry of the Atmosphere); M Candidi (Solar-Terrestrial and Astrophysical Research); P E O'Brien (Solid-Earth Geophysics).

*Groups of Specialists:* J H Priddle (Global Change and the Antarctic); D W H Walton (Environmental Affairs and Conservation); J L Bengtson (Seals); P J Barrett (Antarctic Neotectonics).

*SCAR-COMNAP Joint Committee:* M R Thorley (Antarctic Data Management).

*Ad hoc Group:* P M Smith, M G McGeary (SCAR Organization and Strategy)

*Advisors:* H Barre (France); D Damaske, H Miller (Germany); S Lee (Korea); S C Jain, R P R Muthya (India); J H Stel (Netherlands); C Elfving, K A Erb (United States); A G Paz (Uruguay).

#### Formal Opening of the Meeting

Dr R H Rutford, President of SCAR, opened the meeting and expressed his great pleasure that Their Imperial Highnesses, Prince and Princess Takamado, had consented to honour the meeting by their presence, in spite of their mourning for Her Imperial Majesty, the Empress Dowager. He then invited His Imperial Highness Prince Takamado to address the meeting. After replying to His Imperial Highness, Dr Rutford invited Mr Tsuneo Suzuki, Senior State Secretary, Ministry of Education, Science, Sport and Culture, and Dr Hiroyuki Yoshikawa, President of the Science Council of Japan and President of the International Council for Science, to address the meeting. In thanking Mr Suzuki and Dr Yoshikawa, he referred to the emphasis they had put on global research and international cooperation in Antarctica. He also stressed the importance of other uniquely Antarctic research

opportunities and mentioned subglacial lakes as an example. Their Imperial Highnesses then requested if they might stay for the morning session to hear the scientific reports of several of the Chief Officers of SCAR. SCAR was pleased to welcome Their Imperial Highnesses and was very appreciative of their interest in Antarctic research.

#### 1. Opening business

##### 1.1 Adoption of the Agenda

The President invited Delegates to adopt the draft Agenda for the meeting and, hearing no objections, the Agenda was adopted.

##### 1.2 New Membership Applications

The Executive Secretary advised the meeting that there were no formal applications for membership. However, he drew the attention of Delegates to the intention of Peru

to apply for Full Membership of SCAR and that this should be received before the XXVII SCAR Meeting in 2002.

## **2. Reports of SCAR Meetings**

### **2.1 Reports of XXV SCAR**

The Reports of XXV SCAR held in Concepción, Chile, during July 1998 (published in SCAR Bulletin nos 133, 134 and 135) were formally approved by Delegates.

### **2.2 Report of Executive Committee Meeting**

The Report of Executive Committee Meeting held in Goa, India, during September 1999 (published in SCAR Bulletin no 137) was formally approved by Delegates.

## **3. SCAR Positions**

### **3.1 Election of two Vice-Presidents**

Dr F J Davey and Dr R Schlich completed their terms of office. Dr Schlich was elected in 1998 to complete the unexpired term of Dr Rutford when he was elected President and was, therefore, eligible for re-election for a 4-year term in his own right. Professor C G Rapley and Dr R Schlich were nominated unopposed and elected by acclamation.

### **3.2 Appointment of Standing Finance Committee**

Professor A D M Walker and Dr J Valencia had resigned from the Standing Finance Committee following their election as Vice-Presidents of at XXV SCAR in 1998. The Executive Committee had appointed Professor S L Chown and Professor G Kleinschmidt to serve on the Committee until this meeting. These appointments were confirmed by the Delegates.

### **3.3 Appointment of XXVI SCAR Finance Committee**

The Standing Finance Committee was augmented by the appointment of Dr I F Allison and Dr P Skvarca to complete the XXVI SCAR Finance Committee.

## **4. Meetings of SCAR Subsidiary Groups, and COMNAP and SCALOP**

Summary reports of meetings held in Tokyo, Japan, immediately prior to the XXVI SCAR Delegates Meeting were presented by the Chief Officers or their representatives (see above for the list of SCAR Subsidiary Groups represented) as follows:

**Working Groups:** Biology, Geodesy and Geographic Information, Geology, Human Biology and Medicine, Physics and Chemistry of the Atmosphere, Solar-Terrestrial and Astrophysical Research, Solid-Earth Geophysics, and Geology and Solid-Earth Geophysics Joint Meeting.

**Group of Specialists:** Seals

**SCAR-COMNAP Joint Committee:** Antarctic Data Management

**Federated to SCAR:** Council of Managers of National Antarctic Programmes (COMNAP)

In addition, written reports were introduced from the Groups of Specialists on Environmental Affairs and Conservation and on Antarctic Neotectonics. The report of the Group of Specialists on Global Change and the Antarctic was taken at Agenda Item 5 (see below).

### **4.1 Reports of Working Groups**

**Biology:** Y LeMaho introduced the report of the Group, including the reports of the Subcommittees on Bird Biology and Evolutionary Biology of Antarctic Organisms. He drew attention to the progress of the Ecology of the Antarctic Sea Ice Zone (EASIZ) programme and to the new programmes on Evolution in Antarctica (EVOLANTA) and Regional Sensitivity to Climate Change (RiSCC) programme.

**Geodesy and Geographic Information:** A L Clarke, retiring Chairman of the Group, presented an account of the recent work of the group, including the Geodetic Infrastructure for Antarctica (GIANT) programme, and the Geographic Information Programme. He noted that within the latter are the SCAR Antarctic Digital Database which is now available on line at:

[www.nerc-bas.ac.uk/public/magic/add\\_home.html](http://www.nerc-bas.ac.uk/public/magic/add_home.html) in version 3.0, and the SCAR Composite Gazetteer of Antarctica which is also available on line, including the supplement to the first edition, at: [www.pnra.it/SCAR\\_GAZE](http://www.pnra.it/SCAR_GAZE).

**Geology:** R A J Trouw presented the report of the Group, highlighting a proposed new programme on the Age, Growth and Evolution of Antarctica (AGEANT). He also mentioned the recently published Bedrock Map of Antarctica (BEDMAP) and a new compilation of the Magnetic Anomaly Map Of Antarctica. He drew attention to the Group's concern over the possible collection of Antarctic meteorites by private expeditions.

**Glaciology:** The report of the Group on was introduced by Qin Da-He who highlighted the several current programmes of the Group. In particular, he reported on the major effort that will be concentrated on a rejuvenated Ice Sheet Mass Balance (ISMASS) programme. He outlined the new Velocity Map (VELMAP) programme to collate all existing ice sheet velocity data to produce a map of ice flow that will complement the BEDMAP project. He also reported on the successful International Symposium on Antarctic Glaciology held in Lanzhou, China, during September 1998.

**Human Biology and Medicine:** The new Chief Officer of the Group, A Peri, reported that more than 40 aspects of polar medical practice were discussed during the meeting and that almost 20 current and new research projects covered a wide range of fundamental and applied research.

**Physics and Chemistry of the Atmosphere:** J Turner highlighted three successful symposia that had been held by the Group: Climate Variability and Change in the Antarctic from Observations and Modelling Experiments; Chemical Processes in the Antarctic Troposphere and Stratosphere; and Antarctic Precipitation and Mass Balance, this last being a joint symposium with the Working Group on Glaciology. The Working Group is planning a new project to create a reference database of Antarctic climate observations over the last 50 years.

**Solar-Terrestrial and Astrophysical Research:** M Candidi, the new Chief Officer of the Group, reported on two workshops on Astronomy and Astrophysics in Antarctica, and on the Role of Antarctica in understanding Solar-Terrestrial relations. He also reported on the Antarctic Geophysical Observatory Network (AGONET) and a successful data analysis workshop based on the newly established central database.

**Solid-Earth Geophysics:** P E O'Brien, the new Chief Officer of the Group, reported that the Antarctic Digital Magnetic Anomaly Project (ADMAG) now had a preliminary map of magnetic anomalies for the whole of the Antarctic continent. He also drew Delegates attention to the concern of geophysicists for the possible restriction of the use of marine acoustic techniques for environmental reasons. Finally, he announced the proposal of the Working Group to merge with the Working Group on Geology to form a single Working Group on Geosciences.

The Delegates adopted all these reports and the President thanked the Chief Officers for their presentations. In particular he thanked the retiring Chief Officers, A L Clarke, D J Lugg, A D M Walker, and D Damaske, for their service over the previous years and welcomed the new Chief Officers, J Manning, A Peri, M Candidi and P E O'Brien, wishing them every success in the coming years, especially as SCAR goes through the process of reorganization.

#### 4.2 Reports of Groups of Specialists

**Seals:** J L Bengtson, Convenor of the Group, reported on the meeting held in Tokyo immediately prior to XXVI SCAR. In particular, he outlined progress in the Antarctic Pack Ice Seals (APIS) Programme that has now entered the analytical phase. A workshop is proposed for early 2001 to assemble the regional data sets and a second workshop in conjunction with the SCAR Biology Symposium to undertake data synthesis. The Group also considered the specially protected status of Ross and fur seals, recommending that fur seals should be removed from the list but that a decision on the Ross seal should be deferred until after synthesis of the APIS data on that species.

**Environmental Affairs and Conservation (GOSEAC):** D W H Walton, Convenor of the Group, reported on the GOSEAC X and GOSEAC XI meetings held in September 1998 and July 1999. The Group had provided comments on scientific aspects of seven protected area management plans; provided input to the COMNAP-SCAR Antarctic Environmental Monitoring Handbook; prepared and contributed to draft papers submitted by SCAR to the XXIII ATCM; and undertaken preparatory work for the scoping exercise for a State of the Antarctic Environment Report.

**Antarctic Neotectonics (ANTEC):** P J Barrett, on behalf of the Convenor T J Wilson, reported on the activities of the Group that had taken place since it was established at XXV SCAR in 1998. The Group had identified five thematic science programmes: Antarctic Plate-Scale Kinematics; Antarctic Lithospheric Stress; Active Regional Deformation; Surface Processes; and Active Volcanic Processes. Various members of the Group had taken part in *ad hoc* meetings held in the margins of other international meetings and workshops. The Group has also proposed a workshop to be held in 2001, a Penrose Conference to be held in 2002, and a symposium to be held in conjunction with the IX SCAR International Antarctic Earth Science Symposium.

Three documents concerning Antarctic subglacial lakes were distributed to Delegates: Subglacial Lake Exploration - Workshop Report and Recommendations; Subglacial Lake Exploration - Supporting Materials; and Russian Plan for Subglacial Vostok Lake Investigation. M C Kennicutt, Chairman of the Editorial Committee, had made presentations to the SCAR Working Groups and to COMNAP during the previous week. Delegates acknowledged the unique, multidisciplinary research opportunities afforded by these lakes and agreed that SCAR should establish a Group of Specialists to develop the science implementation plan given in the workshop report and to coordinate the research. Delegates noted that COMNAP plans to hold a technical workshop to investigate methods for entering and sampling a lake. Delegates agreed to the following membership of the Group of Specialists: H Miller and J C Priscu (co-Chairmen), M C Kennicutt (Secretary), R E Bell; S Bulat, J C Ellis-Evans, V Lukin, J-R Petit, R D Powell, and I Tabacco. The Group will also invite a representative from COMNAP.

#### 4.3 Reports of other subsidiary groups

**MR Thorley**, the new Chairman of the SCAR-COMNAP Joint Committee on Antarctic Data Management (JCADM) reported on progress in the continuing development of the Antarctic Master Directory (AMD). The Committee had run three presentations of the AMD during the previous week, demonstrating the operation of

the Directory for locating datasets, their descriptions and how to access them. He also reported that the analysis of replies to the SCAR Questionnaire on Antarctic Data showed strong support for the continuing development of the Antarctic Master Directory (AMD) and its use as a research tool. He advised the meeting that 13 SCAR members have now established National Antarctic Data Centres (NADCs) and that, in future, these will constitute a distributed Antarctic Master Directory.

#### **4.4 Reports of COMNAP and SCALOP**

K A Erb, United States MNAP, briefed Delegates on the principal activities and outcomes of the COMNAP XII Meeting held during the previous week. Special sessions included the SCALOP Logistics and Operations Symposium that focused on efficient and alternative energy sources, and one on Safety and Incident Reporting to learn between programmes of experiences that can be shared to provide a safer operating environment. There were briefings from SCAR on Subglacial Lakes, the SCAR Review, and also the SCAR-COMNAP Forum on Science Initiatives. Several working groups also met during the week, notably those on Air Operations, Emergency Response, Energy, Ship Operations, Tourism, and Education and Training. Some principal conclusions from the meeting were: to vote funds, with SCAR, to the support of the Antarctic Master Directory; to create a contact group to liaise with SCAR in relation to a technical workshop on Subglacial Lake exploration; to invite Romania to join COMNAP in 2001; and to prepare for recognition of the 50th Anniversary of the International Geophysical Year in 2007-08.

H Miller, German MNAP, briefed the meeting on environmental developments in COMNAP. He drew attention to the intersessional work of the Antarctic Environmental Officers Network (AEON); to the Environmental Monitoring Handbook that had been produced by the Geochemical and Environmental Research Group at Texas A & M University and explained that AEON is examining what to monitor and what are the viable indicators. On diseases in Antarctic wildlife, AEON is working with the SCAR Working Group on Biology to develop operational guidelines for COMNAP. AEON is also continuing to examine the practical guidelines for Environmental Impact Assessment that will be in compliance with the Protocol on Environmental Protection to the Antarctic Treaty.

#### **4.5 Review of SCAR Recommendations**

Delegates reviewed the Recommendations of XXV SCAR and agreed that they had achieved their purposes but that Recommendations XXV-2, 7, 9, 16, 17, 19, 21 and 23 should stand and will be re-introduced as SCAR Recommendations XXVI-1 to 8.

### **5. SCAR Global Change Research**

#### **5.1 Group of Specialists on Global Change and the Antarctic (GLOCHANT)**

The current Convenor of the Group of Specialists, J H Priddle, presented a report on recent activities of the Global Change Programme and some of its constituent programmes. He drew the attention of Delegates to the paper prepared by I D Goodwin (former programme coordinator) which summarised the achievements of the SCAR global change programme 1995-99. He introduced the structure of GLOCHANT, noting that the nine programmes acted as a network for global change research, and indicated how this network linked SCAR to IGBP and WCRP. He focused on a few specific recent activities, including two interdisciplinary workshops, as examples of the role of the Group of Specialists in promoting cross-programme synthesis.

#### **5.2 Developing WCRP programmes in the Antarctic**

I F Allison presented information on developing WCRP activities in Antarctica and the Southern Ocean. CLIC (Climate and Cryosphere) embodies all studies concerned with the role of land- and sea-ice in climate. CLIC has developed a coordination plan that includes a large suite of SCAR-led projects such as ASPeCt and ISMASS. He indicated that WCRP anticipates a major SCAR contribution to CLIC through these projects. He also presented a summary of CLIVAR, the WCRP focus on climate variability. He emphasised the Southern Ocean element of the DecCen (decadal to centennial variation) component, and again indicated the potential contribution of SCAR projects.

#### **5.3 International relations**

Discussion of relationships between SCAR (and its projects) and other bodies involved in global change science (IGBP, WCRP, SCOR, IOC etc, and their core projects) occurred within the previous presentations, and had arisen during the joint meeting with COMNAP and in connection with agenda item 7.2.2. A proposal that SCAR discuss co-sponsorship of CLIC and CLIVAR DecCen Project 5 was raised.

#### **5.4 A strategy for Antarctic Global Change Research**

J H Priddle reported that the Group of Specialists had worked on a proposal for a future strategy for SCAR global change science, and drew delegates' attention to the recommendations of a circulated document. He noted that current successful programmes require continuing support and that the closure of the programme office in Australia, due to the resignation of the Project Coordinator I D Goodwin, created a need for direct input and support from SCAR to individual projects (ANTIME, ASPeCt and ITASE). He also pointed to the need for SCAR to be more proactive in its dealings with outside programmes, and highlighted previous problems with co-sponsorship. He emphasised the need to preserve the global change network which the Group of Specialists had built up, and suggested that the SCAR Executive work with the Group of

Specialists later in 2000 to complete the development of a strategy for global change science within the new SCAR structure.

## 6. Report of *ad hoc* Group on SCAR Organization and Strategy

During the first week of the SCAR meeting, P M Smith, Chairman, M G McGeary, Staff Officer, and members of the *ad hoc* Group on SCAR Organization and Strategy had visited the meetings of the subsidiary groups to present the report of the *ad hoc* group and to discuss its implications. They were also able to clarify those aspects of the report that had caused some confusion.

At the Delegates Meeting, the President began by thanking Phil Smith, Mike McGeary and the members of the *ad hoc* Group for the considerable work and effort that they had put into their discussion, both at the two meetings and intersessionally. He congratulated them all on the quality of the report and expressed the thanks of the SCAR community for providing a blueprint for the future development of SCAR. P M Smith then made a verbal presentation of the report of the *ad hoc* Group and J H Priddle presented a consensus report from the SCAR subsidiary groups. A general discussion by Delegates of some major aspects of the report followed, after which the Delegates divided into four discussion groups. The groups were chaired by members of the Executive Committee advised by members of the *ad hoc* group and assisted by rapporteurs:

|                 |            |                        |
|-----------------|------------|------------------------|
| <i>Group A:</i> | Chairman   | A C Rocha-Campos;      |
|                 | Advisor    | A S Blix;              |
|                 | Rapporteur | D W H Walton           |
| <i>Group B:</i> | Chairman   | R Schlich;             |
|                 | Advisor    | F J Davey;             |
|                 | Rapporteur | S C Bigras             |
| <i>Group C:</i> | Chairman   | J Valencia;            |
|                 | Advisor    | C G Rapley;            |
|                 | Rapporteur | M C Kennicutt          |
| <i>Group D:</i> | Chairman   | A D M Walker;          |
|                 | Advisors   | J M Acero, A L Clarke; |
|                 | Rapporteur | M Stoddart             |

The rapporteurs then reported to the plenary Delegates Meeting when it emerged that there was a high degree of agreement between the discussion groups on the adoption or otherwise of the twenty recommendations in the report. The Recommendations of the *ad hoc* Group were as follows:

**Recommendation 1:** SCAR's mission remains valid and SCAR continues to play an important role in fostering and coordinating science in Antarctica and in advising the Antarctic Treaty System and other organizations concerned with the Antarctic and Southern Ocean, but SCAR must take a more active and assertive leadership position in all matters related to science in Antarctica.

**Recommendation 2:** SCAR should update its mission in four areas by:

- Increasing emphasis on the scientific capacity of all national groups working in Antarctica and on outreach to younger scientists;
- Taking a more proactive stance with the Antarctic Treaty System in providing the highest level independent advice on scientific aspects of issues affecting the governance and management of Antarctica and the Southern Ocean;
- Taking a more proactive position in the analysis of the impact of global change on the Antarctic region and in the contribution of science in Antarctica to the overall understanding of global change; and,
- Increasing the dissemination of knowledge about Antarctica and about SCAR and its activities to scientists, national leaders, and the public.

**Recommendation 3:** SCAR delegates—at the delegate level—must become more actively engaged in the management of SCAR at SCAR meetings and also intersessionally.

**Recommendation 4:** Four delegate-level committees should be established, each chaired by a SCAR vice president, with the following portfolios: Scientific Affairs, Outreach and Education, Scientific Liaison, and Internal Affairs

**Recommendation 5:** SCAR vice presidents should have titles corresponding to their portfolios, e.g., Vice President for Scientific Affairs.

**Recommendation 6:** The SCAR Executive Committee should be retained. In addition to processing business that comes before it presently, the Executive Committee should act intersessionally on advice or recommendations of the Delegate Committees or refer such recommendations to SCAR's next plenary session.

**Recommendation 7:** All SCAR officers are encouraged to seek a greater level of support at their home institutions through a greater level of in-kind and other administrative assistance but SCAR should also increase its budget for these purposes.

**Recommendation 8:** The past president of SCAR should serve ex-officio for one but no more than two years instead of serving a four-year term ex-officio.

**Recommendation 9:** While the scientific-level structure of working groups and groups of specialists has served SCAR effectively in the past, this structure should be replaced by a system of operating groups that can respond quickly and flexibly to emerging scientific opportunities in Antarctica and to changing demands on SCAR.

**Recommendation 10:** SCAR must adopt practices that create a timely circulation of documents and reports and must plan a meeting schedule that improves its ability to make informed decisions.

*Recommendation 11:* The Delegate Committee on Internal Affairs must give immediate attention and high priority to the increased efficiency and effectiveness of internal communications in SCAR.

*Recommendation 12:* SCAR must greatly improve its external communications with other scientific organizations, ATS, national committees or other adhering bodies and the public so that science in Antarctica and the Southern Ocean and the activities of SCAR are more widely known.

*Recommendation 13:* SCAR should appoint an *ad hoc* group of SCAR delegates who do not have English as a first language to make recommendations to SCAR to maximise the effective use of English as the SCAR language of record and communication.

*Recommendation 14:* The SCAR secretariat should be upgraded to an Executive Office headed by an Executive Director with duties comparable to Executive Directors of similar international scientific organizations.

*Recommendation 15:* SCAR must improve its infrastructure and capability to use information technology for internal and external communication.

*Recommendation 16:* A more proactive SCAR Executive Office will require larger facilities and upgraded support services.

*Recommendation 17:* SCAR should expand its financial resources by actively seeking philanthropic funds for some activities.

*Recommendation 18:* Recognizing that they must weigh many factors in the selection of SCAR delegates, national Antarctic committees and other bodies adhering to SCAR should appoint delegates with current scientific expertise in Antarctic research.

*Recommendation 19:* National Antarctic committees and other bodies adhering to SCAR should continue to give more attention to participation of younger scientists both in research in Antarctica and in SCAR's scientific operating groups.

*Recommendation 20:* In order to proceed expeditiously with the implementation of the changes recommended in this report, SCAR should consider waiving appropriate parts of its present Constitution and Rules of Procedure for two years, during which time the new structure will be put in place. After the structure and procedures evolve, the Constitution and Rules of Procedure should be amended as necessary.

The President summarized the reports of the rapporteurs as follows:

On Recommendations 1-3, 6-8, 10-13 and 17-20 there was broad agreement that these recommendations should be endorsed and adopted, with some attention given by the SCAR Executive to some details.

With regard to Recommendation 20, it was noted that a letter had been received from the Executive Director of ICSU, Dr L R Kohler, indicating that SCAR could suspend the Constitution and Rules of Procedure as necessary in the interests of progressing the implementation of the review report as far as the recommendations were adopted by the Delegates.

On Recommendation 4 there was general agreement that two advisory Delegate Groups should be formed, rather than the four groups suggested in the recommendation. Having two Delegate Groups only will also allow each Full Member to be represented in each Group by either the Delegate or the Alternate Delegate. One Delegate Group will deal with science matters while the other Group will deal with internal affairs. The *ad hoc* Group on Transition (see below) will develop the Rules of Procedure for the two Delegate Groups.

On Recommendation 5 there was general agreement that Vice-Presidents should be continue to be elected without a specific portfolio. Two Vice-Presidents would share the chairmanship of each of the two Delegate Groups.

Recommendation 9 generated considerable discussion to determine the relationship between the Executive Committee, Delegates Meeting, the two Delegate Groups and the new arrangement of subsidiary groups. The number, composition and function of the subsidiary groups (Action Groups and Operating Groups) proved especially problematical; some draft flow charts were discussed.

Recommendations 14-16, concerning the details of staffing and operation of the Secretariat, were also the subject of a lengthy discussion. It was agreed that, in the interests of finding appropriate accommodation, facilities and staffing for the re-structured Executive Office, the Scott Polar Research Institute, as the current host of the SCAR Secretariat, should be first invited to submit a proposal for enhanced office facilities. The Executive Committee will consider any proposal and, if it is thought necessary, shall invite National Committees to tender detailed and comprehensive proposals according to a set time-scale for submission and evaluation.

It was proposed that an *ad hoc* Group on Transition should be formed to determine implementation of recommendations 4, 5 and 9 during a transitional period. Delegates agreed that this group should comprise the Executive Committee, augmented by two Chief Officers, two Delegates, and a member of the *ad hoc* Group on SCAR Organization and Strategy. The following additional persons were confirmed: Y LeMaho, P E O'Brien, A Meloni, S Lee, and A L Clarke. The Executive Committee will deal with the remaining recommendations.

J López-Martínez agreed to organize an open-ended *ad hoc* group of non-native English speakers in response to Recommendation 13. This group will work by e-mail and report to the SCAR Executive at its next meeting in Amsterdam, August 2001.

## 7. SCAR Functions

### 7.1 Internal

#### 7.1.1 Review of SCAR Working Groups

Delegates agreed that it was inappropriate to review the Working Groups at this meeting because they will be necessarily reviewed by the *ad hoc* Group on Transition. However, the proposal by the Working Groups on Geology and on Solid-Earth Geophysics to combine into a single Working Group on Geosciences was approved.

#### 7.1.2 Review of SCAR Groups of Specialists

Delegates agreed that it was inappropriate to review the Groups of Specialists at this meeting because they will be necessarily reviewed by the *ad hoc* Group on Transition. The establishment of a new Group of Specialists on Antarctic Subglacial Lakes was agreed (see Item 4.2) and the Executive Committee would make any changes to membership of other Groups of Specialists that may be necessary.

#### 7.1.3 Review of other subsidiary groups

Delegates agreed to the continuation of the SCAR-COMNAP Joint Committee on Antarctic Data Management (JCADM) and encouraged the group in the development of the Antarctic Master Directory. Delegates also agreed to the establishment of the *ad hoc* Group on Transition (see Item 6).

#### 7.1.4 Review of Rules of Procedure for SCAR subsidiary groups

Delegates confirmed the minor change to the Rules of Procedure for SCAR Subsidiary Groups, proposed at XXV SCAR, as follows:

- 1.1.2 Chief Officers should be elected by the members of the Working Group for a term of four (4) years with an additional two (2) year term possible. In exceptional cases an additional two (2) year term may be allowed, but in no case may a Chief Officer hold that position for more than eight (8) consecutive years. That individual will be eligible for re-election after a four (4) year term held by another member of the Working Group has been completed.

#### 7.1.5 Review of National Reports to SCAR

The Executive reported that National Reports to SCAR for the year 1998-99 have been received by the SCAR Secretariat in hard copy from eight National Committees and that a further five have been made available by electronic means.

The intersessional contact group of the Antarctic Treaty considering the unification of the annual reporting by Antarctic organizations had circulated a table showing the requirements for each of the reports. The intention is to avoid the current duplication or triplication of certain information that appears in the Antarctic Treaty Annual Exchange of Information, the COMNAP Advance

Exchange of Information, the Annual Reports to SCAR, and now the exchange of information under the Committee for Environmental Protection required under the Protocol on Environmental Protection to the Antarctic Treaty.

Most of the information given in the Annual Reports to SCAR concerns the scientific projects that are grouped under the disciplinary headings of the current SCAR Working Groups plus oceanography. This information is not normally reproduced in detail elsewhere but some programme and station information is repeated.

The increasing use of web sites that may be easily linked electronically will do much to alleviate this problem. Access to all annual reports and exchanges of information could also be improved by ensuring that every document is accompanied by a metadata entry lodged with the Antarctic Master Directory.

#### 7.1.6 Publications

Delegates agreed that four issues per year of the SCAR Bulletin should continue to be published in Polar Record and as a separate. However, it was also agreed that the distribution of paper copies of the separate should be reduced from the beginning of 2001 as the text of each issue is also published on the SCAR web site. SCAR Reports should be published as required but the number of paper copies should be similarly reduced. The Secretariat will contact National Committees to determine the number of paper copies required for distribution in future.

Delegates also approved publication of a document that could be used to publicize SCAR science for the new millennium. The Executive Committee will be responsible for drafting the text and providing illustrations.

#### 7.1.7 Activities of the Executive

The principal activity of the Executive Committee was the Executive Committee Meeting held in Goa, India, September 1999, in conjunction with the COMNAP XI Meeting. The Executive Committees of the two organizations also held a joint meeting. The reports of these meetings were published in *SCAR Bulletin* no 137, April 2000.

The President, Convenor of GOSEAC and the Executive Secretary represented SCAR at XXIII ATCM in Lima, Peru, during May-June 1999. A C Rocha-Campos and J Valencia were also present at the meeting as members of the Brazilian and Chilean Delegations respectively.

J Valencia and the Executive Secretary attended the GOSEAC X Meeting in Basel, Switzerland, during September 1998 and the GOSEAC XI Meeting in Montevideo, Uruguay, during July 1999.

The Executive Secretary met with the President in Dallas, Texas, in April 1999. On this occasion they also met P M Smith and M G McGeary for a preliminary discussion on the general requirements for the internal review of SCAR to be undertaken by the *ad hoc* Group on SCAR Organization and Strategy. The Executive Secretary

also paid an opportunistic visit to the Instituto Antártico Argentino, Buenos Aires, Argentina, during November 1999 to discuss arrangements for the second meeting of the *ad hoc* group. F J Davey attended both meetings of the *ad hoc* Group in Cambridge, United Kingdom and Buenos Aires, Argentina during August 1999 and January 2000 respectively. The President represented SCAR at the memorial service for Sir Vivian Fuchs and visited the SCAR Secretariat in Cambridge, United Kingdom, during March 2000. In May 2000 the Chairman of the Finance Committee visited the SCAR Secretariat.

In November 1998 R Schlich represented SCAR at the 50th anniversary celebration of the World Conservation Union (IUCN) in France. The Executive Secretary represented SCAR at the annual meeting of the International Association of Antarctica Tour Operators (IAATO) in Hamburg, Germany, during June 1999; at the Council Meeting of the International Arctic Science Committee (IASC) in Cambridge, United Kingdom, during March 2000; and at the Antarctic Treaty Meeting of Experts Guidelines for Antarctic Shipping and Related Activities in London, United Kingdom, during April 2000.

The President represented SCAR and presented a keynote address to the Antarctic Science Seminar in Kuala Lumpur, Malaysia, during May 2000.

#### 7.1.8 King George Island activities

The Uruguayan Delegate drew Delegates' attention to the "First Antarctic Meeting of King George Station's Scientific Coordinators" to be held at the Uruguayan Artigas Station during January 2001. Representatives from the scientific stations on King George Island were encouraged to register their interest by e-mail to <antarctic@iau.gub.uy> (see also Recommendation SCAR XXVI-6).

## 7.2 External

### 7.2.1 Antarctic Treaty System

At XXIII ATCM there were requests for advice from SCAR on the following issues:

- Diseases in Antarctic Wildlife;
- State of the Antarctic Environment Report (SAER);
- Environmental Monitoring;
- Environmental Liability;
- Antarctic data matters;
- Specially Protected Species;
- unified annual reporting (see 7.1.5)

D W H Walton, Convenor of GOSEAC, presented a draft of a Working Paper to the CEP responding on diseases in Antarctic wildlife. The response was developed by the Group of Specialists on Seals, the Working Group on Biology and some invited specialists from outside SCAR. Delegates noted the text of the paper and the final draft will be circulated for approval.

D W H Walton reported on the "scoping exercise" for the State of the Antarctic Environment Report that was held in the first week of the SCAR meeting. He apologised

that there was no draft paper but produced an overhead slide showing the structure of the paper that would be prepared and circulated through SCAR before submission to the forthcoming CEP meeting.

He introduced the Antarctic Environmental Monitoring Handbook, published by COMNAP and SCAR, and produced by the Geochemical and Environmental Research Group (GERG) at Texas A & M University. This was the published outcome of the two environmental monitoring workshops held in 1995 and 1996.

The President reported on the progress made by the SCAR-COMNAP group that had been working by e-mail and at a meeting during the previous week to develop a response on the scientific definition of some terms in relation to the development of a fifth annex to the Protocol dealing with environmental liability. These terms included, among others, "irreparable damage", and "dependent and associated ecosystems". He advised the Delegates that an interim Information Paper would be tabled at the informal discussions to be held in parallel with the CEP Meeting in The Hague during September 2000.

D W H Walton introduced a draft paper on Specially Protected Species that had been developed by the Group of Specialists on Seals, the Working Group on Biology and the Bird Biology Subcommittee. Specifically the paper recommended that specially protected status should be withdrawn from *Arctocephalus* spp (fur seals), but that *Ommatophoca rossii* should retain specially protected status until data analysis on this species had been completed. The paper also suggests that the conservation status of three bird species *Diomedea amsterdamensis* (Amsterdam albatross), *Procellaria conspicillata* (spectacled petrel), and *Diomedea dabbenena* (Tristan albatross) warranted consideration. Delegates noted the text of the paper and the final draft will be circulated for approval.

Delegates were advised that a status report on Antarctic data matters would be submitted to XXIV ATCM

Delegates agreed that, at XXIV ATCM in 2001 and at the meeting of the Committee for Environmental Protection (CEP) in the Netherlands during September 2000, the President, the Convenor of GOSEAC and the Executive Secretary should represent SCAR.

## CCAMLR

The report of the SCAR observer, Dra E S E Fanta, was distributed. Delegates noted the report and the President thanked Dra Fanta.

### 7.2.2 Other Organizations

#### ICSU

The SCAR Annual Reports to ICSU for 1998 and 1999 were distributed for Delegates.

#### SCOR, IGBP, WCRP

Delegates agreed that Dr E Hoffman, Dr C Schlüchter and Dr I F Allison should be asked to represent SCAR at

appropriate meetings of SCOR, IGBP and WCRP respectively.

### IOC

Delegates also agreed that the Executive Committee should invite Dr E Hoffman to represent SCAR at appropriate meetings of IOC.

#### 7.2.3 Bi-polar relations

The report of the SCAR observer to the International Arctic Science Committee (IASC) Council Meeting, April 2000, was distributed for Delegates. A particular outcome of this meeting had been the establishment of contact between SCAR and the International Permafrost Association (IPA). This should lead to joint research in the field of Antarctic permafrost in relation to climate change studies through the SCAR RiSCC programme.

### 7.3 Financial

#### 7.3.1 Report of the XXVI SCAR Finance Committee

R Schlich, Chairman of the XXVI SCAR Finance Committee, presented the report of the XXVI SCAR Finance Committee. He welcomed the early submission of draft budget requests from Chief Officers that had significantly facilitated the work of the Committee. He also thanked the members of the Committee for their concentrated and unbiased work in assessing the applications for funds and preparing the budgets for the next two years. Delegates approved the report of the XXVI SCAR Finance Committee.

#### 7.3.2 Financial statements for 1998 and 1999

Following the presentation of the financial statements by the Chairman of the Finance Committee there was lengthy discussion on a variety of subjects. It was noted that the deficit budgets for both 1999 and 2000 had been authorized by the Delegates Meeting at SCAR XXV. One concern expressed was the fact that several groups had overspent their approved budget allocations, in some cases by more than 50%. There was some discussion of the procedures used by the Executive Committee and the Executive Secretary to deal with these over-runs. The Finance Committee indicated that in the future there will be documentation of such changes. It was further agreed that before SCAR groups, such as GOSEAC, accept future invitations to hold meetings a budget estimate must be prepared that compares projected costs with available funds. If additional funds are required, a request for a revised allocation should be submitted to the SCAR Executive Committee for approval in advance of the expected expenditure.

#### 7.3.3 Financial strategy

A brief discussion about the need for increases in National Contributions followed with the suggestion that the possibility of an increase of 10% in 2003 be discussed with National Committees. It was generally agreed that the increase be closely allied with anticipated increases in the budget necessary to implement the reorganization of SCAR.

The fact that three members are several years in arrears was noted. The Delegates agreed that the Russian Delegate should contact Bulgaria, Estonia, and Ukraine and that a letter be sent indicating that these three members will be asked if they wish to continue their membership of SCAR. If a positive response is not received by 31 December 2000 their membership shall be deemed to have ceased.

#### 7.3.4 Budget for 2000

Delegates approved the revised SCAR Budget for 2000.

#### 7.3.5 Budgets for 2001 and 2002

Following the acceptance of the revised 2000 budget, the Finance Committee Chairman presented the proposed budgets for 2001 and 2002. These are both balanced budgets with the result that the funds available for support of science activities have been reduced in both budgets. There was considerable support for the balanced budget concept in view of the uncertainty of costs related to the implementation of the changes that may result from the recommendations proposed by the Review Committee and the Transition Group. There was discussion of the amount allotted to the Group of Specialists on Subglacial Lakes. The Chairman indicated that this was a figure inserted to recognize the existence of the group but that, since it had not been constituted, no budget request had been submitted.

The proposed budget allocations for the Groups of Specialists on Environmental Affairs and Conservation and on Seals were questioned and it was suggested that the support for both of these groups be further reduced. It was also suggested that the amount of income indicated under "Miscellaneous" should be reduced from \$20,000 to \$10,000, based on past experience.

Delegates then approved both budgets.

### 8. Future Meetings

#### 8.1 XXVII SCAR

##### 8.1.1 Arrangements for XXVII SCAR

The Chinese Delegate confirmed that his country would host the XXVII SCAR Meeting in Shanghai, China, 8-19 July 2002. He extolled the virtues of Shanghai and promised that it will be an excellent venue for the meeting. The President thanked Dr Chen and confirmed that the basic format of the meeting would be the same as XXVI SCAR. He added that minor changes may be introduced to begin implementation of the recommendations of the review adopted at this meeting but that the hosts would be given advance notice of any that may affect the meeting arrangements.

##### 8.1.2 Activities at XXVII SCAR

The requests by all the current Working Groups of SCAR and the Groups of Specialists on Seals and on Antarctic Neotectonics to meet at XXVII SCAR were approved. However, it was recognized that some of these may be in a different format as the implementation of the recommendations of the review adopted at this meeting are brought into effect.

### 8.2 SCAR Executive Meeting

The President announced that the next meeting of the SCAR Executive Committee will be held in Amsterdam, The Netherlands, 20-24 August 2001, at the kind invitation of the Manager of the Dutch National Antarctic Programme, to coincide with COMNAP XIII meeting. This will also provide the opportunity for the SCAR and COMNAP Executive Committees to hold a joint meeting.

### 8.3 XXVIII SCAR

The President expressed the gratitude of SCAR to the German Delegate for the offer to host the XXVIII SCAR meeting in Bremerhaven, Germany, during 2004.

### 9. Closure of the meeting

The Delegates adopted the draft report of the meeting, subject to minor editorial changes, and it was agreed that the final version would be circulated promptly by the SCAR Secretariat. The final version would also be posted on the SCAR web site prior to publication in the SCAR Bulletin.

In closing the XXVI SCAR Delegates Meeting, the President paid thanks to the Japanese hosts of the meeting, particularly Professor Takeo Hirasawa, Director of the National Institute of Polar Research, Professor Yasuhiko Naito, Professor Kazuyuki Shiraishi and the staff of the Institute for all their work to ensure the smooth success of the meeting.

## XXVI SCAR Recommendations

### Recommendation SCAR XXVI-1

#### Concerning biological prospecting

*Recognizing* that the Antarctic marine ecosystem has a high biodiversity and is rich in groups of interacting organisms which elsewhere in the world have proved of pharmaceutical value;

*Noting* the increasing international interest in the world-wide exploitation of biodiversity for chemical compounds of use to mankind; and

*Recognizing* that the international legislation for controlling access to genetic resources is based on sovereign rights which do not appear to be applicable in the Antarctic Treaty area south of latitude 60°S;

SCAR *recommends* that National Committees be aware of:

- the possible detrimental direct and indirect effects of any direct collection of Antarctic species for the identification and commercial exploitation of secondary metabolites, enzymes or other useful molecules;
- the possibility of patenting of gene sequences from Antarctic organisms for commercial use;
- the lack of any legislation under the Antarctic Treaty System specifically focused on these matters.

### Recommendation SCAR XXVI-2

#### Concerning Antarctic Place-names

*Noting* that the SCAR Composite Gazetteer of Antarctica (CGA):

- has been published in March 1998 by the SCAR Working Group on Geodesy and Geographic Information (WG-GGI);

- contains names data from twenty SCAR member countries and the International Hydrographic Organization (IHO) International Oceanographic Commission (IOC);
- comprises around 33,000 entries for 16,500 features, including around 500 features with two or more entirely different names;

*Considering* that, in the interests of both scientific clarity and operational safety, the general principle of 'one name per feature' should apply for all new feature names;

SCAR *recommends* that National Committees, directly or through their national Antarctic naming authority:

- 1 refer to the CGA in considering all proposals for new place names;
- 2 avoid adding new place names to features already named;
- 3 submit all new approved place names to the WG-GGI for inclusion in the CGA.

### Recommendation SCAR XXVI-3

#### Concerning bathymetric data

*Noting* that the lack of bathymetric information in large areas of the Southern Ocean is a limiting factor in bathymetric mapping and nautical charting;

*Noting* further the key role of the IHO Data Center on Digital Bathymetry (DCDB) located at the US National Geophysical Data Center (NGDC) in Boulder, CO, and the efforts of the IOC/IHO organizations for updating and maintaining the General Bathymetric Chart of the Ocean (GEBCO);

*Considering* the need for bathymetric maps for the morphological interpretation of the sea-floor structure

and general oceanographic studies, the geo-location of scientific data, and the general requirements for precise nautical charts to ensure the safety of navigation in Antarctic waters;

SCAR *recommends* to National Programmes that:

- 1 they support the acquisition of echo-sounding data on all vessels operating in Antarctic waters and the delivery of the gathered measurements to the IHO DCDB for further use in bathymetric mapping;
- 2 wherever possible, vessel transits should be planned through oceanic regions where few bathymetric data exist in order to gather additional bathymetric information.

#### **Recommendation SCAR XXVI-4**

##### **Concerning meteorological data from Automatic Geophysical Observatories (AGOs)**

*Recognizing that:*

- the British and American Antarctic Programmes operate Automatic Geophysical Observatories (AGOs);
- AGOs collect data for studies on solar-terrestrial physics and meteorological variables;
- the British data are collected annually and are available at BAS;
- meteorological data and other information from the US AGOs are placed on the World Wide Web and are refreshed every 24 hours;
- meteorological data are required on the Global Telecommunications System (GTS) operated by WMO at least at 00 GMT and 12 GMT, so that they can be assimilated into operational global models run by a number of centres around the world;

SCAR *recommends* to National Committees that meteorological data from AGOs should be inserted into the WMO GTS at least twice every 24 hours (at 00 GMT and 12 GMT).

#### **Recommendation SCAR XXVI-5**

##### **Concerning the International Programme for Antarctic Buys (IPAB)**

*Recognizing that:*

- the international programme for drifting buoys in the seasonal sea-ice zone is part of the World Climate Research Programme (WCRP);
- the programme is a cooperative venture aimed at maintaining a network of some 50 drifting buoys for both global weather forecasting and climate research;
- the programme's future plan proposes a long term commitment after the initial phase 1994-2000;

SCAR *encourages* National Committees to continue their support for the International Programme for Antarctic Buys (IPAB).

#### **Recommendation SCAR XXVI-6**

##### **Concerning rationalization of scientific activities on King George Island**

*Aware* of the on-going debate on scientific activities that is currently underway on King George Island;

*Appreciating* that national programmes should maintain their own priorities; and

*Noting* the belief of the Working Group on Physics and Chemistry of the Atmosphere that some rationalization of existing research programmes on King George Island would free resources for new scientific projects;

SCAR *recommends* that the relevant National Committees should make efforts to integrate their scientific objectives and to collaborate with other nations.

#### **Recommendation SCAR XXVI-7**

##### **Concerning management plans for the Dry Valleys**

*Recognizing* the unique nature of the ice-free areas in Antarctica, particularly the Dry Valleys in southern Victoria Land;

*Aware* that the scientific value of these areas may easily be jeopardized inadvertently by ill-considered activities;

SCAR *encourages* the relevant National Committees to develop management plans for the Dry Valleys of southern Victoria Land as appropriate.

#### **Recommendation SCAR XXVI-8**

##### **Concerning metadata records**

*Recognizing* that the generation of metadata records are key components of national science programmes;

*Recognizing* also that the creation of metadata records requires an appropriate level of resourcing for science projects as well as National Antarctic Data Centres (NADCs);

SCAR *recommends*

- 1 that metadata records are created as soon as is feasible after the collection of data; and
- 2 that national programmes make available appropriate funding for science projects for the creation of such records to be made as an integral part of the project.

#### **Recommendation SCAR XXVI-9**

##### **Concerning management plans for protected areas**

*Considering* the need for the protection of the Antarctic environment and in furtherance of the stated SCAR objectives of conservation;

SCAR *recommends* that the appropriate National Committees forward to the ATCM, via their governments, the management plans for the following protected areas:

- SPA No 14 Lynch Island, South Orkney Islands  
 SPA No 19 Lagotellerie Island, Marguerite Bay, Graham Land  
 SPA No 20 New College Valley, Cape Bird, Ross Island  
 SSSI No 22 Yukidori Valley, Langhovde, Lützow-Holm Bay

#### Recommendation SCAR XXVI-10

##### Concerning the commercial exploitation of Antarctic meteorites

*Noting* that members of certain private expeditions are apparently going to Antarctica with the expressed aim of collecting meteorites for subsequent sale;

*Concerned* that meteorites collected in this way will be lost to science, and

*Mindful* of Recommendation SCAR XXII-1;

SCAR *recommends* that National Committees, via their governments, request the ATCM to take a stronger position on Recommendation XXII-1 that states:

"SCAR recommends that:

- 1 Geological specimens, such as fossils, minerals, meteorites, volcanic bombs and ventifacts in Antarctica should be collected for scientific or educational purposes and not for commercial gain;
- 2 Geological samples collected from Antarctica for these purposes should be properly curated in institutions accessible to the scientific community and, wherever possible, should be publicly displayed."

#### Recommendation SCAR XXVI-11

##### Concerning Geodetic and Geographic Information

*Noting* the Antarctic Treaty Article III (1c) requirements regarding data exchange;

*Recognizing* that the information products produced by the SCAR Working Group on Geodesy and Geographic Information are all derived from the work of National Committees and Programmes;

SCAR *recommends* that National Committees request National Programmes to provide continuing access for all SCAR members to fundamental geodetic and geographic information, including:

- geodetic observations and databases;
- geodetic control point and tide gauge records;
- topographic and bathymetric data;
- and place-names data.

#### Recommendation SCAR XXVI-12

##### Concerning airborne gravity data for geoid computation

*Noting* that determination of a high resolution geoid in Antarctica benefits research on ice sheet geometry, and the calibration and validation of satellite missions;

*Recognizing* that there is a major gap in gravity data required for the computation of a high resolution geoid in Antarctica;

*Considering* the current lack of gravity data, the need to acquire gravity data at close intervals (optimally spaced between 10 and 50 km), that new satellite gravity missions will leave a gap from 82 to 90 degrees south, and that airborne gravity observation is considered the most cost-effective and reliable method for collecting data;

SCAR recommends that National Committees request National Programmes:

- to support a scientific programme of airborne gravity to close gaps in existing Antarctic gravity data coverage; and
- encourage all researchers to coordinate their efforts in Antarctic gravity data acquisition, in particularly airborne gravity data, and to provide such data to the SCAR Working Group on Geodesy and Geographic Information.

#### Recommendation SCAR XXVI-13

##### Concerning climate and palaeoenvironmental past records

*Recognizing* that Antarctica and the Southern Ocean are very important parts of the climate system; and

*Noting* that recent research has highlighted the importance of Antarctic ice cores for understanding global change;

SCAR *requests* that National Antarctic Programmes and national and international funding agencies:

- support ice-coring field activities;
- ensure the archiving and sharing of ice-core data; and
- promote the syntheses of ice-core data as well as their comparison with oceanic records.

#### Recommendation SCAR XXVI-14

##### Concerning the importance of magnetometer data

*Recognizing* the importance of high precision absolute measurements of the geomagnetic field for:

- 1 Improving understanding of the structure and evolution of the Earth's interior;
- 2 Assisting the determination of the International Geomagnetic Reference Field that is a crucial background data set for global solar-terrestrial and other studies;
- 3 Providing ground truth for present and up-coming satellite missions;

*Noting* increasing satellite and ground-based international efforts related to the current solar maximum;

SCAR *encourages* National Committees and other responsible bodies to establish and maintain these important basic measurements at all feasible Antarctic stations that provide independent coverage.

**Recommendation SCAR XXVI-15****Concerning continued support of existing observatories**

*Recognizing* that the study of Geospace and the Space Weather Environment is now more important than ever, both scientifically and in terms of the practical impact of Space Weather on technological systems in space and on the ground; and

*Recognizing* that the polar regions, and especially Antarctica, provide unique platforms for coordinated multipoint observations of the geospace environment;

Noting that the ionosphere over the Antarctic continent is now comprehensively monitored by overlapping fields of view of multiple HF radars; and

*Noting* the crucial importance of ground-based observatories at distributed high latitude Antarctic sites as facilitated, for example, by the Automatic Geophysical Observatories (AGOs) operated by the United Kingdom and United States;

SCAR *recommends* to National Programmes that these and other similar observations be continued without interruption during the next few years as geophysical activity peaks during and after the current intense solar maximum.

**Recommendation SCAR XXVI-16****Concerning site testing for astronomical observation.**

*Recognizing* the advantage to astronomy of the unique observing conditions on the Antarctic plateau, confirmed by the exceptional conditions existing at South Pole station; and

*Noting* that comprehensive data on the site conditions are an essential pre-requisite to the establishment of new observatories;

SCAR *encourages* responsible organizations and National Programmes to deploy instrumentation to potential new sites to acquire comprehensive data on observing conditions.

**Recommendation SCAR XXVI-17****Concerning specially protected species**

*Recognizing* the large increase in population of *Arctocephalus* spp in Antarctic waters;

SCAR *recommends* that National Committees, via their governments, request that the ATCM removes all species of the genus *Arctocephalus* from the list of Specially Protected Species in Annex II, Appendix A, of the Protocol on Environmental Protection to the Antarctic Treaty.

**Appendix 1****Electronic mail addresses of participants (except advisers)**

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## Appendix 2

### List of Acronyms and Abbreviations

|          |                                                                      |        |                                                                |
|----------|----------------------------------------------------------------------|--------|----------------------------------------------------------------|
| ADMAP    | Antarctic Digital Magnetic Anomaly Project                           | HF     | High Frequency                                                 |
| AEON     | Antarctic Environmental Officers Network                             | IAATO  | International Association of Antarctica Tour Operators         |
| AGEANT   | Age, Growth and Evolution of Antarctica                              | IASC   | International Arctic Science Committee                         |
| AGO      | Automatic Geophysical Observatory                                    | ICSU   | International Council for Science                              |
| AGONET   | Antarctic Geophysical Observatory Network                            | IGBP   | International Geosphere-Biosphere Programme                    |
| AMD      | Antarctic Master Directory                                           | IHO    | International Hydrographic Organisation                        |
| ANTEC    | Group of Specialists on Antarctic Neotectonics                       | IOC    | Intergovernmental Oceanographic Commission                     |
| ANTIME   | Late Quaternary Antarctic Sedimentary Record of Ice Margin Evolution | IPA    | International Permafrost Association                           |
| APIS     | Antarctic Pack Ice Seals                                             | IPAB   | International Programme for Antarctic Buoys                    |
| ASPeCt   | Antarctic Sea-Ice Processes and Climate                              | ISMAS  | Ice Sheet Mass Balance and Sea Level                           |
| ATCM     | Antarctic Treaty Consultative Meeting                                | ITASE  | International Trans-Antarctic Scientific Expedition            |
| BEDMAP   | Antarctic Bedrock Mapping Project                                    | IUCN   | World Conservation Union                                       |
| CCAMLR   | Convention for the Conservation of Antarctic Marine Living Resources | IUGS   | International Union of Geological Sciences                     |
| CEP      | Committee for Environmental Protection                               | IUPS   | International Union of Physiological Sciences                  |
| CGA      | Composite Gazetteer of Antarctica                                    | JCADM  | Joint Committee on Antarctic Data Management                   |
| CLIC     | Climate and Cryosphere                                               | MNAP   | Manager of National Antarctic Programme                        |
| CLIVAR   | Climate Variability and Predictability Programme                     | NADC   | National Antarctic Data Centre                                 |
| COMNAP   | Council of Managers of National Antarctic Programmes                 | NGDC   | National Geophysical Data Center                               |
| DCDB     | Data Center on Digital Bathymetry                                    | RiSCC  | Regional Sensitivity to Climate Change in Antarctic Ecosystems |
| DecCen   | Decadal to Centennial Climate Variability                            | SAER   | State of the Antarctic Environment Report                      |
| EASIZ    | Ecology of the Antarctic Sea Ice Zone                                | SCALOP | Standing Committee on Antarctic Logistics and Operations       |
| EVOLANTA | Evolution in Antarctica                                              | SCAR   | Scientific Committee on Antarctic Research                     |
| GEBCO    | General Bathymetric Chart of the Ocean                               | SCOR   | Scientific Committee on Oceanic Research                       |
| GERG     | Geochemical and Environmental Research Group                         | SPA    | Specially Protected Area                                       |
| GIANT    | Geodetic Infrastructure for Antarctica                               | SSSI   | Site of Special Scientific Interest                            |
| GLOCHANT | Group of Specialists on Global Change and the Antarctic              | VELMAP | Velocity Map                                                   |
| GMT      | Greenwich Mean Time                                                  | WCRP   | World Climate Research Programme                               |
| GOSEAC   | Group of Specialists on Environmental Affairs and Conservation       | WG-GGI | Working Group on Geodesy and Geographic Information            |
| GTS      | Global Telecommunications System                                     | WMO    | World Meteorological Organization                              |

## SCAR and COMNAP Executive Committees

Tokyo, Japan, 13 July 2000

### Report of a Joint Meeting

#### Present

SCAR: Dr R H Rutford (President); A C Rocha-Campos (Past-President); F J Davey, R Schlich, J Valencia, A D M Walker (Vice-Presidents); P D Clarkson (Executive Secretary).

COMNAP: G Wratt (Chairman); P Eberhard (Chairman, SCALOP); J C A Sayers (Executive Secretary).

#### 1. Chairman's Introduction

The meeting was held within the XXVI SCAR Meeting so that R H Rutford, as President of SCAR, took the chair. He introduced the agenda and drew attention to those items of particular importance to both SCAR and COMNAP.

#### 2. Antarctic Data management

##### 2.1 SCAR Survey Results

R H Rutford presented a summary of the responses to the questionnaire on Antarctic data management that had been widely distributed throughout SCAR and COMNAP. He noted that there were responses from 12 countries with a majority in favour of an Antarctic Master Directory but that it was not an overwhelming majority. He also drew attention to the fact that 75% of responses were from one country although these did not alter the overall picture. He noted that there were to be several demonstrations of the system during the next few days to enable both SCAR and COMNAP members to gain a better understanding of the potential of the process. There was an extensive discussion on the advantages and drawbacks of proceeding and concern was expressed about the ongoing cost of development and maintenance.

M R Thorley, the newly elected Chairman of the Joint SCAR-COMNAP Committee on Antarctic Data Management (JCADM) was invited to address the meeting. He was confident that a grant of US \$ 40,000 per year for two years would allow the concept to reach a stage where hopefully very little, if any, further financial support from SCAR and COMNAP would be needed.

Members of the Executive Committees expressed concern about the lack of detail on how the funds were to be spent and what the deliverables would be at the end of the two-year period. It was agreed that before any funds were granted the Executive Committees would need to approve the terms of a contract between SCAR and the Global Change Master Directory (GCMD). The contract would need to include a schedule of benchmarks and deliverables to be achieved before any payments were made and these would need to be agreed by the GCMD.

It was agreed that, subject to the views of the SCAR Chief Officers and Delegates, and the COMNAP plenary, and to the approval of the documentation to be submitted to the two Executive Committees, SCAR and COMNAP would share equally the cost of supporting development of the AMD for the next two years only at a combined cost of US \$ 40,000 per year. The meeting requested quarterly progress reports from JCADM.

##### 2.2 Further Actions

The future of JCADM was discussed. It was agreed that the operation of the Joint Committee would likely tend towards that of a network of data managers, conducting most business by electronic communication. No decision was taken to change the current situation but it was agreed that a SCAR-COMNAP steering group (two members from each of SCAR and COMNAP plus the JCADM Chairman) would be needed to oversee expenditure, etc, on the contract with GCMD.

#### 3. ATCM Open Ended Discussion Groups

##### 3.1 Liability Definitions

R H Rutford described current progress and urged members of the group undertaking this work to contribute to the discussions in the coming months. He agreed to provide copies of a commentary document for members consideration.

##### 3.2 Diseases of Antarctic Wildlife

G Wratt reported that COMNAP was preparing a contribution on operational aspects of several recommendations in the workshop report. R H Rutford proposed that these should be combined with comments by SCAR on the scientific aspects. It was agreed that the whole should be submitted to the next meeting of the Committee for Environmental Protection as a Working Paper.

##### 3.3 Information Exchange

The Executive Secretaries reported that there had been little progress on examining the proposal for unified reporting. A table had been circulated showing the requirements for the different reports and exchanges of information and highlighting areas of duplication. The Secretaries will contribute to the discussions.

#### 4. SCAR/COMNAP Workshop on International Science Projects

##### 4.1 Forward International Science Plan and Priorities

The proposed schedule for science presentations at the forum to be held on 15 July 2000 was discussed. Some minor changes were made and it was agreed to circulate the programme and encourage the participation of both scientists and managers.

##### 4.2 SCAR/COMNAP Consultation Mechanisms

It was agreed that the science discussion forum held in Concepción at XXV SCAR had been a good initiative and that the current forum (see above) should provide a better platform for the dissemination of information. In general, the Executive Secretaries should remain in close contact and bring matters to the attention of the Executive Committees as necessary.

#### 5. Lake Vostok Meeting

R H Rutford gave a brief overview of the workshop on Antarctic subglacial lakes, held in Cambridge, United Kingdom, during September 1999. He noted that the report and recommendations had been widely circulated at this meeting, together with two volumes of background material and an informational leaflet. SCAR will be creating a Group of Specialists to coordinate the science programme and develop an implementation plan. He also noted that a technical workshop would be required and he encouraged COMNAP to take an active role in this.

#### 6. SCAR/COMNAP Interaction

##### 6.1 Implications of SCAR Review

R H Rutford reported on the recommendations of the *ad hoc* Group on SCAR Organization and Structure but said that it would be premature to judge the implications of these until the SCAR Delegates had expressed their views at the meeting next week.

##### 6.2 Amsterdam Meeting

G Wratt announced that the COMNAP XIII meeting would be held in Amsterdam, The Netherlands, 20-24 August 2001, at the kind invitation of the Manager of the Dutch National Antarctic Programme. The next meeting of the Joint Executive Committees will be held during this meeting.

## Measures, Decisions and Resolutions adopted at the XII Antarctic Treaty Special Consultative Meeting The Hague, The Netherlands, 11–15 September 2000

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**Note:** The texts of Measures 1–2 (2000), Decision 1 (2000), and the text and Annex of Resolution 1 (2000) were reproduced in *SCAR Bulletin* No 140, January 2000. One Annex to Measure 1 (2000) (SSSI No 8) is reproduced here, and the remaining Annexes will be reproduced in subsequent issues.

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### MEASURE 1 (2000)

#### Antarctic Protected Areas System: Revised Descriptions and Management Plans for Specially Protected Areas and Sites of Special Scientific Interest (SSSI)

SSSI 8: Western Shore of Admiralty Bay, King George Island, South Shetland Islands

#### Annex

#### Management Plan for Site of Special Scientific Interest (SSSI) No. 8 Western Shore of Admiralty Bay, King George Island, South Shetland Islands

##### 1. Description of Values to be Protected

The area was originally designated as a Site of Special Scientific Interest in Recommendation X-5 (1979, SSSI No. 8) after a proposal by Poland, because of its diverse avian and mammalian fauna and locally rich vegetation, providing a representative sample of maritime Antarctic ecosystem.

These grounds are still relevant. Research has now shown that the colonies of Adélie Penguin (*Pygoscelis adeliae*) and Gentoo Penguin (*Pygoscelis papua*) are the largest on the island. There are also breeding areas of other birds - Giant Petrel (*Macronectes giganteus*), Cape Pigeon (*Daption capense*), Wilson's Storm Petrel (*Oceanites oceanicus*), Black-bellied Storm Petrel (*Fregetta tropica*), Sheathbill (*Chionis alba*), McCormick's Skua (*Catharacta maccormicki*), Antarctic Skua (*Catharacta antarctica*), Dominican Gull (*Larus dominicanus*), and Antarctic Tern (*Sterna vittata*). Furthermore, there are numerous sites at which Elephant Seals (*Mirounga leonina*), Fur Seals (*Arctocephalus gazella*) and Weddell Seals (*Leptonychotes weddelli*) haul out or breed.

The values to be protected are those associated with the exceptional assemblage of animals and the long-term scientific studies on them that have been undertaken since 1976.

##### 2. Aims and Objectives

Management of the Area aims to:

- protect all bird colonies and seal breeding areas against unnecessary and potentially damaging human activities, and
- undertake any essential management activities necessary to protect the scientific value of the site.
- protect long-term research

##### 3. Management Activities

Ensure that the biologically the Area is adequately monitored and that sign boards and boundary markers are serviced.

##### 4. Period of Designation

The Area is designated for an indefinite period.

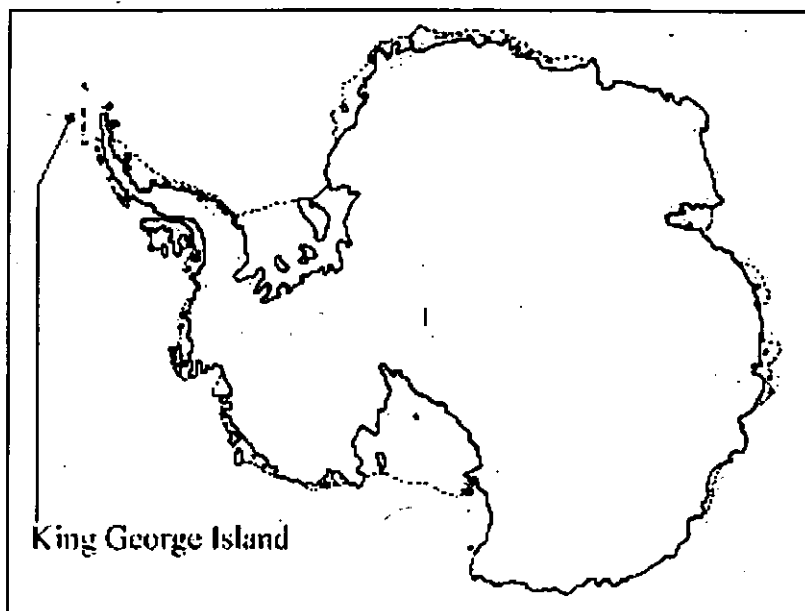
##### 5. Maps

- Map A: shows the location of King George Island in Antarctica.
- Map B: shows the Western shore of Admiralty Bay, Site of Special Scientific Interest (SSSI) No. 8, in relation to King George Island.
- Map C: shows the Area in greater detail.

## 6. Description of the Area

### 6(i) Geographical co-ordinates, boundary markers and natural features

The area consists of land on the western shore of Admiralty Bay (Map C). The westerly boundary extends from Patelnia (Telefon) Point ( $62^{\circ}13'55''\text{S}$ ,  $58^{\circ}28'45''\text{W}$ ), NNW to The Tower (a distinctive peak above Tower Glacier, 366.9 m at  $62^{\circ}12'50''\text{S}$ ,  $58^{\circ}29'00''\text{W}$ ), then continuing in a straight line to encompass the base of Jardine Peak ( $62^{\circ}10'05''\text{S}$ ,  $58^{\circ}29'45''\text{W}$ ). This line then runs NE to the sea (Admiralty Bay) where it bisects the coast immediately north of Rakusa Point ( $62^{\circ}09'45''\text{S}$ ,  $58^{\circ}27'25''\text{W}$ ). Thereafter the Area is all the land which is bounded by the coastline south towards Demay Point ( $62^{\circ}12'50''\text{S}$ ,  $58^{\circ}25'15''\text{W}$ ), then SW along the coast to Patelnia (Telefon) Point.



Map A. Location of King George Island.

The western edge of the Area is adjacent to the Warsaw Icefield, with the north-western corner being ice-free in the vicinity of Jardine Peak. Outside of the northern boundary is a small area of ice-free land. Steep cliffs overlook a narrow beach and the waters of Ezcurra Inlet in the north-western section of the ice-free area; and in the north-eastern section there are occasional shallow beaches which extend to the sea, where H. Arctowski station is located, 400 m. outside of the Area. Three small glaciers, Ecology, Baranowski, and Tower, descend from the Warsaw Icefield onto these shores.

There are markers on the northern edge of the Area where the site has a boundary on land, immediately south of H. Arctowski station. The western boundary is not delineated by virtue of fact that it traverses a high (ca. 350 m) mobile icefield. The coastline defines the Area's eastern and southern stretches.

Twelve bird species regularly nest in the Area: Adélie Penguin (*Pygoscelis adeliae*) - 18838 nests in 1988/89 and 15151 nests in 1994/95; Chinstrap Penguin (*Pygoscelis antarctica*) - 3353 nests in 1988/89 and 2545 nests in 1994/95; Gentoo Penguin (*Pygoscelis papua*) - 2239 nests in 1988/89 and 2287 nests in 1994/95; Giant Petrel (*Macronectes giganteus*) - 315 nests in 1988/89 and 201 nests in 1994/95; Cape Pigeon (*Daption capense*) - 43 nests in 1988/89 and 290 nests in 1994/95; Wilson's Storm Petrel (*Oceanites oceanicus*); Black-bellied Storm Petrel (*Fregetta tropica*); Sheathbill (*Chionis alba*) - 9 nests in 1988/89 and 2 nests in 1994/95; McCormick's Skua (*Catharacta maccormicki*) - 38 nests (together with *C. antarctica*) in 1988/89 and 64 territories in 1994/95; Dominican Gull (*Larus dominicanus*) - 52 nests in 1988/89 and 46 nests in 1994/95; Antarctic Tern (*Sterna vittata*) - 188 nests in 1988/89 and 132 nests in 1994/95.

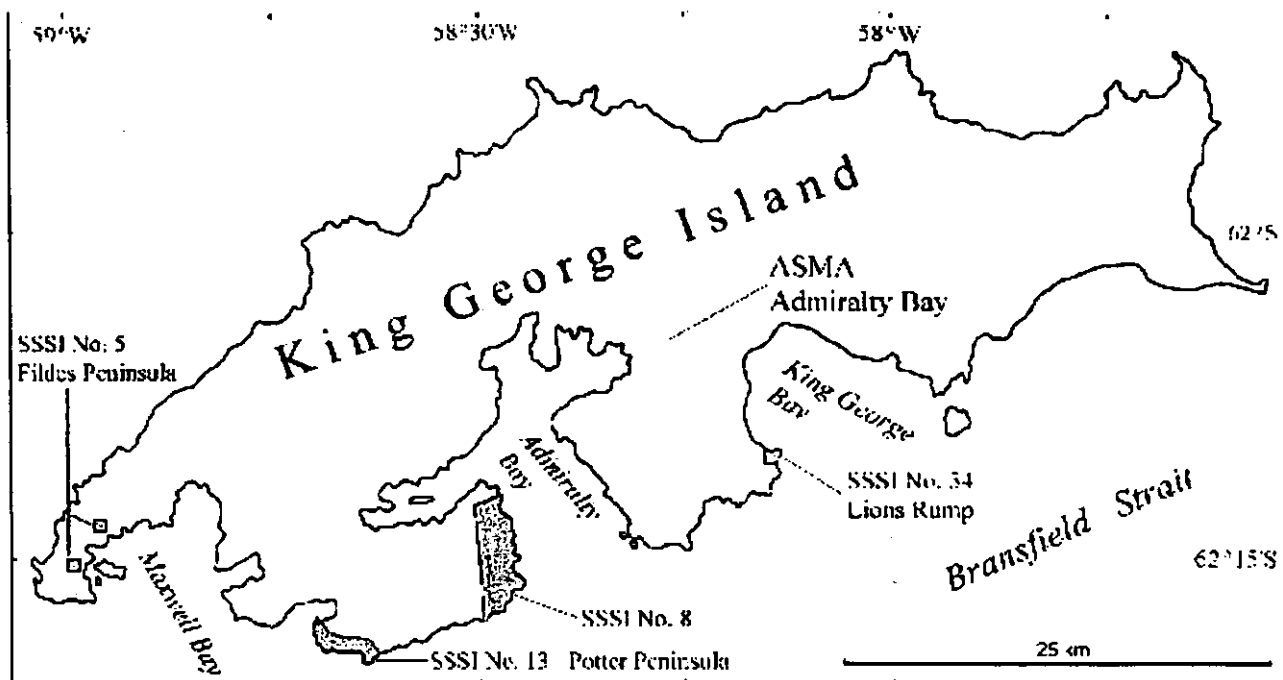
Moreover 4 alien bird species from South America have been observed, as stray visitors but which stayed in the Area only temporarily: Black-necked Swan (*Cygnus melanocoryphus*), South Georgia Pintail (*Anas georgica*), White-rumped Sandpiper (*Calidris fuscicollis*), Wilson's Phalarope (*Phalaropus tricolor*).

Continuing long-term ecological studies in this area are aimed principally at penguins and associated species.

Elephant Seals (*Mirounga leonina*), Fur Seals (*Arctocephalus gazella*) and Weddell Seals (*Leptonychotes weddelli*) haul out at numerous sites. Leopard Seals (*Hudrurga leptonyx*) and Crabeater Seals (*Lobodon carcinophagus*) are frequently seen on the ice floes during the winter. Breeding of Elephant Seals and Weddell Seals are observed in the Area.

The ice-free areas within the Area (20% of its surface) are formed by recent and raised pebble-cobble beaches, recent and sub-recent moraines, mountainous peninsula, rocky islets and spurs. The terrain is heavily shaped by glacial, nival and coastal marine processes.

The Area vegetation is typical of the Maritime Antarctic. Ice-free terrain (20% of its surface) is only partly occupied by plants and thus the landscape is of a semi-desert character. Dry areas and rocks are dominated by lichens. Locally, flowering plants such as *Deschampsia* and *Colobanthus* are important, these species occupying fairly large areas particularly in the vicinity of H. Arctowski station and constitute one of the largest areas covered by these species in the Antarctic. In the immediate vicinity of H. Arctowski station, there is an alien grass, *Poa* sp. The vegetation from 0 to 60 m a.s.l. is dominated by *Bryophyta* and flowering plants, and above 60 m a.s.l. by lichens.



Map B. Western shore of Admiralty Bay, SSSI No. 8, in relation to Antarctic Specially Managed Area (ASMA) and other SSSI's on King George Island.

#### 6(ii) *Restricted zones within the Area*

There are no prohibited zones within the Area, but access to bird breeding areas should be restricted during the breeding season (September to March) and damage to vegetation should be avoided by restricting access to the marked path.

#### 6(iii) *Location of structures within the Area*

The following are the structures in the Area (Map C):

- P. J. Lenie field camp (United States of America); consisting of a small hut (for four persons), on the beach between Llano Point and Sphinx Hill which has been in use during the summer since 1977;
- a caravan (belonging to Poland) functioning as a summer field laboratory for two persons, south of Demay Point.

#### 6(iv) *Location of other Protected Areas within close proximity*

The Western shore of Admiralty Bay, SSSI No. 8, is a part of Antarctic Specially Managed Area (ASMA), Admiralty Bay, King George Island (South Shetland Islands).

SSSI No. 5, Fildes Peninsula and SSSI No. 33, Ardley Island, lie about 27 km west of western shore of Admiralty Bay. SSSI No. 13, Potter Peninsula, lies about 15 km to the west and SSSI No. 34, Lions Rump, lies about 20 km to the east.

#### 7. *Permit Conditions*

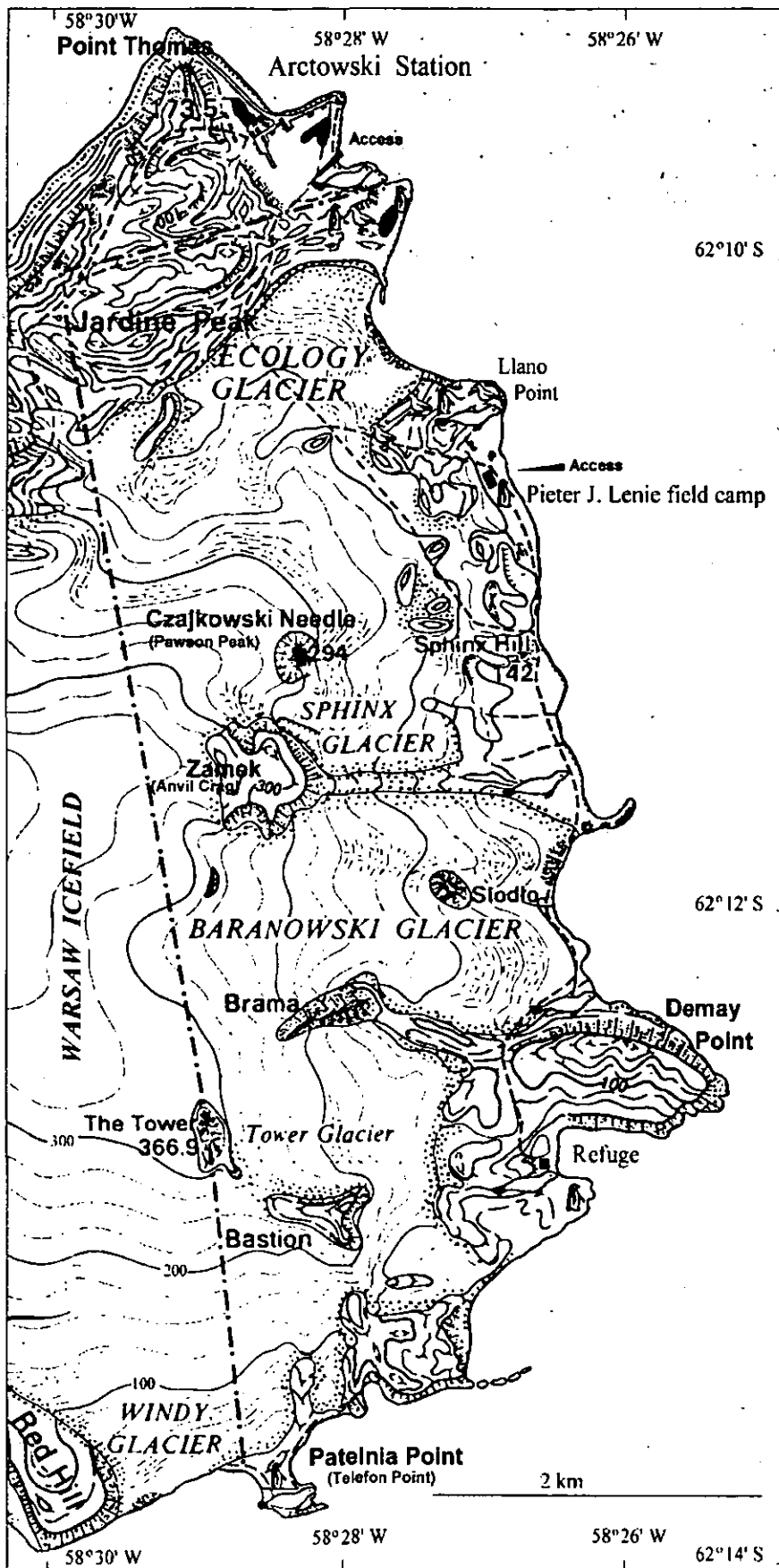
Permits may be issued only by appropriate national authorities as designated under Annex V Article 7 of the Protocol on Environmental Protection to the Antarctic Treaty.

Conditions for issuing a permit for the Area are that:

- it is issued only for scientific study of the ecosystem, or for compelling scientific reasons that cannot be served elsewhere,
- the actions permitted will not jeopardize the natural ecological system or scientific values of the Area,
- any management activities are in support of the objectives of the Management Plan,
- the actions permitted are in accordance with this Management Plan,
- the permit, or a copy, must be carried within the Area,
- a report is supplied to the authority named in the Permit, and
- the Permit shall be valid for a stated period.

#### 7(i) *Access to and movement within the Area*

The access to the Area is restricted to the northern end, near H. Arctowski station. Access from the sea is only permitted by inflatable boats. No access to the beach area between Llano Point and Sphinx Hill from the sea is permitted, except to resupply the P. J. Lenie field camp, or in an emergency. Access from the sea to areas further south is permitted but the visitors should at all times avoid disturbance to birds and seals or damage of vegetation.



Map C. Western Shore of Admiralty Bay, SSSI No. 8.

Landing of helicopters within the Area is permitted only on the glaciers, except in an emergency. Helicopters are allowed to land at *H. Arctowski* station only, on a special designed helipad. No helicopter or fixed wing aircraft is permitted to fly over the Area below 250 m altitude above the highest point. All helicopters should maintain a distance of at least 500 m from the Area during take-off and landing at *H. Arctowski* station. To avoid flying over bird colonies, approach from and towards the sea, or over Warsaw Icefield, is recommended.

Pedestrian routes are designated (Map C) and marked within the Area. Persons on foot should at all time avoid disturbance to birds, seals and damage of vegetation.

Vehicles are prohibited in the Area.

**7(ii) *Activities which are or may be conducted within the Area; including restrictions on time and place***

- Scientific research which cannot be conducted outside the Area, and which will not damage or interfere with any aspect of the Area's biological, geological, or aesthetic values.
- Essential management activities, including monitoring.

**7(iii) *Installation, modification or removal of structures***

No further structures are to be erected in the Area, or scientific equipment installed, except for essential scientific or management activities, as specified in the Permit.

**7(iv) *Location of the field camps***

Parties should not normally camp in the Area. Both P. J. Lenie field camp and the Polish caravan provide research accommodation, by agreement. The caravan can accommodate up to two persons.

**7(v) *Restrictions on materials and organisms which may be brought into the Area***

No living animals or plant material shall be deliberately introduced into the Area.

Poultry product shall not be taken into the Area. Any chemical which may be introduced for compelling scientific purposes specified in the Permit, shall be removed from the Area at, or before, the conclusion of the activity for which the permit was granted.

Fuel, food and other materials are not to be stored in the Area except in support of activities for which the Permit has been granted. All such materials should be kept to a minimum, made secure against the elements and removed when no longer required.

**7(vi) *Taking or harmful interference with native flora and fauna***

Taking or harmful interference is prohibited, except in accordance with a Permit. When animal taking or harmful interference is involved this should be in accordance with the SCAR Code of Conduct for Use of Animal for Scientific Purpose in Antarctica, as a minimum standard.

**7(vii) *Collection and removal of anything not brought into the Area by the Permit holder***

Material may be collected or removed from the Area only in accordance with a Permit. This includes rock specimens, whale bones, artefacts of the whaling industry, and any item belonging to or attached to any aspect of the historical uses of Admiralty Bay which are not specifically described herein.

Debris of human origin may be removed from the beaches of the Area. Exceptionally, dead specimens of fauna or flora may be removed for laboratory examination without a Permit.

**7(viii) *Disposal of waste***

All waste shall be removed from the Area, with the exception that human waste should be deposited in the sea.

**7(ix) *Measures that may be necessary to ensure that the aims and objects of the Management Plan continue to be met***

The Permit, or a copy, must be carried within the Area.

Permits may be granted to enter the Area to carry out biological monitoring and site inspection activities, which may involve the collection of small samples for analysis or audit, or to erect or maintain signposts, or other protective measures.

**7(x) *Requirements for reports***

The principal Permit Holder for each issued Permit shall submit a report of activities conducted in the Area. The Visit Report form suggested by SCAR provides a suitable model. This report shall be submitted to the authority named in the Permit as soon as practicable, but no later than 6 months after the visit has taken place. Such reports should be stored indefinitely and made accessible to interested Parties, SCAR, CCAMLR and COMNAP if requested, to provide the documentation of human activities within the Area, which could be utilized for good management.



## **SCAR Bulletin**

*SCAR Bulletin*, a quarterly publication of the Scientific Committee on Antarctic Research, is published on behalf of SCAR by Polar Publications, at the Scott Polar Research Institute, Cambridge. It carries reports of SCAR meetings, short summaries of SCAR Working Group and Group of Specialists meetings, notes, reviews, and articles, and material from Antarctic Treaty Consultative Meetings, considered to be of interest to a wide readership. Selections are reprinted as part of *Polar Record*, the journal of SPRI, and a Spanish translation is published by Instituto Antártico Argentino, Buenos Aires, Argentina.

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