

## SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH

### WORKING GROUP ON BIOLOGY BIRD BIOLOGY SUBCOMMITTEE MINUTES OF MEETING,

26-27 MAY 1994, PADUA, ITALY

#### 1. PARTICIPANTS AND AGENDA

Members and observers (Annex 1) were welcomed to the meeting by the Chair, Dr JP Croxall. Apologies had been received from Dr R Bannasch and Professors GL Hunt Jr and WR Siegfried. Dr Croxall thanked the SCAR Executive for making travel funds available to the meeting, which allowed J Cooper as Secretary, and Drs LS Davis and M Sallaberry to attend. He also thanked members, and especially the Secretary, for active participation in intersessional work.

The draft agenda was adopted with minor alterations (Doc. 1, listed in Annex 2).

#### 2. MATTERS ARISING FROM THE PREVIOUS MEETING

The minutes of the previous meeting, held in Bariloche, Argentina, in June 1992, had now been published in *Marine Ornithology*, Vol. 21 (1993): 79-104 (Doc. 2). The review of status and trends of Antarctic and Subantarctic seabirds was submitted to CCAMLR and has now been published (Report of the Eleventh Meeting of the Scientific Committee of CCAMLR (1992), Annex 9). CCAMLR had thanked the SCAR-BBSC for its report and had requested that the SCAR-BBSC provide, prior to the 1997 meeting of WG-CEMP, information on those species or populations for which there is evidence of change in population status.

#### 3. CENTRAL DATA BANK (CDB) FOR ANTARCTIC BIRD BANDING

##### 3.1. Primary banding data

The Secretary presented the report (Doc. 3) on behalf of the Manager of the CDB, Mr TB Oatley. The report was then discussed under the heads below:

- i. Publication of a three-year report for 1987/88 to 1989/90.

Only two contributions were required to complete this. Dr LS Davis agreed to approach the New Zealand authorities for missing data, and Dr F Mehlum agreed to approach the Norwegian Institute for Nature Research to ascertain whether any birds were banded by Norway during this period.

- ii. Data for the period 1990/91 to 1992/93.

Many nations had so far failed to comply with reporting requirements. Mr J van Franeker agreed to investigate the Dutch data. Dr Moreno stated that Spain had two more years' data since 1991/92 to submit. It was necessary to enquire from the National Institute of Polar Research whether Japan had banded any birds during the period. New Zealand records for this period would be followed up by Dr Davis. Personal records of USA-banded birds will be forwarded directly by Drs WR Fraser and WZ Trivelpiece. However, Dr P Penhale, US National Science Foundation, should be approached formally for records of flying birds and those banded by other USA scientists. Argentinian banding totals for penguins from 1988 to 1993 were handed in at the meeting and received with appreciation (Doc. 4). Dr P Jouventin agreed to submit the French data since 1991/92. Dr KR Kerry agreed to approach the Australian authorities. According to

Professor A Myrcha, no Polish banding had been undertaken recently. It was noted that Uruguay had requested information on penguin banding from the SCAR-BBSC. This had been sent by the Secretary, along with a cautionary note about the possibly deleterious effects of flipper banding penguins (see Doc. 16) but no acknowledgement had been received. Dr Trivelpiece stated that Germany had apparently been colour-banding skuas recently and this needed to be followed up with Dr R Bannasch.

The Secretary and/or CDB Manager would follow up these initiatives.

To facilitate receiving at least the annual banding totals it was agreed to develop, and circulate annually to all active banding schemes, and research organisations, as well as to National Committees, a standard banding summary form. The Secretary and/or CDB Manager would prepare a draft and circulate it for comment.

### 3.3 Implantable transponders

The use of implanted tags for the purpose of identification of individuals was raised at the 1992 SACR-BBS meeting where guidelines for developing a register of studies were discussed. The report of the Workshop on Researcher-Seabird interactions (Doc. 16) had noted that:

a) "The use of implanted transponders is a new and promising technology for marking seabirds. A workshop should be convened to facilitate an exchange of information and to identify the desired technological developments that would aid the widespread use of this technology by researchers, especially in the area of demographic studies. This workshop should in particular bring in the experience of current practitioners from manufacturing companies, zoos and animal husbandry"; and

b) "The use of implanted transponders carries no current registration or experience requirements.

The Scientific Committee on Antarctic Research (SCAR) in particular should address this as a matter of urgency before the use of the techniques proliferates, especially in the Antarctic Peninsula region. Research on penguins involving alternative, long-term individual identification marks should be undertaken and encouraged".

The SCAR-BBS noted that there was a rapidly increasing use of implanted transponder tags in penguins and expressed concern that no national agencies were regulating their use, nor did national registers exist to record serial numbers and associated data of tags.

These concerns were based on the following:

i. There is no visible sign that a bird carries an implanted tag and thus the feasibility of implanting two or more tags in a single bird exists.

ii. Tags may be recovered and read but there is no way of referring this recovery to the researcher who implanted the tag.

iii. Once implanted, tags remain in place for the life of the bird, even after a research project is completed.

iv. Co-operation between researchers in the use of transponder tags needs to be facilitated, particularly where research sites are close together (i.e. where the possibility exists for movement of birds from one site to another).

The SCAR-BBS therefore recommended that the following information be submitted annually by national agencies to the SCAR-BBS, via the SCAR Working Group on Biology: species tagged, site details (preferably with co-ordinates), transponder type, site of implantation, numbers used, and the serial numbers of tags used (highly desirable but optional), along with the name and postal, fax and e-mail addresses of the researchers

involved. Drs Kerry and Trivelpiece agreed to design and circulate and draft record form for obtaining and storing the relevant data.

#### 4. RECENT PUBLICATIONS ON ANTARCTIC AND SUB-ANTARCTIC BIRDS

The 1991 list (Doc. 5) had been published in *Marine Ornithology*, Vol. 20: 43-49 (1992). The Secretary stated that the 1992 list (Doc. 6) was incomplete because he been unable to devote as much time as previously to compiling the reference lists; he asked to relinquish the task after completing the 1992 list for publication in *Marine Ornithology*. Members and observers were asked to send their corrections and additions to the Secretary by the end of July to enable publication of the 1992 list in 1994. Professor Jouventin provided a list of recent French publications. The Secretary stated that a combined 1984-1991 list was available from him electronically.

Discussion then followed on the value of the annual compilations. Whereas many participants kept their own reference lists, it was realized that if SCAR-BBS lists were published in a timely manner and were essentially complete, especially by including in-house and nationally published references, they would serve a useful purpose. The meeting noted that requests for lists continued to be received. Lists were also useful for researchers starting out in the field.

Dr Croxall had made enquiries as to whether the Library staff of the British Antarctic Survey (BAS) would take over the task. In principle, this was agreed to, providing SCAR-BBS members and observers helped by submitting their national publications. Mr EJ Woehler offered to help with the compilations and this offer was gratefully accepted. It was agreed that the Secretary would discuss the matter with the BAS Librarian, Ms C Phillips, during the 15th Polar Libraries Colloquy to be held in July 1994 in Cambridge, UK. It

was also agreed that offering the service electronically should be discussed with the BAS Librarian. A first draft of a 1993 list would be circulated as soon as possible after these discussions.

The ability of the seabird listserver, IMON (see Doc. 28), to distribute the reference lists was discussed, as was the electronic format that might allow the list to be imported into reference data bases. The Secretary and Mr Woehler would discuss these aspects with Ms Phillips.

The Secretary would enquire from Dr J Warham of the status of his albatross bibliography and when this could be made available to interested researchers.

#### 5. SYNTHESSES OF DATA ON DISTRIBUTION AND ABUNDANCE OF ANTARCTIC AND SUB-ANTARCTIC BIRDS

The SCAR-BBS noted with satisfaction the publication by SCAR of the review on the breeding distribution and abundance of southern penguins (Doc. 7) edited by Mr Woehler. The SCAR-BBS formally thanked Mr Woehler and compilers for their efforts.

Given the increasing interest in data on seabird distribution and abundance, both from the standpoint of revision of protected areas and as baselines against which to evaluate future change, the SCAR-BBS had at its last meeting looked at the possibility of producing additional compilations. Intersessionally, the Secretary, with assistance from the Chair, had been successful in developing this. It was agreed to review progress by individual species/species groups.

##### Snow Petrel *Pagodroma nivea*

The manuscript (Doc. 8), is regarded by its authors as essentially complete and would now be submitted to *Marine Ornithology*. Members and

observers were asked to send their final comments and additions to Dr Croxall by the end of July.

#### Antarctic Petrel *Thalassoica antarctica*

Mr van Franeker spoke to his report (Doc. 9). He had advertised for information on the seabird listserver, IMON but had received little response to date. Therefore, he had compiled the report to encourage the submission of more information. He stated that an estimate of species' population size seemed difficult with current data to hand. Holders of quantitative estimates of at-sea numbers for regional populations should contact Mr van Franeker to see how useful such information might be. The Subcommittee thanked Mr van Franeker for his efforts to date.

The value of obtaining records of Antarctic Petrels (and other continental breeding species, see below) from Antarctic earth scientists and their field reports was recognized. It was therefore agreed that the Secretary would approach the SCAR Working Group on Geology with a request for relevant information.

Mr van Franeker will endeavour to revise and update his submission by the end of 1994, which would then be circulated for further input.

#### Giant petrels *Macronectes* spp.

Dr WR Fraser tabled his report (Doc. 10), co-authored with Ms DL Patterson, which had been compiled as a data base. The historical literature was thought to be well-covered, though members were urged to provide copies of the papers listed as unavailable to the authors. The most critical information now needed was current, primarily unpublished, estimates of population sizes. Participants were requested to submit such information by the end of July to the authors, so that they could prepare a paper for publication by the end of 1994. Information in the Poncets' report (Doc. 11) would be added and Ms S

Poncet would be approached by Ms Patterson for any more information that she may have.

For sub-Antarctic localities, individual island totals should be sufficient. However, the numbers of colonies surveyed in island censuses could usefully be included, along with statements on the completeness of coverage. Professor Jouventin and Dr H Weimerskirch stated that data for individual islands in the Crozet and Kerguelen groups was available in the literature, although individual island coverage was uneven. The Secretary noted that this was the case with the Prince Edward Islands, with far better data available for Marion Island than for Prince Edward Island itself.

The value of electronic data curation and following the general format used in the penguin compilation was recognized.

#### Cape Petrel *Daption capense* and Antarctic Fulmar *Fulmarus glacialis*

Mr P Hodum's brief report (Doc. 12) was tabled. Mr Hodum had subsequently advertised for data on the seabird listserver. The SCAR-BBS thanked Mr Hodum for his interest and involvement and encouraged him to produce a first compilation for consideration. The Secretary would send the Poncets' report (Doc. 11) to Mr Hodum.

#### Larids

Mr Woehler said that his brief report (Doc. 13) indicated that he was at the stage of reviewing the literature, and hoped to have a first compilation to circulate for additional information by early 1995. It was agreed that the Kerguelen Tern *Sterna virgata* should be added to his survey. Because of the dispersed breeding nature of some of the larid species, collection of unpublished data may take some time.

#### Albatrosses

Dr Croxall introduced Dr RP Gales' report, which summarized extensive data on albatross population size at the island-group level (Doc. 14), and noted that members of the SCAR-BBS had submitted most of the data for Southern Ocean species. It was considered that a more finely-grained (i.e. at colony level) review may not be appropriate (at least for conservation purposes), because all breeding localities occurred on sub-Antarctic islands or island groups under national control. It was agreed that the SCAR-BBS would discuss the matter again at its next meeting, but would be influenced by any views coming from the First International Albatross Conference, to be held in August 1995 (see 14.1 below), which would be attended by a number of the meeting's participants.

#### Cormorants

The Poncets' detailed review (Doc. 15) together with the explanatory notes on coverage and content was tabled. The Chair explained the stage the review had reached to date, and requested that participants supply new information to Ms Poncet, especially that for sub-Antarctic islands, where as for albatrosses and giant petrels, at least individual-island totals should be made available, perhaps with colony numbers. The authors were warmly thanked for their efforts and encouraged to prepare a revised version for publication (e.g. in *Marine Ornithology*).

#### Update of penguin information

Dr Croxall had been keeping a file of data published since the completion of Doc. 7. Participants with other data more recent than the synthesis should send a copy to him for curation. The SCAR-BBS encouraged researchers to publish data on newly discovered penguin colonies and on new censuses in the literature. The subcommittee highlighted those localities for which basic surveys still remained a high priority.

Notable examples include the South Sandwich Islands, McDonald Island and Prince Edward Island.

#### Production of distribution and population reviews

Discussion was held on how the reviews described above should be published. It was agreed that individual species/species group accounts should be published in the scientific literature. Later consideration could then be given to combining some of these into a compilation volume for publication by SCAR. The Secretary, as Editor of *Marine Ornithology*, repeated his offer made at the last SCAR-BBS meeting to consider the papers for publication, which would be refereed in the normal way, and to be able to give space in the journal for maps and lengthy tables. If such papers were published over a fairly short period (say within a two-year period), consideration could then be given to asking SCAR to fund a combined publication.

#### Suggestions for coverage of remaining species

The Secretary stated that it was considered that reviews of population sizes of sub-Antarctic burrowing petrels were not really feasible at this stage, due to difficulties in conducting accurate censuses. It was not considered essential to initiate reviews of the remaining southern breeding species, such as non-seabirds and the New Zealand islands' endemic species (e.g. cormorants). The meeting was in accord with these views.

Dr M Sallaberry offered to undertake a global review of the distribution of Wilson's Storm Petrel *Oceanites oceanicus*. This was accepted with thanks and participants were asked to submit their published and unpublished information to Dr Sallaberry. The meeting noted with satisfaction that coverage for Antarctic Continental breeding species would then be complete, once all reviews were finished, allowing a combined site register of all

continental breeding species to be produced in due course. It was agreed that production of such a site register should be discussed at the next meeting of the SCAR-BBS, when substantial progress with the species' reviews should have been made.

## 6. INTERNATIONAL GIANT PETREL PROJECT

Dr Croxall stated that he had taken over the file on this project from Dr S Hunter, the project's co-ordinator, but as yet had had no time to analyse the data set. It was agreed that it was still worthwhile to see the project's results analysed and written up. No current researchers on giant petrels were identified to undertake this task. However, Ms Patterson offered to take over the analysis. This offer was gratefully accepted, and Dr Croxall stated that he would liaise directly with Ms Patterson on the matter.

## 7. REPORT ON THE WORKSHOP ON RESEARCHER-SEABIRD INTERACTIONS, MINNESOTA, 14-18 JULY 1993

Dr Fraser introduced the topic (Doc. 16), discussing the reasons for the workshop and its conclusions. The Chair thanked Drs Fraser and Trivelpiece for their initiative and expressed his opinion that it was a significant contribution to the field generally and to various SCAR initiatives in particular. Following a question, Dr Fraser stated that the report had been much requested, both by ornithological colleagues and by environmental groups. However, it was too early at this stage to predict the outcome of such requests. The SCAR-BBSC noted that the international seabird community had been proactive in initiating the workshop, and this should be recognized and commended by environmentalists.

The meeting then discussed the recommendations made by the workshop.

### i. Banding and marking techniques

Issues here were restricted mainly to penguins, where flipper banding had been shown to cause deleterious effects in some cases. The meeting endorsed the workshop's recommendation that researchers banding penguins need full training from experienced banders. It recommended that all researchers on Antarctic and Subantarctic seabirds should obtain a copy of the report and consider its recommendations.

Use of implantable transponders had been recommended as an alternative by the workshop and SCAR-BBS discussion on this is reported under item 3.3 above. The workshop had recommended a further workshop on alternative marking methods, including implantable transponders. The need for external markers, such as fish tags, was still necessary, e.g. to identify which penguins had implants, and needs researching (see Doc. 17 on a planned test of the value of colour-coded fish tags in Adélie Penguins *Pygoscelis adeliae* by Dr Fraser and Ms Patterson). A workshop should perhaps be delayed until such alternative techniques had been tested in the field. The Secretary proposed that a one-day workshop of involved researchers, perhaps including representatives of manufacturers, be held immediately before the next meeting of the SCAR-BBS, probably in Cambridge, UK. This was agreed. It was further agreed that the subject of the meeting should be restricted to discussing alternative marking techniques for penguins only. Discussion of the use of transponders on other (and smaller) seabirds would be discussed at the SCAR-BBSC meeting itself. An opportunity would exist to give an update on the development of transponder technology. Dr Y Chérel asked whether transponders themselves could have any deleterious effects. It was agreed that this should also form a subject for the suggested workshop.

It is difficult at present to set up appropriately controlled tests for detecting possible effects in penguins.

The SCAR-BBS decided to recommend to the Working Party on Biology that the workshop be given financial support by SCAR, particularly because of the conservation implications of the subject to be discussed. Dr Fraser offered to be the Convenor of the workshop, which offer was gratefully accepted.

The workshop's recommendation that SCAR should address the need for a registry of transponder tags had been discussed under Agenda item 3 above.

#### ii. Diet sampling and stomach lavage

The workshop recommended that the CCAMLR Ecosystem Monitoring Programme (CEMP) should produce a revised version of the technique for penguins. The SCAR-BBS endorsed this proposal and agreed to publicize the issue within SCAR. It noted the desirability for producing similar guidelines for non-penguin species. The SCAR-BBS endorsed the need for training in the technique.

#### iii. Instrument attachment, external technologies

Recommendations of the workshop on this subject were noted and endorsed.

#### iv. Instrument attachment, internal technologies

Recommendations of the workshop on this subject were noted and endorsed.

#### v. Physiological studies

The workshop noted the lack of applicable guidelines for blood sampling and injection procedures and recommended a review of the subject. Dr Fraser thought there had been no follow-up at this stage, but regarded it as an

important matter for review. Dr GS Fowler and Prof. J Wingfield would be approached by Dr Fraser, on behalf of the SCAR-BBS, to see if they would be prepared to initiate such a review.

#### vi. General disturbance

The meeting noted and endorsed the workshop's recommendations. With reference to ethics of animal experimentation, Dr Croxall reported that he understood that SCAR's Code of Conduct on this subject had been approved at the recent meeting of Antarctic Treaty Consultative Parties.

Dr Fraser enquired whether SCAR and/or CEMP should be involved in designating sites of long-term studies for protection. Dr Croxall noted that the mechanism for according protection to designated CEMP monitoring sites had already been successfully used in respect of Seal Islands and Cape Shireff. For sites of long-term ornithological research not relating to CEMP, protection could be afforded under the SCAR system of protected areas. It was agreed to bring this matter to the attention of the SCAR Working Party on Biology and to the SCAR Group of Specialists on Environmental Affairs and Conservation (GOSEAC) and to report back to the next meeting of SCAR-BBS.

## 8. RELATIONS WITH CCAMLR

Discussion was held on the difficulties of some participants obtaining CCAMLR literature, either directly from CCAMLR, or from their national representatives. In these circumstances participants should write directly to the CCAMLR Secretariat (25 Old Wharf, Hobart, Tasmania 7000, Australia). Participants were also informed of the commencement from 1994 of *CCAMLR Science*, a refereed journal, to replace the less freely available annual compilation, *CCAMLR Selected Papers*. At present material considered by *CCAMLR Science* would first have

to be tabled at a meeting of the Scientific Committee of CCAMLR.

The meeting's attention was drawn to the formation by CCAMLR of an *ad hoc* Working Group to Consider Incidental Mortality Arising from Longline Fishing (WG-IMALF). This will meet in Hobart, Australia on 21-22 October 1994 (Doc. 18). Interested participants were encouraged to seek accreditation as national CCAMLR representatives and to attend and/or contribute papers and information to the meeting.

## 9. RELATIONS WITH SCAR BODIES AND PROGRAMMES

### 9.1. Southern Ocean-Global Ocean Ecosystem Dynamics Study (SO-GLOBEC)

Dr Croxall gave the background to the development of GLOBEC, and its Southern Ocean component (SO-GLOBEC). Initially, GLOBEC had not considered higher predators other than fish, but Dr Fraser and others had pointed out the significant role of birds, seals and whales in the Southern Ocean at the first SO-GLOBEC meeting. The second SO-GLOBEC meeting (Doc. 19) had included major sections on top predators. The next meeting of SO-GLOBEC will be in June 1994 in Bremerhaven, Germany. Overlaps with other meetings will prevent most higher predator researchers from attending. Ship-based and technological research on seabirds (e.g. satellite tracking), could find an important role within SO-GLOBEC because several ships were likely to undertake substantial oceanographic research on this programme after 1995/96.

### 9.2. Group of Specialists on Environmental Affairs and Conservation (GOSEAC)

Dr Croxall stated that, as required, GOSEAC was now submitting agendas and reports on its deliberations to other SCAR groups, including

the SCAR-BBS. The agenda of GOSEAC's most recent meeting was tabled. Matters of interest to the SCAR-BBS included pollution protocols and environmental management issues. Relevant parts of the GOSEAC report would be circulated when received.

### 9.3. Group of Specialists on Southern Ocean Ecology (GOSSOE)

Dr Croxall described the co-ordinating efforts of GOSSOE to ensure the incorporation of appropriate SCAR marine science programmes into Southern Ocean-Joint Global Ocean Flux Studies (SO-JGOFS) and SO-GLOBEC. In addition GOSSOE had also promoted and organized the development of the SCAR Coastal/Shelf Zone Ecology of the Antarctic Sea Ice Zone (CS-EASIZ) programme. Copies of the draft report for the Workshop concurrently in progress in Padua developing this programme were circulated and participants were asked to submit comments and suggestions on the higher predator text to Dr Croxall by the end of July.

Dr Fraser expressed his concern that large oceanographic programmes in the Southern Ocean have always been designed by physical and chemical oceanographers and by "lower food chain" researchers, and that efforts were now needed by top-predator researchers to develop their own programmes. The SCAR Group of Specialists on Seals were already doing this successfully and seabird researchers urgently needed to develop a coordinated programme which could contribute to and take advantage of current initiatives like SO-GLOBEC and CS-EASIZ.

Dr Fraser offered to start such an initiative by compiling a list of hypotheses to form part of the framework of a programme outline. This could then be developed in greater detail at the next meeting of the group. Dr Croxall noted that it was vital to ensure that those nations with active



predator-prey programmes (especially involving ship-based work) were closely involved.

#### 10. COMPILATION OF MASSES OF ANTARCTIC AND SUB-ANTARCTIC SEABIRDS

The matter had been raised at the last meeting by Mr J van Franeker. He stated the need for "average values" for seabird masses, especially for use in calculating at-sea biomass figures and for modelling and energy/nutrient-flux studies. Dr Croxall drew attention to the recent handbook on avian body masses (Dunning, J. (Ed.) 1993. CRC Handbook of Avian Body Masses. CRC Press, Boca Raton), but noted that it was seriously deficient for southern seabirds. He noted the existence of accurately compiled published masses in the Handbook of Australian, New Zealand and Antarctic Birds (HANZAB), and suggested that the SCAR-BBS should circulate the HANZAB data sets for comment and updating. This was agreed to and the SCAR-BBS accepted gratefully Dr Fraser's offer to undertake the task. Dr Fraser would first send the HANZAB data to Dr Croxall for comment and for checking against the SCAR-BBS' original efforts to compile a mass data base, held at the British Antarctic Survey. The species list to be covered should be that used by the Central Data Bank for Bird Banding. It was noted that larids could not be treated in this manner since HANZAB has not yet published on this group.

#### 11. PENGUIN CONSERVATION ASSESSMENT AND MANAGEMENT PLAN (CAMP)

Dr Croxall reminded the meeting of the Penguin CAMP review, undertaken in New Zealand in August 1992 under the auspices of the IUCN Captive Breeding Specialist Group (Doc. 20). This review was considered to be inadequate at the Second International Penguin Conference,

held in Australia, which immediately followed the workshop. Accordingly, it was decided by delegates to the penguin conference that a new review should be undertaken. Through Dr Croxall, the SCAR-BBS was asked to review the data for Southern Ocean penguins. Members of the SCAR-BBS were then asked intersessionally for information. Replies had been edited by Dr Croxall (Doc. 21).

The need for completing the regional coverage of the review was recognized and the meeting stated the need to ensure that the document was fully comprehensive, especially in terms of the sections on population sizes, current field studies and concerns. Dr Jouventin offered to submit information for French localities. Comments and additions were to be received by the Chair by the end of August. Another version would then be collated for final circulation. The document needed to be submitted to IUCN by the end of 1994.

Dr LS Davis expressed his dissatisfaction with the research recommendations section of the draft document, especially the reiterated need for new censuses and monitoring studies without full justifications, and with the lack of specific suggestions for directed research, such as on disturbance, and appropriate behavioural and physiological studies, etc. Given these and other concerns it was agreed that all research recommendations as currently tabled should be omitted from the report. It would be clearly stated in the covering letter to the report that it had proved impossible to obtain consensus on the research recommendations by correspondence and that, in any case, it was judged preferable for such recommendations for Antarctic taxa to be developed in concert with those for other penguin species. This would be most appropriately undertaken either at the Third International Penguin Conference (planned to be held in Cape Town, South Africa in September 1996, see 14.1 below) or at a full Penguin Conservation Assessment and Management Programme

Workshop - which could with advantage be held in association with the Penguin Conference.

## 12. SEABIRDS AT SEA

At its last meeting the SCAR Bird Biology Subcommittee noted that before any new multinational study, involving collecting quantitative data on seabirds at sea, commenced in the Southern Ocean it would be necessary to hold a workshop to ensure standardization of techniques on the basis of the best current methodologies.

Numerous opportunities for new at-sea studies are likely to become available over the next five years or so and therefore there is an urgent need to review current methodologies. Documents 22, 23 and 24 were tabled to assist the process. Mr van Franeker reiterated that new developments of counting birds at sea since BIOMASS (Doc. 22) certainly warranted some new standardized approach to such studies. He recommended the "snapshot method" (see Doc. 23). However, Dr Mehlum pointed out that according to desired results, different techniques may be used. The SCAR-BBS suggested that a workshop was required to evaluate methods and techniques before new international programmes (e.g. SO-GLOBEC) commenced.

An *ad hoc* group (EJ Woehler and JA van Franeker (co-convenors), J Cooper, WR Fraser, F Mehlum, PA Prince and WZ Trivelpiece) was set up to develop the terms of reference for a workshop to review methods used to collect seabirds-at-sea data in the Southern Ocean, with a view to recommending a standard method for future studies. The group was also asked to identify a time and location for this workshop, and a list of potential attendees.

The *ad hoc* group reported that the workshop should critically assess the advantages and disadvantages of all methods previously and currently in use in the Southern Ocean, so that a

method (whether an existing method, a modified existing method, or a new method) can be recommended for future studies of seabirds-at-sea. This method should maximize the utility of the collected data sets (both for producing distributional data and estimates of densities) while remaining as compatible as possible with existing data sets.

It was suggested that the (British) Seabird Group Meeting to be held in Glasgow, UK during 24-26 March 1995 would be an appropriate venue, and that one day before or after the meeting would suffice for the workshop. It was agreed to approach the organizers of the Glasgow meeting with this suggestion. A preliminary list of attendees was drawn up, who would be approached by the co-convenors before the end of June with a request for their attendance.

Mr Woehler and Mr van Franeker agreed to convene the one-day workshop; this offer was accepted with thanks. It was agreed to request funding from SCAR towards the costs of the workshop and its products. Prior to the planned meeting, Mr Woehler offered to compile a list of all seabird-at-sea studies conducted in the Southern Ocean to date, including those no longer current, and to catalogue the various methodologies used. This information will be distributed to all invited participants.

These initiatives should also assist in another long-term objective of the SCAR-BBS, namely the production of a distributional atlas of Southern Ocean seabirds at sea.

## 13. A WORLD DATA BASE OF SEABIRD SITES

Dr Croxall introduced the proposal (Doc. 25) received from Dr MdeL Brooke, BirdLife International's interim Seabird Officer, to the meeting. The SCAR-BBS agreed that it was an important initiative for global, regional and

national seabird conservation and gave it its support, especially by offering to copy to him the in-progress species' reviews (see item 5 above). Mr Cooper in his capacity as Chairperson of the African Seabird Group, had commented on the criteria and procedures outlined in the proposal and made a number of suggestions. Mr van Franeker also stated that the Dutch Seabird Group had commented formally on the proposal.

## 14. MEETINGS

### 14.1 Reports on meetings held

The meetings' attention was drawn to progress with publications coming from recent meetings of interest to southern ornithologists such as the Second International Penguin Conference, the SCAR/IUCN Workshop on Protection, Research and Management of Subantarctic Islands and the conference on Southern Ocean Cephalopods: Life Cycles and Populations (*Antarctic Science* 6(2), 1994).

#### 14.1 Notification of forthcoming meetings of interest

Documents 26 and 27 were tabled on plans for the First International Conference on the Biology and Conservation of Albatrosses and the Third International Penguin Conference, to be held in Hobart, Australia in August-September 1995 and Cape Town, South Africa in September 1996, respectively. The suggestion by the Mediterranean Seabird Group for a combined meeting of seabird groups was noted but not discussed further.

Dr Mehlum asked about plans for an International Ornithological Congress Standing Committee for the Co-ordination of Seabird Research meeting in August 1994 in Vienna, Austria. Dr Croxall understood that at the International Ornithological Congress there would be various meetings on seabirds sponsored by the Standing Committee.

## 15. ANY OTHER BUSINESS

### 15.1 mtDNA studies

Mr Cooper mentioned Dr GB Nunn's mtDNA taxonomic studies of Procellariiformes at the American Museum Of Natural History, and the excellent help given by participants and other southern ornithologists in collecting blood samples.

The SCAR-BBS could help to avoid unnecessary overlaps between taxonomists undertaking mtDNA studies on seabirds, and also to avoid too many requests going to field workers to collect blood and soft tissue samples, by informing new researchers of work known to be underway. One way to do this would be to maintain a register of mtDNA research projects on seabirds and Mr Cooper agreed to investigate this.

### 15.2 Communication between members and observers of the SCAR-BBS

Dr Croxall pointed out the value of electronic mail in reducing participants' costs of communication. In the last year, much of the intersessional work of the SCAR-BBS had been conducted via electronic mail. Mr Cooper described the International Marine Ornithologists' Network listserver (IMON) (Doc. 28), and suggested that participants subscribed and contributed to it.

### 15.3 Penguin diseases

Dr Kerry stated that based on his concern over the sub-clinical effects of diseases on penguins, he and Dr JR Clarke had undertaken a review, now in press (Doc. 29). His paper also gave background levels for healthy birds. Dr Kerry requested that participants record their observations on penguin diseases and forward

copies of papers not in the review. Dr Kerry planned to update the review in about two years.

#### 15.4 Disturbance to seabird colonies

Dr Moreno commented on the large increase in Antarctic tourism, especially in the Peninsula region, and stated the need for research on the subject of disturbance caused by tourists, and for enhanced protection of penguins from tourists on Deception Island. Dr Croxall briefly mentioned the studies of this topic by scientists from UK-Argentina-Chile and Australia. Mr van Franeker and the Secretary drew the attention of the meeting to the Code of Conduct drawn up by the International Association of Antarctica Tour Operators. The Secretary would pass on the relevant information on the organization to Dr Moreno.

Dr Croxall mentioned that there had been several recent problems with disturbance caused by aeroplanes to bird, especially, penguin colonies. Mr Cooper described his in-press paper on effects of fixed-wing aircraft on birds, especially King Penguins, at sub-Antarctic islands. He would make this available to interested participants. It was felt there was also a need to review existing guidelines for overflights within the Antarctic Treaty area, to circulate them widely and to ensure they were extended to relevant areas outside the Antarctic Treaty area. The SCAR-BBS agreed to make a recommendation on this matter to the SCAR Working Party on Biology.

#### 15.5 Australasian Seabird Group

Mr EJ Woehler told the meeting that the Australasian Seabird Group had been resuscitated in late 1993 under the Chair of Dr P Dann. Mr Woehler is editor of the group's newsletter.

#### 15.6 Pollutants

The SCAR-BBS at its last meeting agreed on the need for a review of field and laboratory

techniques in order to achieve better standardization of methods. Dr N van den Brink stated that he was working on non-destructive methods of sampling birds for pollution surveys. The SCAR-BBS should ensure it was kept informed of relevant initiatives within GOSEAC and/or the bodies responsible for implementing the Environmental Protocol of the Antarctic Treaty where these relate to sampling and analysis methods for assessing levels of pollutants birds.

#### 16. MEMBERSHIP

The meeting noted the resignation of Dr DG Ainley and offered its thanks to him for his valued contributions to the SCAR-BBS, and the BIOMASS Working Party on Bird Ecology, over many years.

Intersessionally, Mr GG Robertson and Dr H Weimerskirch had been recommended for membership. The meeting endorsed these two suggestions and requested that the Working Group on Biology approve their nomination.

Dr Croxall reminded the meeting of his intention, expressed at the subcommittee's last meeting, to retire from the Chair after the current meeting. He then nominated Mr Cooper to take over from him as the new Chair, which nomination was accepted unanimously. Dr Davis accepted a request to take over the Secretaryship from Mr Cooper, initially for a two-year period. All these nominations would be put to the Working Group on Biology at its next meeting, to be held in Rome, Italy in August 1994.

The SCAR-BBS thanked Dr Croxall most warmly for his role as Chair, and expressed its hope that he would continue as a member of the subcommittee.

#### 17. NEXT MEETING

The Subcommittee requested permission of the Working Group on Biology to meet in association with the next meeting of SCAR, in Cambridge, United Kingdom in 1996.

## 18. RECOMMENDATIONS

The Bird Biology Subcommittee requests of SCAR, via the Working Group on Biology:

1. The sum of US\$ 5000 to assist the Chairman and Secretary attend the next meeting of the Subcommittee in 1996 (note: this is a slightly greater amount than requested for 1994 because there are no accessory meetings (e.g. a SCAR Biology Symposium) to facilitate attendance of officers).

2. Endorsement of the proposal for SCAR to maintain a register of the use of implanted transponder tags in penguins and to request national committees to ensure that the relevant data are submitted promptly on an annual basis.

3. The provision of US\$ 2500 to assist in holding a one-day workshop on the use of implanted tags or other alternative techniques for individual marking of penguins.

4. The provision of US\$ 1500 to assist in holding a one-day workshop on standardization of recording techniques for quantitative studies of seabirds at sea.

5. To arrange a review of existing guidelines for operations of aircraft in the vicinity of wildlife.

The Bird Biology Subcommittee requests of the SCAR Working Group on Biology:

1. That Dr H Weimerskirch and Mr GG Robertson be appointed to the Subcommittee.

2. That Mr J Cooper be appointed Chairperson, in succession to Dr J P Croxall.

## 19. CLOSURE

The Chair thanked all participants for their attendance and valued contributions. The Chair and Secretary also expressed their personal thanks to Ms DL Patterson, Dr WK Steele and Mr EJ Woehler for their help with meeting documentation. Grateful thanks were also extended to Professor B Battaglia and his staff of the Department of Biology, University of Padua for their hospitality and help with local arrangements.

## ANNEX 1

### NAMES AND ADDRESSES OF PARTICIPANTS AT THE 1994 MEETING OF THE SCAR BIRD BIOLOGY SUBCOMMITTEE

Yves Cherel  
Centre National de la Recherche Scientifique  
Centre d'Etudes Biologiques de Chize  
79360 Beauvoir sur Niort  
FRANCE

John Cooper, Secretary  
Percy FitzPatrick Institute of African Ornithology  
University of Cape Town  
Rondebosch 7700

SOUTH AFRICA  
jcooper@botzoo.uct.ac.za

John P Croxall, Chairperson  
British Antarctic Survey  
High Cross  
Madingley Road  
Cambridge CB3 0ET  
UNITED KINGDOM  
jale@pcmail.nerc-bas.ac.uk

Lloyd S Davis, member  
 Department of Zoology  
 University of Otago  
 PO Box 56  
 Dunedin  
 NEW ZEALAND  
 adelie@stonebow.otago.ac.nz

William R Fraser, member  
 Department of Biology  
 Lewis Hall  
 Montana State University  
 Bozeman  
 Montana 59717  
 USA  
 ubiwf@trex.oscs.montana.edu

Pierre Jouventin  
 Centre National de la Recherche Scientifique  
 Centre d'Etudes Biologiques de Chize  
 79360 Beauvoir sur Niort  
 FRANCE

Knowles R Kerry  
 Australian Antarctic Division  
 Channel Highway  
 Kingston 7050  
 Tasmania  
 AUSTRALIA  
 knowle\_ker@antdiv.gov.au

Fridtjof Mehlum  
 Norwegian Polar Institute  
 Box 5072  
 Majorstua  
 N-0301 Oslo  
 NORWAY  
 mehlum@roald.npolar.no

Juan Moreno  
 Museo Nacional de Ciencias Naturales - CSIC  
 J. Gutierrez Abascal 2  
 28006 Madrid  
 SPAIN  
 mcnjm19@cc.csic.es

Andrzej Myrcha  
 Department of Biology  
 Warsaw University  
 Branch in Bialystok  
 Swierkowa 20B  
 Bialystok  
 POLAND  
 c/o marekk%plbial11.bitnet@searn.sunet.se

Donna L Patterson  
 Department of Biology  
 Lewis Hall  
 Montana State University  
 Bozeman  
 Montana 59717  
 USA  
 gdp9017@msu.oscs.montana.edu

Peter A Prince, member  
 British Antarctic Survey  
 High Cross  
 Madingley Road  
 Cambridge CB3 0ET  
 UNITED KINGDOM  
 c/o jale@pcmail.nerc-bas.ac.uk

Michel Sallaberry A, member  
 Departamento de Ciencias Ecologicas  
 Facultad de Ciencias  
 Universidad de Chile  
 Las Palmeras 3425  
 Santiago  
 CHILE  
 msallabe@abello.seci.uchile.cl

William K Steele  
 Percy FitzPatrick Institute of African Ornithology  
 University of Cape Town  
 Rondebosch 7700  
 SOUTH AFRICA  
 wsteele@botzoo.uct.ac.za

Susan G Trivelpiece  
 Department of Biology  
 Lewis Hall  
 Montana State University

Bozeman  
Montana 59717  
USA  
c/o ubiwt@msu.oscs.montana.edu

Wayne Z Trivelpiece  
Department of Biology  
Lewis Hall  
Montana State University  
Bozeman  
Montana 59717  
USA  
ubiwt@msu.oscs.montana.edu

Nico van den Brink  
Institute for Forestry and Nature Research IBN-  
DLO  
PO Box 23  
6700 AA Wageningen  
THE NETHERLANDS  
n.van.den.brink@ibn.agro.nl

Jan Andries van Franeker, member  
Institute for Forestry and Nature Research IBN-  
DLO  
PO Box 167  
1790 AD Den Burg (Texel)  
THE NETHERLANDS  
franeker@ibn.agro.nl

Henri Weimerskirch  
Centre National de la Recherche Scientifique  
Centre d'Etudes Biologiques de Chize  
79360 Beauvoir sur Niort  
FRANCE

Eric J Woehler  
Department of Ecology and Evolutionary Biology  
University of California  
Irvine  
California 92717  
USA  
eabg050@oac.uci.edu

## ANNEX 2

### TABLED DOCUMENTS AT THE 1994 MEETING OF THE SCAR BIRD BIOLOGY SUBCOMMITTEE

1. SCAR BIRD BIOLOGY SUBCOMMITTEE. Agenda for meeting in Padua, Italy, 26-28 May 1994. 2 pp.
2. SCAR BIRD BIOLOGY SUBCOMMITTEE 1992. Scientific Committee on Antarctic Research Working Group on Biology Bird Biology Subcommittee. Minutes of meeting, 7-8 June 1992, Bariloche, Argentina. *Marine Ornithology* 20: 79-104.
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4. STANGANELLI, Z.B. & VERGANI, D.F. MS. Progress report on Argentine penguin project and banding data. 26 pp.
5. COOPER, J. & PLÖS, A.L. 1992. Publications and theses on Antarctic and sub-Antarctic birds, 1991. *Marine Ornithology* 20: 43-49.
6. COOPER, J. & PLÖS, A.L. MS. Publications and theses on Antarctic and sub-Antarctic birds, 1992. 4 pp.
7. WOehler, E.J. 1993. The distribution and abundance of Antarctic and sub-Antarctic penguins. Cambridge: Scientific Committee on Antarctic Research. 76 pp.
8. CROXALL, J.P., STEELE, W.K., MCINNES, S.J. & PRINCE, P.A. MS. Breeding distribution of the snow petrel *Pagodroma nivea*. 44 pp.
9. VAN FRANEKER, J. MS. Report on Antarctic Petrel distribution. 6 pp.
10. FRASER, W.R. & PATTERSON, D. MS. Report on giant petrel distribution. 17 pp.

11. PONCET, S. & PONCET, J. MS. Notes on breeding distribution of Southern Giant Petrel, Southern Fulmar, Cape Pigeon, Snow Petrel, Dominican Gull, South Polar Skua, Antarctic Tern, Sheathbill. 11 pp.
12. HODUM, P. MS. Report on Cape Petrel and Antarctic Fulmar distribution. 1 pp.
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14. GALES, R. (P.) 1993. Co-operative mechanisms for the conservation of albatross. Hobart: Australian Nature Conservancy Agency and Australian Antarctic Foundation. 132 pp.
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17. FRASER W.R. & PATTERSON, D.L. MS. An alternative marking technique for Adelie penguins. 1 pp.
18. CCAMLR *Ad Hoc* Working Group on Incidental Mortality Arising from Longline Fishing. MS. Terms of reference, draft preliminary agenda and list of background papers. 8 pp.
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21. CROXALL, J.P., COOPER, J., COPSON, G.R., FRERE, E., GANDINI, P., KOOYMAN, G.L., ROBERTSON, G., THOMPSON, K.R., WOehler, E.J., YORIO, P. MS. Penguin Conservation Assessment: Antarctic and Subantarctic Species. 19 pp.
22. BIOMASS Working Party on Bird Ecology. 1992. Recording distribution and abundance of seabirds at sea in the Southern Ocean: methods used in the BIOMASS Programme. *Marine Ornithology* 20: 51-59.
23. VAN FRANEKER, J.A. in press. A comparison of methods for counting seabirds at sea in the Southern Ocean. *Journal of Field Ornithology* 65.
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27. Third International Penguin Conference. 1 pp.
28. COOPER, J. MS. The International Marine Ornithologists' Network. 1 pp.
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