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ATCM XXVIII

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CONSULTATIVE MEETING
XXVIII TRAITÉ SUR L'ANTARCTIQUE
RÉUNION CONSULTATIVE
XXVIII TRATADO ANTÁRTICO
REUNIÓN CONSULTIVA
XXVIII ДОГОВОР ОБ АНТАРКТИКЕ
КОНСУЛЬТАТИВНОЕ СОВЕЩАНИЕ

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Biological Monitoring of Human Impacts in the Antarctic

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Introduction

1. The Protocol for Environmental Protection calls for regular and effective monitoring to allow assessment of the impacts of on-going activities on the Antarctic environment and associated ecosystems. There is no indication in the Protocol of how such monitoring should be targeted or conducted.
2. In order to provide a sound scientific basis for such monitoring SCAR and COMNAP organised two workshops in Norway and the USA during 1995 and 1996 attended by representatives of many Parties, as well as a wide range of scientists, environmental managers and operators.
3. The outcome of the workshops was a report entitled “Monitoring of Environmental Impacts from Science and Operations”, distributed to all Parties in November 1996. In addition a joint Working Paper was provided to brief all Parties on the general conclusions (XXI ATCM/WP20).
4. Six key conclusions were highlighted of which two concerned biological monitoring. Whilst the workshops had been able to reach agreement on how to proceed with physical and chemical monitoring the participants had been unable to propose how biological monitoring should be undertaken. An inadequate scientific understanding of both species ecology and food web processes at that time meant that a satisfactory scientific base was not available.
5. SCAR and COMNAP published the agreed protocols for physical and chemical monitoring as a handbook, and these have been in active use for some time. They agreed to return to the question of biological monitoring once more data were available.

Biological Monitoring Workshop

6. In 1994 SCAR began to plan a workshop to revisit biological monitoring. Terms of Reference were agreed at SCAR XXVIII and COMNAP XVI and a Steering Committee appointed, which included a CCAMLR scientist. Funding for the workshop came from the National Science Foundation Office of Polar Programs as well as from COMNAP and SCAR.
7. Terms of Reference were:
 - a. *To consider the range of biological indicators of human impacts that can be appropriately applied in the Antarctic setting.*
 - b. *To assess the available history and data on biological indicators from the molecular to the ecosystem level and assess the strengths and weaknesses of these methodologies.*
 - c. *To consider if the monitoring of key species is practical, and to assess the limitations of monitoring schemes based on these biological representatives.*

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- d. *To review existing biological monitoring protocols that have been tested, validated and used in temperate climates and determine how they might be adapted to Antarctica.*
 - e. *To develop a series of recommendations that will assist National Antarctic Programs in establishing meaningful and practical long-term monitoring programs in Antarctica that provide for comparability across programs and optimize the ability of monitoring program results to inform management decisions.*
8. The workshop was held in Bryan/College Station 16-18 March 2005 and 44 participants from 14 countries attended. The organisers included considerable input into the meeting from the Arctic and from monitoring organisations in temperate countries in order to consider successful biological monitoring elsewhere.
 9. This approach, together with a greatly improved understanding of the biology of the Antarctic and the Southern Ocean, provided a fertile basis for discussions allowing a much greater level of agreement than had been possible in 1996.
 10. A draft report has been produced and once finalised will be presented to SCAR and COMNAP in July 2005 for consideration of the next steps. Further information will be provided to ATCM XXIX in 2006.
 11. Attendees at the workshop included the Chair of the current Inter-sessional Contact Group on Environmental Monitoring established by the CEP in 2004. The workshop report will provide the ICG with useful input.