Antarctic Treaty Consultative Meeting XXXV

HOBART 2012

Agenda Item:	ATCM 13, CEP 8c
Presented by:	SCAR, New Zealand, IUCN
Original:	English
Submitted:	11/05/2012

Antarctic Conservation for the 21st Century: Background, progress, and future directions

Antarctic Conservation for the 21st Century: Background, progress, and future directions

Summary

Recognizing the need for an integrated, comprehensive and dynamic plan for the conservation of Antarctica and associated and dependent ecosystems, initial steps have been taken by SCAR, New Zealand and the International Union for Conservation of Nature (IUCN) to formulate a strategy for the future based on the latest developments in conservation science and practice. This paper describes developments to date and proposes a methodical way forward in the development of what is collectively referred to as the Antarctic Conservation Strategy (ACS). A draft preliminary list of the issues to be included in the ACS is appended (Appendix 1). The ACS will only be as useful as the extent to which it is a dynamic strategy supported by all stakeholders and broadly implemented. Further activities will seek the assistance and advice of all of those with an interest and stake in Antarctic conservation.

Introduction

Antarctica and associated and dependent systems are facing significant conservation challenges for a variety of reasons. Some of the most significant environmental pressures include: growing and diversifying human activities, accelerating climate change and the associated effects, ocean acidification, introductions of non-native species, and changes in food web dynamics as a consequence of interactions among these drivers.

Several of these conservation matters are currently under consideration by the Committee for Environmental Protection and a range of inter-governmental bodies (such as the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and the Agreement on the Conservation of Albatrosses and Petrels) and non-governmental organizations (such as the Antarctic and Southern Ocean Coalition and the International Association of Antarctica Tour Operators). In many instances, these discussions are taking place in relative isolation, whereas a more unified process is needed given the integrated nature of the challenges being faced. Conservation decision-making and policy in Antarctica stand to realize substantial benefits from a more comprehensive, integrated approach to conservation in the region.

Although such integrated approaches have been developed or are in the process of being developed for some systems (e.g. marine) and areas (e.g. the Ross Sea region), they do not span all of Antarctica and associated and dependent systems in a holistic manner. The last comprehensive blueprint was '*A Strategy for Antarctic Conservation*' published by IUCN in 1991, more than 20 years ago. While a benchmark at the time of its publication, and an important document informing conservation since then, much has changed in the Antarctic region and in conservation science, management and policy. As a consequence, it is timely to re-examine these issues and develop an updated, integrated, comprehensive and dynamic conservation strategy for Antarctica and associated and dependent ecosystems for the 21st century.

SCAR, New Zealand and the IUCN, in collaboration with several partners, have begun the initial steps in developing such an Antarctic Conservation Strategy (ACS) under the banner of '*Antarctic Conservation for the 21st Century*'. The activity will actively encourage participation from all stakeholders in the region.

The approach would be structured to align with both the Protocol on Environmental Protection to the Antarctic Treaty and the Five Year Work Plan of the Committee for Environmental Protection.

Goal and approach

The primary goal of the activity is to deliver an integrated Antarctic Conservation Strategy which addresses conservation requirements in the broader Antarctic region applying the most modern approaches. The ACS is not meant to be a static document, but a suite of dynamic components that are inter-linked and continuously revised in keeping with the latest developments and knowledge The overall approach is evidence-based conservation (for an introduction see Sutherland *et al*. 2004) and its contributions could in part be directed

through the Antarctic Environments Portal being proposed by New Zealand, SCAR and Australia (ATCM XXXV – WP057).

It is to be emphasized that this is an effort in progress. To develop the ACS, a range of activities has been initiated, a few of which have been completed, some have just begun and others have yet to take place. These include workshops, directed discussion groups, topic-oriented work by specialists, consultation with experts external to Antarctica to learn best practice elsewhere, and data analysis. Partnerships are emphasised to ensure integration of and coordination with information, approaches and conservation management strategies and policy developed for the region as a consequence of other activities (such as the Marine Protected Areas work being led by CCAMLR).

The first activity was a workshop entitled: '*Antarctic Conservation in the 21st Century*' which was a scoping exercise, supported by SCAR, South Africa and New Zealand, better to understand current and future conservation threats in the region. The workshop was small by design and followed a horizon scanning procedure similar to those used for assessing future global conservation challenges (Sutherland *et al*. 2010, 2011, 2012). The 26 meeting participants were requested to canvass colleagues prior to the meeting and to submit independently, with justification, four major issues they thought either pose now (<10 years) or are likely to pose over a longer time span (<50 years) significant conservation challenges in the Antarctic region. These were then ranked at a meeting of all participants and reduced to a total of six short-term and eight long-term conservation challenges. During the meeting, Antarctic matters raised in previous global conservation horizon scanning exercises were also considered. Following the meeting, participants were presented with the final lists again, and the conservation challenges list finalized.

Based on the scoping exercise, consideration of matters discussed in a variety of forums with Antarctic conservation matters as their main or only subject, and further consideration of conservation concerns raised within SCAR, a draft set of topics to be addressed by the ACS has been developed (Appendix 1). These will now be expanded and populated based on the activities described above including a series of workshops which will engage the broader Antarctic community. One of these will be a mini-symposium entitled '*Antarctic Conservation in a Century of Changes*' to be held in conjunction with the XXXII SCAR and XXIV COMNAP Meetings in Portland in July 2012.

Timeframe

The ACS will be developed over the next two years in a strategic manner, focussing on areas where most information is available first and then moving to areas where research is progressing rapidly to fill information voids. Matters such as protected area planning will be addressed throughout because of rapidly developing information on this issue. Throughout the period, invitations to and updates on activities will be widely announced to keep the community informed and regular updates will be provided at ATCMs.

Conclusions

The Antarctic Conservation Strategy will only be as useful as the extent to which it is a dynamic strategy supported by all stakeholders and broadly implemented. To ensure success, further activities will seek the assistance and advice of all of those with an interest and stake in Antarctic conservation as we face a future where the only certainty is change.

References

Sutherland, W.J., Pullin, A.S., Dolman, P.M. & Knight, T.M. (2004) The need for evidence-based conservation. *Trends in Ecology and Evolution,* **19,** 305-308.

Sutherland, W.J., Clout, M., Côté, I.M., Daszak, P., Depledge, M.H., Fellman, L., Fleishman, E., Garthwaite, R., Gibbons, D.W., De Lurio, J., Impey, A.J., Lickorish, F., Lindenmayer, D., Madgwick, J., Margerison, C., Maynard, T., Peck, L.S., Pretty, J., Prior, S., Redford, K.H., Scharlemann, J.P.W., Spalding, M. & Watkinson, A.R. (2010) A horizon scan of global conservation issues for 2010. *Trends in Ecology and Evolution,* **25,** 1-7.

Sutherland, W.J., Bardsley, S., Bennun, L., Clout, M., Côté, I.M., Depledge, M.H., Dicks, L.V., Dobson, A.P., Fellman, L., Fleishman, E., Gibbons, D.W., Impey, A.J., Lawton, J.H., Lickorish, F., Lindenmayer, D.B., Lovejoy, T.E., Nally, R.M., Madgwick, J., Peck, L.S., Pretty, J., Prior, S.V., Redford, K.H., Scharlemann, J.P.W., Spalding, M. & Watkinson, A.R. (2011) Horizon scan of global conservation issues for 2011. *Trends in Ecology and Evolution,* **26,** 10-16.

Sutherland, W.J., Aveling, R., Bennun, L., Chapman, E., Clout, M., Côté, I.M., Depledge, M.H., Dicks, L.V., Dobson, A.P., Fellman, L., Fleishman, E., Gibbons, D.W., Keim, B., Lickorish, F., Lindenmayer, D.B., Monk, K.A., Norris, K., Peck, L.S., Prior, S.V., Scharlemann, J.P.W., Spalding, M. & Watkinson, A.R. (2012) A horizon scan of global conservation issues for 2012. *Trends in Ecology & Evolution,* **27,** 12-18.

Appendix 1: An Antarctic Conservation Strategy

Content/Topics

1. Introduction
    a. Area of interest.
    b. Conservation in the Antarctic – The Protocol on Environmental Protection and its Annexes.
    c. Biodiversity values to be conserved and managed.
    d. Previous conservation strategies.
    e. Relationships with other international agreements.

2. Scoping
    a. Current conservation threats and responses
    b. Future conservation threats

3. Climate change and changes to human activity patterns
    a. Climate change, its spatial variation and likely course of development.
    b. Marine consequences.
    c. Terrestrial consequences.
    d. Human activity change and interactions with climate change impacts.

4. Antarctic Specially Protected and Managed Areas
    a. The current protected area system.
    b. Modern approaches to area selection in marine and terrestrial environments.
    c. Antarctic Conservation Biogeographic Regions and representation of terrestrial biodiversity.
    d. ACBRs not represented by ASPAs.
    e. Finer scale biodiversity variation and genetic isolation.
    f. Missing areas (including those such as geothermal sites) that require designation.
    g. Missing data.
    h. Marine protected areas and selection.
    i. Major areas to be conserved.
    j. No human activity zones (inviolate areas).
    k. Dynamic management, climate change and human activity in terrestrial systems.
    l. Dynamic management, climate change and fishing in marine systems.
    m. Conservation of associated and dependent sub-Antarctic systems.

5. Non-indigenous species
    a. The nature of the problem.
    b. Antarctic activities and climate change.
    c. Terrestrial risk map for current and future extra-regional introductions.
    d. Closing vector pathways for extra-regional introductions.
    e. Closing vector pathways for intra-regional introductions – using the ACBRs and finer scale genetic data.
    f. Field protocols for preventing intra-regional movements.
    g. Extra-regional marine introductions.
    h. Identifying ports and species of most concern.
    i. Closing vector pathways for extra-regional marine introductions.
    j. Intra-regional marine introductions – a risk analysis map.
    k. Closing pathways for intra-regional introductions.

l. Pathway risk assessments.
m. Missing data for vector pathway assessment.
n. Risk assessments for taxa – an automated first approach.
o. Microbial introductions – a unique challenge.
p. Surveillance protocols for terrestrial taxa.
q. Surveillance protocols for marine taxa.
r. Surveillance protocols for freshwater and microbial taxa.
s. Separating colonists by origin.
t. Eradication decision-making for multiple taxa and environments.
u. Reporting and decision support.
v. Associated and dependent systems as sources and areas of concern.
w. Research requirements.

6. Indigenous species and population management
    a. Species of interest.
    b. Species by species assessment of threats, cost of action, surveillance potential.
    c. Data deficiency: spatial and temporal.
    d. Recommendations.
    e. Associated and dependent systems and marine foraging.
    f. Ecosystem management and monitoring.
    g. CCAMLR, ACAP and other agreements.

7. Human disturbance to wildlife
    a. Species of concern.
    b. Information on impacts.
    c. Approach distance information for single intrusions.
    d. Cumulative impacts.
    e. Spatial distribution of main disturbance areas.
    f. Alternative sites for science and commercial tourism.
    g. Protocols for recognizing disturbance.
    h. Protocols for reducing disturbance.
    i. Costs of implementation.

8. Pollution and waste management
    a. Point source threats, cost, solutions.
    b. Cumulative source threats.
    c. Remedial solutions and cost (environmental and financial).
    d. Plastic pollution in marine systems.
    e. Analysis of spread and threat in marine systems.

9. Habitat degradation by human activity
    a. Cumulative impacts of on-foot visits, evidence.
    b. Vehicle disturbance.
    c. Surveillance for cumulative impacts.
    d. Disturbance at infrastructural facilities.
    e. Research requirements and outcomes thereof.

10. Marine noise
    a. Evidence for marine noise impacts elsewhere.

b. Evidence from the Antarctic.
c. Recommendations for mitigation.
d. Research requirements.

11. Interacting impacts
    a. A scale of interactions – antagonistic, neutral, additive, synergistic
    b. Quantitative risk analysis.
    c. Likelihood based on spatial assessment.
    d. Cumulative impacts, cost, solutions.
    e. Research requirements.

12. Integrated area management plans
    a. Standards for value description.
    b. Contextual management – human activity.
    c. Connectivity, change and invasion.
    d. Wildlife disturbance.
    e. Non-indigenous species management.
    f. Cumulative impacts.
    g. Climate change responses.
    h. Alternative sites.
    i. Migration and evolutionary potential.
    j. Species management and movement.
    k. No human activity zones.

13. Permanent settlement and non-renewable resource-related research
    a. Permanent settlement and regulatory requirements.
    b. Measures for non-renewables research at sea.
    c. Measures for non-renewables research on land.

14. Decision support, state of the environment and information delivery
    a. Real-time information for decision support through a web-based portal.
    b. Monitoring and surveillance in key areas: learning from approaches elsewhere.
    c. Rapid decision-making in the event of a conservation crisis.
    d. Dynamic conservation management.