XXXV SCAR Delegates Meeting
Davos, Switzerland, 25-26 June 2018

Proposed Scientific Research Programme Planning Group

Integrated Conservation Planning for Antarctica and the Southern Ocean (Ant-ICON)

Report Authors

Aleks Terauds (Australia), core membership group (Appendix 1)

Summary

This paper outlines, in keeping with the *Guidelines for SSGs on the Establishment and Operation of SCAR Science Research Programmes*, the proposal for the establishment of a Programme Planning Group for developing a Scientific Research Programme (SRP) entitled **Integrated Conservation Planning for Antarctica and the Southern Ocean (Ant-ICON).** The SRP will answer fundamental science questions (as identified by the SCAR Horizon Scan), relating to the conservation and management of Antarctica and the Southern Ocean and focus on research to drive and inform international decision-making and policy change. For the Planning Group, the initial Chief Officer will be Aleks Terauds (Australia). A second Chief Officer will be identified from the Programme Planning Group as soon as possible. Proposed initial core membership includes 30 members from 12 countries, representing the biological sciences, physical sciences, earth sciences, humanities and social sciences. While there is a strong biological focus for much of the research, the proposed SRP will integrate research from multiple disciplines, complement existing SCAR activities and work with feedback from policy bodies to achieve conservation outcomes in Antarctica and protect Antarctic values. The SRP will focus on four research themes, broadly covering: i) integrated forecasting of future change to support conservation planning; ii) environmental sustainability of human activities in Antarctica; iii) Antarctic conservation in a global context; and iv) socio-ecological approaches to conservation planning.

Recommendation

Delegates to consider the proposal and decide whether to approve the Programme Planning Group Proposal.

Summary Budget 2017 to 2020

	2018	2019	2020
	Request	Request	Request
(US$)	0	$ 10 000	$ 10 000

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Proposed Scientific Research Programme Planning Group

Scientific Research Programme Title

Integrated Conservation Planning for Antarctica and the Southern Ocean (Ant-ICON)

Proposed Scientific Research Programme Outline

The SCAR Horizon Scan identified fundamental scientific questions associated with the vulnerability of Antarctic and Southern Ocean values. Recognizing and mitigating human influences were included in the six top priorities to emerge from this initiative[1]. Considerable progress in answering some of these questions has been made through the current suite of SCAR Scientific Research Programmes (and other ongoing SCAR initiatives), and this progress has laid the foundation for future research on these important questions. As the end of the current suite of SRPs approaches, a logical and necessary next step is to build on this foundation with targeted, systematic and integrated research to underpin the protection, conservation and management of Antarctic and Southern Ocean values, including those relating to biology, geology and heritage.

Such an approach is not only consistent with the Protocol on Environmental Protection to the Antarctic Treaty (hereafter the Protocol) and the Convention on the Conservation of Antarctic Marine Living Resources, but also responds to increasing interest from policy makers in incorporating high-quality research in their decision-making processes, particularly around issues of environmental protection[2]. Threats to Antarctic values take a range of forms, including increasing human activity, fisheries, non-native species, pollution and climate change. Due to the complex and dynamic interactions among these threats, understanding them, and developing strategies for mitigating their impacts, will require inputs from a range of disciplines, including life sciences, physical sciences, earth sciences, humanities and social sciences. More importantly, to be truly successful, these inputs should not be provided independently, but will need to be integrated through collaborative and trans-disciplinary research.

The primary objectives of the proposed SRP are to improve the integration of multidisciplinary research outputs and facilitate the coordination of high quality research to drive international policy response and effective management, with a focus on the Antarctic Treaty System's Committee for Environmental Protection (CEP) and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). The proposed research will increase awareness of contemporary and future environmental issues in Antarctica and the Southern Ocean,

[1] Kennicutt, M. C. *et al*. (2014). Six priorities for Antarctic science. *Nature* 512: 23-25
[2] Hughes, K. A. *et al*. (2018) Antarctic environmental protection: Strengthening the links between science and governance. *Environmental Science & Policy*, 83: 86-95

identify vulnerable species, ecosystems and environments, quantify threats and inform the development of practical mitigation strategies.

The SRP will ensure that objectives and outputs complement existing SCAR groups and initiatives, including Integrating Climate and Ecosystem Dynamics in the Southern Ocean (ICED) and the Marine Ecosystem Assessments for the Southern Ocean (MEASO). It is anticipated that the Programme will also have strong links to the SCAR-related monitoring groups including the Southern Ocean Observing System (SOOS) and the developing Antarctic and Nearshore and Terrestrial Observing System (ANTOS).

Four potential key research themes have been identified as a starting point for further discussion. These are indicative at this stage and will be developed further through the Planning Group, should this proposal be successful. Each has a number of sub-themes, again, which will be refined and/or redefined during the planning process:

1) Integrated forecasting of future change to support conservation planning

- Implications of change - ecosystem assessments and models, identification of vulnerable species/ecosystems/environments and associated threats
- Assessing, protecting and managing Antarctic values – e.g., research to support systematic protected area designation
- Public understanding of Antarctic research and conservation stewardship - citizen science and advocacy

2) Environmental sustainability of human activities in Antarctica

- Science – infrastructure, footprints, waste management, plastics, and novel pollutants
- Tourism – site sensitivities, site management, operational parameters
- Fisheries – energy pathways, ecosystem assessments and models, advancing strategies to maintain risks of adverse impacts at a low level
- Scientific evaluation of decision-making frameworks, management strategies and vulnerability assessments

3) Antarctic conservation in a global context

- Antarctic Treaty System (e.g. ATCM/CEP, CCAMLR)
- Convention on Biological Diversity and Aichi Targets
- UN Sustainable Development Goals and Global Environmental Outlooks
- IUCN processes - including Red-listing of species and ecosystems
- Bipolar conservation – Antarctic/Arctic connections and lessons learned

4) Socio-ecological approaches to conservation planning

- Biological, ecological, technological and socio-ecological connectivity - social impacts and consequences of environmental change in Antarctica
- Responsible and ethical governance for Antarctica in the 21st Century – linkages between scientific research, policymaking practices, normative and

institutional developments, and environmental activism and their role in shaping understandings of Antarctic environments
- The role of resilience in the dynamics of Antarctic social–ecological systems

The fundamental importance of these research areas and their policy relevance is clear. The research will not only inform and help to directly answer SCAR Horizon Scan questions, but they are also aligned with the science needs and priorities of the CEP and CCAMLR. The research will also address questions that have been raised regarding the efficacy of environmental management and area protection across the region[3,4,5] and will facilitate the development of systematic conservation planning[5]. It will enhance the protection and management of Antarctic and Southern Ocean values and to help ensure the effective management and regulation of potentially disparate activities (e.g., science, tourism and fisheries).

Proposed Chief Officers

Aleks Terauds and TBA

Proposed Core Membership

Broad consultation has been undertaken with a range of researchers and policy makers in the preparation of this proposal. However, we recognise that further engagement is required with a broader range of researchers to ensure the adequate representation of SCAR member countries and gender equity. In that context, should this proposal be successful, we encourage Delegates to disseminate this proposal among their relevant networks and ask anyone interested in participating to contact a member of the Programme Planning Group.

For details of current proposed core membership of the Program Planning Group see Appendix 1, noting that engagement with interested participants is ongoing and an updated list will be provided to Delegates in the meeting presentation.

Budget

Planned use of funds for 2018 to 2020

Year (YYYY)	Purpose/Activity	Amount (in USD)	Contact Name	Contact Email
2019	Planning meeting	10 000	A Terauds	aleks.terauds@gmail.com
2020	Planning meeting	10 000	A Terauds	aleks.terauds@gmail.com

[3] Shaw, J. D. *et al*. (2014). Antarctica's protected areas are inadequate, unrepresentative, and at risk. *PLoS Biology* 12(6): e1001888
[4] Hughes, K. A. *et al*. (2016). Assessing the effectiveness of specially protected areas for conservation of Antarctica's botanical diversity. *Conservation Biology* 30: 113-120
[5] Coetzee, B. W. *et al*. (2017). Expanding the protected area network in Antarctica is urgent and readily achievable. *Conservation Letters* 10: 670-680

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Briefly describe funds will be usage and desired results

- Meetings to bring together members of the SRP Planning Group to develop the detailed components of the key research themes and begin development of the implementation plan (early 2019), and
- Finalize the SRP proposal for submission to the 2020 SCAR OSC (early 2020).

Percentage of the budget to be used for support of early career researchers:

Ant-ICON will proactively seek to support early career researchers and involve them in the SRP development planning process. To achieve this we will strive to increase the representation of early-mid career researchers (EMCRs) on the programme planning group to over 20% (currently at 17% - 5 out of 30 members). At least 20% of funds each year will be allocated to support EMCRs.

- 2019: 20%
- 2020: 20%

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Appendix 1 – Initial Core Membership

Name	Country	Discipline/focus
Annicke Wilmotte	Belgium	Terrestrial ecology
George Watters	USA	Fisheries
Daniela Liggett	New Zealand	Social sciences and humanities
Luis Pertierra *	Spain	Terrestrial ecology
Megumu Tsujimoto *	Japan	Terrestrial ecology
Cassandra Brooks	USA	Marine ecology and policy
Marcelo Regeuro	Argentina	Earth sciences
Tom Bracegirdle	United Kingdom	Physical sciences
Gabriela Mataloni	Argentina	Terrestrial ecology
Juan Salazar	Australia	Social sciences and humanities
Diana Wall	USA	Terrestrial ecology
Jasmine Lee *	Australia	Terrestrial ecology
Neil Gilbert	New Zealand	Antarctic policy
Andrew Lowther	Norway	Marine ecology
Christina Braun *	Germany	Terrestrial ecology
Craig Cary	New Zealand	Terrestrial ecology
Elle Leane	Australia	Social sciences and humanities
Heather Lynch	USA	Quantitative ecology
Kevin Hughes	United Kingdom	Terrestrial ecology and policy
Rowan Trebilco *	Australia	Marine ecology
Antonio Quesada	Spain	Terrestrial ecology
Huw Griffiths	United Kingdom	Marine ecology
Justine Shaw	Australia	Terrestrial ecology
Fraser Morgan	New Zealand	Terrestrial ecology
Cath Waller	United Kingdom	Intertidal/nearshore ecology
Yan Ropert-Coudert	France	Marine ecology
Mecha Santos	Argentina	Marine ecology
Luis Valentin Ferrada	Chile	Antarctic Policy and International Law
Nadine Johnston	United Kingdom	Marine ecology
Aleks Terauds	Australia	Quantitative ecology

***Early Career Scientists**