



## Southern Ocean Research Partnership Workshop: Summary of Outcomes.

Australian Maritime Museum, Sydney, March 23<sup>rd</sup> – 26<sup>th</sup> 2009

### *Introduction:*

The Australian Government hosted the inaugural planning meeting and workshop for the development of an international whale research initiative (the Southern Ocean Research Partnership) at the Australian Maritime Museum in Sydney on March 23<sup>rd</sup> – 26<sup>th</sup> 2009.

The Southern Ocean Research Partnership (SORP) is a major component of an Australian initiative to the IWC reform agenda which aims to enhance the capacity of IWC science to meet the needs of the Commission and maximise the degree to which the science contributes to positive conservation outcomes for cetaceans.

The workshop was opened with a series of introductory presentations from the Hon. Peter Garrett, Australian Minister for Environment, Water, Heritage and the Arts, Ms Donna Petrachenko, Australia's Commissioner for the IWC, Arne Bjorge, Chair of the IWC Scientific Committee, Ms. Lyn Maddock, Director of the Australian Antarctic Division, John Gunn, Chief Scientist at the Australian Antarctic Division, Miguel Iniguez, Argentina's Alternate Commissioner for the IWC, and Nick Gales, Leader of the Australian Marine Mammal Centre.

The 50 workshop participants included scientists of 16 nationalities, with formal representation from 12 countries (Australia, Argentina, Brazil, Chile, Costa Rica, France, Italy, Mexico, New Zealand, South Africa, Uruguay and USA) and several research and environment consortiums.

The purpose of the workshop was to initiate the Partnership, agree on objectives, develop a research plan for assessment by the IWC Scientific Committee and establish a general procedural framework under which the Partnership might operate. The sections below represent what was agreed by consensus at the workshop.

*Objectives:*

The Southern Ocean Research Partnership is an integrated, collaborative, non-lethal whale research consortium that aims to **maximise conservation outcomes of Southern Ocean whales through an understanding of the status, health, dynamics and environmental linkages of their populations and the threats they face.**

SORP will include participation and collaborations which are global and will be open to all nations and research organisations who wish to contribute to the SORP objectives. These partners will be essential in delivering the outcomes from the SORP. SORP partners intend to achieve this objective through:

- A strong commitment to the development of novel, powerful non-lethal technologies, important ecological theory, and analyses;
- focusing their collective research and funding efforts on projects that link most directly to priority conservation needs and for which a collaborative approach maximises research outcomes and funding efficiencies;
- maintaining an integrated and responsive relationship with the IWC Scientific Committee and its determined priorities;
- establishing strategic linkages with other relevant international research efforts; and,
- communicating the rationale for the research, its outcomes and threats to the conservation status of Southern Ocean whales.

*Species and area focus:*

The primary focus of the SORP is the large whale species managed by the IWC. These include the humpback whale, blue whale (both Antarctic and pygmy forms), fin whale, Antarctic minke whale, sei whale, southern right whale and sperm whale. Killer whales are also included within the core focus of SORP as they are numerous and likely to be an important component of the Southern Ocean cetacean community. The group recognised that sei whales remain very poorly understood in the region and their lower latitude distribution makes them generally more difficult to study than the other species. Studies of feeding ecology of sperm whales are also challenging because of a lack of understanding of the ecology of their prey. For these reasons, sperm and sei whales are under represented in the research plan at this stage. If and when research methods are developed that facilitate research initiatives on these species, such initiatives are likely to be included in SORP. The Southern Ocean will be the regional focus of the partnership, but relevant research efforts will also include associated migratory corridors and breeding grounds.

*SORP Themes:*

In order to provide direction to the development of SORP research projects, two overarching themes for the SORP were agreed (listed below). Candidate research proposals for assessment and potential inclusion with the SORP will be developed against these themes. Some research questions that fit within the themes are listed below. These questions, and the research projects that are developed from them, are not intended to be independent; rather they will form part of an integrated approach towards understanding the role of whales within the Southern Ocean ecosystem and will link to other large scale

research programs. This list does not include all questions and projects discussed at the workshop, but rather represents a summary of the core questions identified by the group. A more complete account of the discussions will be provided in the workshop report.

- **Post-exploitation whale population structure, health and status.**

Work under this program will focus on developing an improved understanding of how whale populations have recovered since the cessation of commercial whaling. It will include a strategic and focused continuation and augmentation of valuable, long-term data series (such as some of those for humpback whales and southern right whales), initiate new focused data series, and address important current unknowns such as how endangered fin whales (the mainstay of industrial whaling) have responded to protection.

- *How are populations of whales that feed in the Southern Ocean structured into identifiable breeding groups, and how are these breeding groups defined in time and space?* (Continue the relatively advanced work on humpback and southern right whales, and develop the currently poor understanding for other species. Major focus on coordinated collection of biopsies, as well as strategic tagging studies to monitor movement).
- *How well have the species that were most heavily hunted during the industrial whaling era (fin and Antarctic blue whales) recovered?* (The focus of this project will be a long-term, circumpolar, acoustic monitoring network).
- *Are we able to measure a population-scale index of southern ocean whale health, and if so, does it correlate to estimates of life-history variables?* (Utilise novel and developing non-lethal techniques to assess whale health with a focus on species for which long-term data exist)

- **Changing atmosphere and oceans: Southern Ocean whales and their ecosystems.**

The Southern Ocean is a diverse environment and whales are known to utilise this habitat in regionally different ways. Populations of whales in some regions are recovering strongly and in others they are not. Some regions are changing fast and others more slowly.

- *How do whale populations respond to climate processes in contrasting regions of the Southern Ocean for which climate effects are already evident (Antarctic Peninsula/south west Atlantic Ocean) and areas in which changes are less evident (eastern Antarctica)?* (Focus on populations of humpback and southern right whales that breed off the east coast of the South American continent for comparison with populations that breed off Australia, New Zealand and/or the African continent).
- *How important is sea-ice habitat for southern ocean whales?* (Utilise aerial survey, tagging and remote, satellite-sensed technologies)
- *How do baleen whales interact with the physical and biological environment on their feeding grounds?* (Focus on combined predator-prey-environment studies using hydro-acoustics, environmental sensors and tagging)
- *What aspects of their physical and biological environment shape the distribution and movements of Southern Ocean whales?* (Focus on existing

- survey and environmental data, along with new multi-scale tagging studies coupled with collection of ecological data).
- *Will Southern Ocean whales recover to their former ecological role?* (Continue long-term monitoring of population trend data of species that migrate close to low latitude coastlines, i.e. humpback and southern right whales. These studies would also incorporate studies on the ecological role of large whales, including nutrient recycling)
  - *How are the different types of killer whales distributed in their Southern Ocean environment, and what role do they play in shaping baleen whale communities?* (Coordinated collection of killer whale photographs, biopsies, and ecosystem modelling exercises).

#### *SORP Research Plan and Projects:*

A measure of the success of SORP will be the degree to which it focuses the research conducted by the Partnership towards new and integrated collaborations that most directly address the objectives. SORP partners are currently involved in a wide array of research efforts around the Southern Ocean, and in the regions to the north, that have developed from a wide range of influences and which address independently determined objectives. To simply re-brand existing research efforts as the SORP program would do little to drive research towards an integrated and focused framework. Consequently, a two-tiered SORP research framework was developed and agreed.

The first tier consists of the **SORP core projects** that will drive the SORP initiative and from which an assessment of performance against objectives can be determined. These core projects will demonstrably benefit from the integration of circumpolar research efforts and will directly address the SORP objective of improving our understanding of the status and health of whales within the Southern Ocean ecosystem and the threats and environmental changes they may face.

The second tier of research projects are the **SORP associated projects**. These projects may contribute to the SORP objectives and flagship programs but are determined to be effectively stand-alone research efforts that do not necessarily benefit from the collaborative framework, or are likely to be focused on smaller spatial scales, or on species of lesser interest for the SORP collaboration. Specific criteria for these two types of project will be developed and agreed by the SORP Scientific Steering Group (see details below).

#### *Assessment and registry of SORP research projects:*

A determination of where existing and newly proposed research efforts fit within the research framework (core or associated status) will be conducted by the SORP Scientific Steering Committee (SSC). The SSC will develop a mechanism to facilitate external peer review of research projects submitted to the SORP for inclusion within the partnership. The external review will assess the scientific merit of the proposal. The SSC will then assess the relevance of the proposal to SORP objectives and the degree to which it benefits from the partnership framework. Each qualifying project will be registered

centrally as a SORP core project or associated project. The SSC will maintain and update the registry of research efforts.

It is recognised that the SORP research plan will develop over the course of the collaboration, particularly in response to IWC and other inputs. Within the relatively brief Workshop agenda participants focused the available time to propose potential flagship programs and to outline some potential core research projects. Additional core and associated research projects are likely to be developed in the future. Associated projects were not developed at the workshop. It is anticipated that the process of project prioritisation and the development of more detailed research plans will occur during IWC61, and subsequently under the direction of SSC during 2009 and beyond.

*Partnership coordination, structure, reporting and reviewing processes:*

A **SORP Scientific Steering Committee (SSC)** will oversee the work and direction of the partnership. Membership of the SSC will, at least, include regional representation from the participating governments. In the first instance, the membership would include representative governments who attended the inaugural workshop, but would be open to additional members that provide an expanded regional representation if necessary (e.g. Asia is currently not represented). Given the importance of linking SORP to broader multidisciplinary programs such as the Integrated Climate and Ecosystem Dynamics (ICED) program and/or the Southern Ocean Observing Systems (SOOS) program, representation on the SORP scientific steering committee from these programs would be considered. Additionally, given the importance of the linkage of the work of SORP to the IWC Scientific Committee, membership from IWC would also be advantageous (e.g. Chair of Scientific Committee or Chair of Southern Hemisphere whales sub-Committee). Additional specific Steering Committees will also be appointed to direct each of the core research projects that sit within the flagship programs.

The suggested model is for the SORP SSC to consist of regional representatives from:

- South Africa (1),
- USA (1),
- South America (2),
- Europe (2),
- Oceania (e.g. Australia, New Zealand and Pacific Island countries) (2),

with additional representatives from:

- ICED/SOOS (1), and
- IWC (1)

The Australian Marine Mammal Centre (AMMC), based at the Australian Antarctic Division in Hobart, Australia will coordinate the overall work of SORP and manage the reporting responsibilities. An annual progress report will be provided to the IWC Scientific Committee reporting on the preceding annual activities. A report of the activities proposed for each forthcoming year will also be provided to the IWC Scientific Committee.

The IWC SC will be asked for annual input into the SORP research plan, as well as to evaluate progress. An independent review process will also be established to provide an assessment of the progress the SORP makes against stated objectives and to determine if improvements in direction or process can be achieved.

*Data, tissue and analysis management and coordination:*

The AMMC will coordinate centralised registries of data, tissue and analysis protocols. Where possible these will utilise existing facilities, and are likely to be dispersed throughout the partnership membership. Updates of the holdings of these registries will be included in reports.

*SORP Non-lethal Science Workshop:*

The workshop agreed on the need for a symposium and workshop to review and update developments in non-lethal research techniques for whales: **Living Whales in the Southern Ocean Ecosystem: A symposium and workshop on non-lethal research techniques.**

This international meeting will be planned for 2011. It will showcase existing non-lethal techniques and develop a mechanism to inform and accelerate the development of further relevant non-lethal methods. A Steering Committee to plan and conduct this initiative will be established within the SORP.

*The SORP Year of the Whale: 2013/14 circumpolar research effort.*

Many of the research programs developed within the SORP Themes would benefit from a single-season, multi-platform, integrated and coordinated research effort around the Southern Ocean. Planning for such events takes many years, and such an effort would need to be incorporated within other large-scale research efforts. A Steering Committee to plan and conduct this initiative will be established within the SORP.