

## **Attachment 2**

### **The International Whaling Commission (IWC) Conservation Committee decadal review of the Southern Ocean Sanctuary (SOS)**

#### **Consider whether the SOS is consistent with other measures to protect whales from anthropogenic and other environmental factors**

1. Human induced threats are likely to be much lower in the SOS than the adjacent IOS, given the much lower levels of ship traffic and human activity. This is one of the reasons why the SOS was chosen as a Sanctuary. With other threats being much lower than elsewhere, the recovery of whale stocks was likely to be relatively rapid.
2. The Scientific Committee agreed that the SOS was consistent with other measures to protect whales from anthropogenic and other environmental factors for example, measures established by the Commission for the Conservation of Antarctic Marine Living Resources, CCAMLR.
3. The IWC does not have the regulatory power to directly address other threats to whale populations. However, in line with the expanding scope of the IWCs agenda to address issues with whale conservation and management beyond the decisions on lethal takes, the Commission is encouraging and coordinating work to mitigate threats. This work is undertaken by Contracting and other Governments and international and regional organisations.
4. Apart from the possibility of the resumption of commercial whaling, the primary anthropogenic and other environmental factors likely to affect whales in the SOS are those due to krill fisheries and climate change (including ocean acidification).
5. Krill fisheries are currently managed conservatively under a precautionary approach, but these fisheries are expected to expand. Although CCAMLR has an ecosystem monitoring programme (CEMP) this relies primarily on monitoring changes in predator populations that can be studied on land (seals and penguins). CCAMLR is developing a feedback management procedure for krill fisheries, and in due course one of the questions will be whether this procedure will offer adequate allowance for whales as krill dependent predators if predator monitoring focuses on land-based species.
6. It is difficult to predict the effects of climate change and ocean acidification on whales in the SOS. It is generally considered likely that reductions in sea ice will adversely affect krill abundance. Recent studies have shown that ocean acidification adversely affects krill larval development (Kawaguchi et al., 2013).
7. The other relevant consideration is the role that whales may play in the global carbon cycle. The "iron fertilisation hypothesis" (Smetacek and Nicol, 2005) indicates that the recovery of depleted whale population is likely to be important in the continuing drawdown of atmospheric carbon dioxide and its transport to the deep ocean in the form of organic detritus. These mechanisms may help mitigate global climate change and the local Southern Ocean effects of ocean acidification.
8. The removal of whales by commercial whaling may both exacerbate the effects of anthropogenic and other environmental factors and diminish the local and global mitigation of climate change and ocean acidification. Consequently, the SOS is broadly consistent with other measures to protect whales from anthropogenic and other environmental factors.

***The Conservation Committee therefore concludes that the SoS is consistent with existing measures to protect whales from anthropogenic and other environmental factors.***

**Assess the effectiveness of the SOS and any adjacent whale sanctuaries in terms of International agreements concerning biodiversity and conservation of nature**

9. The effectiveness of the SOS and the adjacent IWC Sanctuaries are likely enhanced by cooperation with other international organizations, such as the CCAMLR, United Nations Framework Convention on Climate Change and Convention on Biological Diversity (CBD).
10. The CBD was developed to provide an international framework for the conservation of biodiversity and sustainable development, outlining obligatory measures for conserving biodiversity. The CBD notes that *“the fundamental requirement for the conservation of biological diversity is the in-situ conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings”*.
11. Article 18 of the CBD states that contracting parties shall promote international technical and scientific cooperation for conservation and sustainable development. The SOS and Indian Ocean Sanctuary (SOS) have allowed for the conduct of scientific research from a wide range of international countries, useful for meeting IWC objectives. There has been a high number of scientific documents produced which correspond to the outcomes of scientific research or monitoring carried out within the areas of the SOS or IOS. Many of the projects are long-term, coordinated, integrated, international research programmes involving collaborators from multiple IWC member countries. A common aim of all projects is to assess trends in whale abundance and distribution, and monitor species recovery.
12. The “experiment” of the massive depletion of baleen whales in the Southern Ocean in principle creates an opportunity to estimate the fundamental ecology of inter-species interactions from trends in the abundance of the various species. Differential recovery rates between species reflect both properties of the environment and the interactions between the species. The fastest recovering species could be expected to reach a peak in abundance and then decline as the species with slower recovery rates increase in abundance (see de la Mare 2010 for an example). The recent review of MSY rates relied on estimating the rate of recovery of depleted stocks (IWC, 2013). Observing abundance trends in the SOS thus meet IWC objectives relating to the future management of whaling. Relevant observations of abundance have been underway for three decades but observations over more decades will be needed to estimate the effects of inter-specific interactions. The resumption of commercial whaling would confound these observations by truncating the recovery of the fast recovery populations before they otherwise might peak and decline.
13. The Convention on Migratory Species (CMS), recognized as CBD's leading partner on issues regarding migratory species, presents another key opportunity to bring together collaborative work with the IWC sanctuaries. There are currently CMS Agreements relevant to the conservation of migratory whales, dolphins and porpoises, and CMS has adopted a series of Resolutions to address these species– including numerous policies towards bycatches, ocean noise, marine debris, data-deficiencies and other impediments to their optimum conservation status.

***The Conservation Committee therefore concludes that the SOS contributes positively to a number of existing international commitments on biodiversity and climate change.***

**Assess whether the SOS is consistent with the precautionary approach in accordance to Principle 15 of the 1992 Rio Declaration**

1. The precautionary approach, as defined by Principle 15 of the 1992 Rio Declaration states that: *"In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation"*. The concept of the precautionary approach is commonly invoked in the literature to justify the establishment of marine reserves and marine protected areas.
2. At the time of the adoption of the SOS, the state of science in relation to whale conservation was clearly uncertain. Although, progress has been made over the last 20 years, many of the earlier uncertainties remain, while new uncertainties have arisen due to the potential impacts of anthropogenic and other environmental factors. Consequently, the SOS has been and remains consistent with the precautionary principle.

***The Conservation Committee therefore concludes that the SOS is consistent with the precautionary approach.***