

# Annex N

## Report of the *Ad Hoc* Working Group on Whale Sanctuaries

### 1. INTRODUCTORY ITEMS

**Participants:** Parsons (Chair), Rojas-Bracho (Co-Chair), Babey, Barreto, Barros, Bell, C., Bell, E., Brownell, Butterworth, Cassani, Castro, Charlton, Chauca Huánuco, Choi, S-G., Collins, T., Coscarella, Cubaynes, Double, Fiogbe, Fyfe, Gallego, Galletti, Haelters, Heinemann, Hielscher, Hines, Holm, Houtman, Iñíguez Bessega, Jaramillo Legorreta, Jimenez, M., Johnson, Katara, Kitakado, Lang, Leal, Leaper, Lee, K-L., Lundquist, Mallette, Miketa, Moazzam Khan, O’Loughlin, Palka, Panigada, Passadore, Plön, Porter, Reeves, S., Rogan, Rose, Salvador, Schubert, Seakamela, Simmonds, Slooten, Stachowitsch, Stack, Staniland, Webster, Weinrich, Willson, Zerbini.

#### 1.1 Opening remarks

The Working Group on Whale Sanctuaries met during IWCS69A April 24 to May 6, 2023, in Bled, Slovenia.

Parsons and Rojas-Bracho welcomed the working group and noted that this year’s meeting will involve a lot of planning logistics for next year’s review of the Southern Ocean Sanctuary.

#### 1.2 Election of Chair

Parsons was elected as Chair with Rojas-Bracho as Co-Chair.

#### 1.3 Appointment of Rapporteurs

Miketa was appointed as rapporteur with assistance from Rose.

#### 1.4 Adoption of agenda

The adopted agenda can be found in Appendix 1.

#### 1.5 Documents available

The following documents were available to the working group: SC/69A/SAN/01, SC/69A/SAN/02, SC/69A/E/06, SC/69A/CMP/04, de la Mare *et al.* (2016), Anderson *et al.* (2022), Anon (2022), D’Souza *et al.* (2023), Leaper *et al.* (2022), Natoli *et al.* (2022).

### 2. PREPARATION FOR THE DECADAL REVIEW OF THE SOUTHERN OCEAN SANCTUARY (SOS)

The SOS was established in 1994 and Paragraph 7(b) of the Schedule, which established the SOS, specified that the Sanctuary “...shall be reviewed ten years after its initial adoption and at succeeding ten-year intervals...”. In 2003, the Commission directed the Committee to undertake the first in a series of decadal reviews of the SOS (1994-2004) (IWC, 2004, pp.47-50). A second review of the SOS was performed in 2014-2016 following terms of reference provided by the Commission (IWC, 2016; 2017). The third review will be held in 2024. The terms of reference of the third review were agreed in 2022 at SC68D (IWC, 2023) and these terms of reference can be found in Appendix 2.

At SC68D a Steering Group was formed to:

- i. Solicit contributions and collate the necessary information to assist with the review of the scientific aspects of the sanctuary in question;
- ii. Identify potential external scientists with recognised expertise in research fields relevant to the review of the Sanctuary to attend the Scientific Committee meeting and assist with the review; and
- iii. Coordinate the review of the scientific aspects of the SOS.

The Steering Group consisted of: Bell, Lauriano, Leaper, Parsons (Chair), Rojas-Bracho, Slooten and Zerbini. Double was added to the Steering committee during the Working Group meeting.

An important component of the review process is an assessment of the scientific research undertaken within the SOS and the contiguous Indian Ocean Sanctuary (IOS). The Scientific Committee agreed at SC68D that a proforma be developed for information to be submitted to the SOS review. Intersessionally a pro forma was developed (Table 1),

which was converted into an online form<sup>1</sup> with assistance from the Secretariat, to capture high level information about research projects and voyages, the type and volume of data collected, the outputs generated and other details about research in the SOS and IOS (Table 1).

Details were requested from all members of the Committee about research that they have conducted (or are aware of being conducted) within the SOS and contiguous IOS.

During the intersessional period 2022/2023, there were 11 submissions, and these were incorporated in SC/69A/SAN/01 (see Agenda Item 2.3). Also incorporated was information collated from other previous Committee documents, *inter alia*, the IWC-SORP reports, ORCA program reports, NEWREP-A and JASS-A reports.

The online form will remain live during the intersessional period 2023/24. Information submitted via the online form will be incorporated in the updated version of SC/69A/SAN/01 (see Item 2.3) and will be submitted to the panel established to review the SOS in 2024.

Table 1  
SOS Reporting proforma.

Item	Field
1	Research title/project
2	Primary contact (affiliation, email)
3	Contributors (nations)
4	Institutions
5	Location of research activities (lat/long and description)
6	Research sites (list multiple sites if relevant)
7	Research themes (Check any relevant)
8	Main species
9	Other species
10	Dates (start date)
11	Dates (finish date)
12	Project summary (300 words)
13	Aims
14	Research voyages/expeditions
15	Number whale sightings
16	Species of whales encountered
17	Images collected (camera, drone, etc)
18	Number whales photo-ID'd
19	Number samples (tissue, blow, etc)
20	Number tags deployed (include tag type)
21	Acoustic recordings made (hours, etc)
22	Other data collected (prey; oceanographic; photogrammetry; focal follow; video photogrammetric tracking)
23	Peer-reviewed papers
24	IWC papers
25	Reports
26	Popular articles
27	Web links for further project information

The Working Group thanked the Secretariat for their assistance with creating, designing and hosting the online platform.

*Attention: SC, CC, R*

*The Southern Ocean Sanctuary (SOS) will undergo its third decadal review in 2024. The Working Group **encouraged** members to submit information on research in the SOS and contiguous Indian Ocean Sanctuary (IOS) for review via an online form (see item 2) and share details about the online form and the link for it with other researchers working in these areas, including those who are not members of the scientific committee, six weeks before the start of SC69B.*

## 2.1 Finalise SOS reviewers

At SC68D it was agreed that suggested reviewers would be provided to the Chair of the Steering Group and, at SC69A, the ad hoc working group would discuss and receive suggestions from Committee members for additional names for potential external reviewers. These reviewers should have recognised expertise in research fields relevant to the review of the Sanctuary.

A draft list of potential reviewers was presented to the working group and suggestions for possible names of additional reviewers was solicited. A list of criteria for the steering committee were agreed upon and can be found in Appendix 3.

<sup>1</sup> <https://forms.office.com/e/qWDVfn2xf0>

The next stages are as follows.

- (a) The Steering Group will rank the proposed reviewers intersessionally and will liaise with the experts to determine their availability.
- (b) The final list of external reviewers to attend the Scientific Committee will be developed intersessionally by the Steering Group.
- (c) Three external reviewers will be formally invited to attend the Committee meeting and/or sanctuary review (dependent upon the format of the 2024 Committee meeting). Ideally one of these reviewers would have participated in previous reviews to ensure continuity.

## 2.2 Discuss the SOS Review process

The SOS review may be conducted as a pre-meeting at SC69B in 2024. As yet, the location of this meeting has not been determined, and this may have budgetary implications. A total of £1,985 was budgeted by the Committee for three reviewers to attend the SOS review pre-meeting.

In discussion it was noted that caution should be taken with respect to additional pre-meetings in 2024 to avoid conflicts in scheduling with other pre-meetings. It was also noted that the review process may be able to be completed during SC69B, rather than during a pre-meeting, so the SOS Review Steering Committee will request guidance from the conveners.

## 2.3 Receive documents on the SOS

SC/69A/SAN/01 updated the research bibliography of de la Mare *et al.* (2016). An important component of the SOS review process will involve an assessment of the scientific research undertaken within the SOS and the contiguous IOS against Objectives 4 and 6, and Term of Reference 4, in particular. In readiness, a compilation of the research conducted in the SOS since 2016 has been underway. The updated research bibliography is currently incomplete and non-exhaustive. A new online portal is now hosted by the IWC Secretariat, available to assist researchers in submitting summaries of research for the upcoming and future SOS and IOS reviews. Submissions are invited during the 2023/24 intersessional period to ensure that, as much as practicable, all research has been captured for the SOS review in 2024.

In discussion, it was noted that the State of the Cetacean Environment Report (SOCER) would be able to provide essential information on anthropogenic impacts in both the SOS and IOS. In particular, next year's compendium of the most recent five-year cycle of SOCER would be valuable for the SOS review, because of the Polar Oceans review and the climate change sections in the Global sections of SOCER. It was clarified that the terms of reference for the review specifically requested scientific research rather than opportunistic data, such as from non-research cruises; however, those observations may go into an appendix. It was also discussed that much of New Zealand and Australia are in the SOS and there is a large amount of research on delphinids that may not be relevant to this sanctuary, as this review is focused on the polar, large whale, and environmental aspects of this area. There may be additional environmental variables, such as microplastics, or new information that are also relevant to include in this updated review.

Leaper *et al.* (2022) reported on the krill fishery and cetacean entanglements in the Southern Ocean, which highlights an anthropogenic impact in the Southern Ocean. The working group was referred to the discussion on this paper in the Human Induced Mortality Subcommittee (see Annex J, HIM, Agenda item 2.2).

## 2.4 Plan joint work with ASI to review SOS whale stocks and abundance

The working group will contact the ASI subcommittee to obtain data on trends and abundances and put together an intersessional document. The Secretariat will also reach out to CCAMLR intersessionally.

## 2.5 Plan joint work with the WW sub-committee to review whale watching in the SOS

Whale watching is one of the anthropogenic impacts noted (see Appendix 4) as a possible issue in sanctuaries. The whale watching subcommittee did not receive any papers on whale watching in the SOS or IOS this year; however, they encouraged documents to be submitted for SC69B (see Annex R, WW; Agenda Item 3.4).

*Attention: SC*

*For the third decadal review of the Southern Ocean Sanctuary (SOS), the Working Group **encouraged** members to submit information on whale watching in the SOS for SC69B.*

## 2.6 Other SOS review matters

No papers were submitted for this item.

### 3. DISCUSS REVIEW OF THE INDIAN OCEAN SANCTUARY (IOS)

#### 3.1 Progress on previous recommendations

At SC68A (IWC, 2020, p.51), the Committee had welcomed the new information on work being undertaken within the Indian Ocean Sanctuary area by the IUCN Important Marine Mammal Areas (IMMA) network, as well as information on meetings of IndoCet (Indian Ocean Network for Cetacean Research) and an Indian Ocean Cetacean Symposium that was to be held in July 2020. It had encouraged the submission of the outcomes of this work at future meetings.

In discussion, it was noted that the Indian Ocean Cetacean Symposium had been postponed, but the working group looked forward to information from this symposium when it occurs.

##### 3.1.1 IndoCet

SC/69A/SAN/02 gave an update on the Indian Ocean Cetacean Network (IndoCet) Consortium. IndoCet has been dedicated to the research and conservation of all cetacean species that occur in the south-western Indian Ocean (SWIO). The aim of the network has been to improve knowledge on and promote the conservation of cetaceans in the SWIO, including improving collaboration, developing capacity, and conducting work that addresses anthropogenic threats. It was initiated in 2014 and launched in 2017, as an informal network of individual researchers and/or people actively involved in cetacean conservation in the SWIO. The network is comprised of 40 members who are actively involved in cetacean research in seven countries of the region (Kenya, Tanzania, Mozambique, South-Africa, Madagascar, Reunion/Mayotte, Mauritius), as well as ten associate members. IndoCet has managed to meet in person five times (2015 in Madagascar, 2017 and 2019 in Reunion, 2019 in Barcelona and 2022 in South-Africa) and meeting reports are available on the IndoCet website. The website hosts network [newsletters](#) as well as [news](#), metadata for regional projects, IndoCet publications and a [strandings](#) reporting tool (with protocols for strandings response). WhatsApp and a mailing list facilitate communications among members, while a Facebook page facilitates public outreach. Further developments to the website will focus on making it an actively used repository that allows centralisation and visualisation of the cetacean data available from the region, including telemetry data.

Also reported in SC/69A/SAN/02, several regional collaborative initiatives were created including the COMBAVA project (COoperation régionale pour l'étude des Mouvements des BAleines à bosse et VALorisation des résultats), the QWIO (Quieter Western Indian Ocean) Project, and the Indian Ocean Humpback Dolphin Consortium (IOHDC). In 2019, IndoCet hired Stephanie Plön in South Africa as a stranding coordinator. In September and October 2020 in Mauritius, there was a mass stranding of melon-headed whales (*Peponocephala electra*) following an oil tanker that ran aground, which sparked a baseline assessment of strandings for the region. This was important, as it is expected that the large-scale ocean economy developments planned for the region may affect cetacean populations and possibly result in elevated strandings. Plön *et al.* (2020) was presented to the Committee last year and is currently under review for publication in the Journal for Cetacean Research and Management. IWC disentanglements training workshops are planned in Reunion and Mayotte in June 2023.

In discussion, it was noted that IndoCet evolved from a regional meeting on humpback whale tagging, but now incorporates a much broader range of cetacean research. Many of those involved in IndoCet are small NGOs with limited funding, but some outstanding work has been accomplished. It was also noted that IndoCet is a good example of what cooperation between organisations can achieve. It was suggested that IndoCet updates could occur annually rather than through sanctuary decadal reviews.

*Attention: SC*

*The Working Group welcomed the information provided on the IndoCet Consortium and **encouraged** the continuation of this important work. The Working Group looks forward to receiving updates from IndoCet at future meetings.*

##### 3.1.2 Important Marine Mammal Areas (IMMAs)

The Western Indian Ocean and Arabian Seas Important Marine Mammal Area (IMMA) Workshop, the fifth IMMA regional workshop, was held in Salalah, Oman, 4-8 March 2019. IMMAs have been defined as discrete portions of habitat, important to marine mammal species, that have the potential to be delineated and managed for conservation. IMMAs have been identified to prioritise their consideration for conservation measures by governments, intergovernmental organisations, conservation groups and the general public.

IUCN Marine Mammal Protected Area Task Force (2019) reported on a workshop for the Western Indian Ocean and Arabian Seas that was attended by 40 experts and observers from 16 countries and 1 overseas territory. In advance of the meeting, 105 areas of interest were put forward, comprising 46 expert submissions, 39 Ecologically or Biologically Significant Areas (EBSAs) identified through the Convention on Biological Diversity (CBD) process, and 20 other existing MPAs. A total of 54 candidate IMMAs (cIMMAs) were identified and proposed through an expert-based process, utilising dedicated selection criteria. Of these, 37 cIMMAs were accepted for full status, some of them after receipt of revisions or additional information that was required to confirm they met the criteria. Of the remaining 17 cIMMAs, three areas

showed strong evidence of merit as future IMMAs, so they will remain cIMMAs until they are able to fully satisfy the criteria. The other 14 areas had insufficient evidence at this time to be considered as either IMMAs or interim cIMMAs. These remaining areas, with further monitoring and survey effort, could be reassessed as cIMMAs in a future IMMA expert identification workshop. For the first time, the experts identified IMMAs for the Arabian Sea humpback whales, Indian Ocean humpback dolphins and unprecedented concentrations of Omura's whale, as well as three different populations of blue whales. The full list of marine mammal species included in the region's IMMAs, together with the boundaries of accepted IMMAs, as well as other cIMMAs can be viewed online<sup>2</sup>.

The Working Group **welcomed** the thorough review and assessment process involved in the Important Marine Mammal Areas (IMMA) designation process and **agreed** that IMMAs were a very valuable tool for cetacean management and conservation.

### 3.1.3 UN Ocean Decade

At SC68D, the Committee had agreed that there are many areas of common interest and synergy between the UN Ocean Decade priorities for the Southern Ocean and the work of the Committee (IWC, 2023, p. 152). It had recommended that the Secretariat contact the Intergovernmental Oceanographic Commission (IOC) of UNESCO (coordinators for the UN Decade of Ocean Science for Sustainable Development) to discuss ongoing and future communication and possible collaboration between the IWC and the UN Decade (SC2299). The Secretariat has been in contact with the IOC about possible areas of mutual interest with the IWC including SORP. A meeting will be held in May to discuss ongoing and potential future communication and collaboration.

### 3.2 Receive the State of the Cetacean Environment Report

The State of the Cetacean Environment Reports (SOCER) is an important source of information for a potential Indian Ocean Sanctuary review. In particular, Stachowitsch *et al.* (2018) and SC/69A/E/06 focus on the Indian Ocean. Beyond core information on cetacean population sizes and trends, any review should consider the overall status of this ocean, i.e., what is the general environmental framework in which any evaluation of cetacean conservation and management is to take place?

SC/69A/E/06 noted that on a larger scale, the UN's first global integrated marine assessment of the Indian Ocean pointed to numerous threats, such as bycatch, habitat degradation and loss and pollution, including marine debris. That report underlined a lack of information and therefore identified five research gaps related to marine mammals, including the need to train and equip local scientists and conduct coordinated long-term monitoring and genetic studies. Two gaps pertained specifically to whales, namely analyses of their biology and ecology and impacts of fishing. A second approach, the Ocean Health Index, in examining the high seas (i.e., beyond national jurisdictions), gave the western Indian Ocean a good overall score but the eastern Indian Ocean a very low score. The Indian Ocean is facing a major marine debris problem that reflects poor waste management, including the presence of a plastic gyre that may have the greatest marine debris load in the Southern Hemisphere. In India alone, an estimated 380,000 tons of pesticides and other halogenated hydrocarbons are used each year (DDT: 107,000 tons). A large proportion of pesticides reaches the sea via the atmosphere and rivers in India. Overall, heavy rains, cyclones and the monsoon season play an important role in aggravating the input of all pollutants, including marine debris, into the Indian Ocean. The major gillnet fishing nations have an estimated bycatch of 60,000 small cetaceans each year. Although large-scale gill-netting is banned by a UN convention and IOTC resolution, it continues to be carried out. The rates of this bycatch in the tuna gillnet fisheries remain high. Climate change and marine heatwaves pose a threat here, in part because many organisms inhabiting such hot seas are likely to already be living at the upper range of their temperature tolerance. Warming of surface waters by 1.2°C in the last 50 years has resulted in increased stratification, exacerbating this problem. Finally, reflecting an increased recognition for urgent management measures with respect to ship strikes, several major shipping companies have, in a concerted action involving IWC input and promoted by NGOs, agreed to shift their routes to avoid a blue whale hotspot off Sri Lanka.

SOCER also contains a section reviewing global concerns and there were many papers highlighted in SC/69A/E/06 that reported on major issues in the Southern Ocean. There was much new research on climate change and a general theme was that glaciers and ice sheets are melting, oceans are acidifying, oceans have reached record temperatures and sea levels are rising at even higher rates than predicted. Changes are already being seen in Southern Ocean circulation, as are faster flow rates in Antarctic glaciers and collapsing ice sheets, as well as decreases in nutrient upwelling in several locations in the Southern Ocean as well as several other parts of the world. Warming oceans are predicted to not only decrease primary productivity in many locations, including the Southern Ocean, but the nutritional value of phytoplankton is expected to decrease, which will have huge impacts on ocean ecosystems.

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<sup>2</sup> at: <https://www.marinemammalhabitat.org/imma-eatlas/>.

### 3.3 Receive documents on the IOS

SC/69A/CMP/04rev1 described progress from the Arabian Sea Whale Network. The Network was formed in 2015 and the Arabian Sea humpback whale (ASHW) acts as its flagship species, but members collaborate on multiple aspects of cetacean research and conservation. Updates on regional-level collaborative activities undertaken between May 2022 and April 2023 were provided, as well as updates on project-by-project or national level activities undertaken by partners in the region. Regional level activities have been extremely limited due to the lack of funding for coordination. However, there has been significant progress at some national levels, and Network members are in regular communication and provide continued technical support to each other. The project updates from partners demonstrate a clear trend toward increased capacity and dedicated capacity building activities for local scientists. Many countries are actively expanding their local and national sighting and stranding reporting networks through social media and dedicated outreach materials, and an increasing number of coastal surveys are being conducted in Arabian/Persian Gulf countries. No humpback whale sightings were reported from the Gulf in the past year, and only one sighting record of three individuals was obtained from India. It is hoped that increased awareness and capacity building in ASHW range countries will help to progress the long-hoped for joint IWC-CMS regional Conservation Management Plan. In particular, it is hoped that a workshop held in Oman in November 2022 helped government and industry stakeholders there to better understand the conservation needs of ASHW and the potential benefits of both a national conservation action plan and a regional Conservation Management Plan.

Additional information can be found in Anon. (2022).

Several papers on ASHW (SC/69A/CMP/04Rev1; Anderson *et al.*, 2022; D'Souza *et al.*, 2023; Natoli *et al.*, 2022) were also noted, as well as the relevant discussion on this Indian Ocean whale population in the Conservation Management Plans Sub-Committee (Annex F, CMP, Agenda Item 3.1).

### 3.4 Whale watching in the IOS

No papers were presented on this item.

*Attention: SC, CC, R*

*The Working Group is awaiting direction from the Commission on a potential review of the Indian Ocean Sanctuary (IOS). However, the Working Group **encouraged** members to submit information on whale watching in the IOS in readiness.*

### 3.5 Receive guidance from Commission on IOS review workplan and budget consideration

Following a presentation of the SOS review to IWC69 in 2024, guidance will be requested from the Commissioners for the IOS review. Should a review of the IOS be requested, which may be conducted in 2026, the same reviewer selection process used for the SOS review would ideally be applied to the IOS review. It was noted that the online portal for the SOS review could also be used to collect information on the IOS to prepare for the 2026 review. The work plan was agreed upon by the Working Group and can be found in Table 2. Items pertaining to the IOS review are contingent on direction from the Commission.

Table 2  
Proposed Work Plan for SAN.

Item	Intersessional 2023/24	2024	2025	2026
Finalise and invite SOS reviewers	X			
Receive documents relevant to SOS review		X		
Conduct SOS review		X		
Report outcome of SOS review		X		
Receive documents relevant to the IOS	X	X	X	X
Receive guidance from Commission on IOS review		X		
Plan IOS review		X	X	
Finalise and invite IOS reviewers			X	
Conduct IOS review				X
Report outcome of IOS review				X

## 4. ADOPTION OF REPORT

The report was adopted at 17:50 hrs on 1-May-2023.

### REFERENCES

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- Stachowitsch, M., Rose, N.A., Parsons, E.C.M. 2018. State of the Cetacean Environment Report (SOCER) 2017. *J. Cetacean Res. Manage. (Suppl.)* 19: 276-285.

## **Appendix 1**

### **AGENDA**

1. Introductory items
  - 1.1 Opening remarks
  - 1.2 Election of Chair
  - 1.3 Appointment of Rapporteurs
  - 1.4 Adoption of agenda
  - 1.5 Documents available
2. Preparation for the Decadal Review of the Southern Ocean Sanctuary (SOS)
  - 2.1 Finalise SOS reviewers
  - 2.2 Discuss the SOS Review process
  - 2.3 Receive documents on the SOS
  - 2.4 Plan joint work with ASI to review SOS whale stocks and abundance
  - 2.5 Plan joint work with the WW subcommittee to review whale watching in the SOS
  - 2.6 Other SOS review matters
3. Discuss Review of the Indian Ocean Sanctuary (IOS)
  - 3.1 Progress on previous recommendations
    - 3.1.1 IndoCet
    - 3.1.2 IMMAS
    - 3.1.3 UN Ocean Decade
  - 3.2 Receive the State of the Cetacean Environment Report
  - 3.3 Receive documents on the IOS
  - 3.4 Whale watching in the IOS
  - 3.5 Receive guidance from Commission on IOS review workplan and budget considerations
4. Adoption of report



## Appendix 2

### SOUTHERN OCEAN SANCTUARY REVIEW TERMS OF REFERENCE

Taking into consideration previous instructions from the Commission to the Committee for Review of Sanctuaries (IWC, 2002) and Resolution 2002-1 providing guidance to the Committee on the Sanctuary review process (IWC, 2003), the following terms of reference for the review of Sanctuaries were developed (IWC, 2016).

- (a) Provide advice on the status and trends of whale stocks in the Sanctuary in so far as these are known. Assess the present and potential threats to whale populations and their habitats in the area of the Sanctuary and how the Sanctuaries address this.
- (b) Consider whether the Sanctuary is consistent with other measures to protect whales from anthropogenic and other environmental factors.
- (c) Assess the effects of the Sanctuary in terms of:
  - i. the protection of whales in breeding areas, feeding grounds, and/or migratory routes; and
  - ii. international agreements concerning biodiversity and conservation of nature.
- (d) Evaluate whether the Sanctuary allows for the conduct of scientific research useful for meeting IWC objectives or coordinated integrated research and monitoring programmes across the range of issues of global relevance.
- (e) Provide advice on whether the sanctuary is consistent with the precautionary approach.

At SC68C, the Committee agreed (Item 18.3) that the Terms of Reference for the review of the SOS should be discussed, taking into account the broadening scientific range covered by the Committee; for example, the role of ecosystem functioning as discussed in the Standing Working Group on Ecosystem Modelling.

The Committee encourages papers and information on ecosystem modelling relevant to the SOS to be submitted to the Steering Group for inclusion in the review. Due to the major impacts of climate change in the Southern Ocean, the Committee agrees that climate change should be explicitly noted as an anthropogenic factor in item (b).

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## Appendix 3

### SANCTUARY REVIEWER SELECTION RUBRIC

The Scientific Committee agreed in 2004 that the involvement of external reviewers (e.g. non-regular members of the Scientific Committee) in the review of the SOS had been largely positive and that involvement of external reviewers should continue, both for future reviews and reviews of future sanctuary proposals (IWC, 2005, pp. 49-51).

The Working Group **agreed** that the involvement of independent external reviewers in the review of the SOS had been largely positive. However, some members felt that in future, the reviewers should be provided with more information on the workings of the IWC, its Schedule, and the Scientific Committee and its procedures, prior to their review. It was also noted that the instructions given to the external reviewers should be much more specific.

Some members questioned whether the Scientific Committee should involve external experts in reviews of future sanctuary proposals, or just future Sanctuary reviews. The Working Group **agreed** that involvement of external reviewers should continue, both for future reviews and reviews of future Sanctuary proposals. Some suggestions were made to improve the partnership between the Scientific Committee and independent reviewers:

- (1) such partnerships should benefit from the discussion in different organisations (including, but not limited to, those affiliated with IUCN) on high-seas conservation;
- (2) the independent reviewers should represent a broad geographic coverage in expertise; and
- (3) the review would benefit from experts independent from one another as well as independent from the Scientific Committee.

The Chair noted that for the SOS review, 15 names were initially proposed for membership of the IER. Of these, many were not available for the meeting. Of those who were available, the three reviewers elected by the intersessional Steering Group were offered the choice of producing independent reviews, but in the interest of time, had decided to complete a joint review.

In 2014, there were different views in relation to the method used to involve external experts in the 2004 review with limited support for external reviewers operating independently from the Scientific Committee and further clarification on this process was requested from the Commission (IWC, 2015a).

A process for the review and refined objectives for the SOS were proposed to the Conservation Committee (IWC, 2015b) and were agreed by consensus by the Commission.

The Commission agreed that the Scientific Committee should develop its own procedures for the involvement of external reviewers.

In 2015, there was discussion about the qualifications and expertise of potential reviewers (IWC, 2016, p. 404):

It was agreed that the complement and balance of external reviewers would be decided by the Steering Group, with the goal of obtaining a fair and objective review. Careful efforts would be made to avoid potential conflicts of interest and emphasis would be given to including external reviewers whose expertise is relevant to the review of sanctuaries and sanctuary proposals, which is not to be found already within members of the Scientific Committee. The invited expert group may include individuals that are not cetacean specialists.

Therefore, it is proposed that the proposed reviewers are ranked by the Steering Committee according to the following criteria:

#### **Essential criteria**

- Expertise in review of protected areas and protected area proposals.
- Objective, independent and non-conflicted.

#### **Preferred criteria (not in order of preference)**

- Expertise in the ecology and ecosystem functioning of the sanctuary area.
- Expertise in marine protected area designation and management.
- Expertise in anthropogenic impacts affecting the sanctuary area (for example, climate change and plastics/marine debris).
- Expertise in the biology of cetaceans found in the sanctuary area (specifically cetaceans noted in the Schedule (mysticetes, sperm whales and killer whales).
- Expertise in methods of living resource conservation and management other than marine protected areas.

- An understanding of the IWC Sanctuary's history and the review process.

At least one reviewer should have experience of previous Sanctuary reviews.

The working group noted that information on previous reviews, including the SOS management plan, will be provided to the reviewers by the SOS review steering committee and the reviewers will be advised that the SOS management plan is now included in the review process.

#### **REFERENCES**

International Whaling Commission. 2005. Report of the Scientific Committee. *J. Cetacean Res. Manage. (Suppl.)* 7:1-62.

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## Appendix 4

### SANCTUARY REVIEWS – TERMS OF REFERENCE

[The following is extracted from IWC, 2015. Annex R: Terms of Reference for Sanctuary Review. J. Cetacean Res. Manage. (Suppl.) 16:355-356.]

#### Instructions for the Review of Sanctuaries and Sanctuary Proposals

In 2001, the Commission agreed the following set of instructions to the Scientific Committee for the review of Sanctuaries and Sanctuary proposals (IWC, 2002).

#### General

In reviewing existing Sanctuaries (e.g. the SOS), the Scientific Committee should give primary attention to assessing how well the scientific aspects of the agreed objectives of the Sanctuary have been met and how well they might be met if the Sanctuary continues. In reviewing proposed Sanctuaries (e.g. the SAWS), the Scientific Committee should give primary attention to considering the scientific feasibility of meeting the scientific aspects of the stated objectives, and, if necessary, recommend amendments to the objectives, or changes to the proposal to better meet its objectives.

#### Specific

The following specific guidelines relate primarily to the review of proposed Sanctuaries but should also be used in reviewing existing Sanctuaries where relevant. The Commission instructed the Scientific Committee to:

*1. Provide advice on the status and trends of whale stocks in the (proposed) Sanctuary in so far as these are known*

Assess whether the Sanctuary distinguishes between species and stocks that are depleted and apparently slow to recover, those that are increasingly rapidly, and those that are abundant and not threatened. Assess the present and potential threats to whale stocks and their habitats in the area of the (proposed) Sanctuary and how the (proposed) Sanctuary addresses these. Such factors may include *inter alia*:

- (a) whaling;
- (b) fishing, including by-catch;
- (c) oil and gas exploitation, including seismic surveys;
- (d) shipping;
- (e) whalewatching;
- (f) climatic change; and
- (g) other environmental factors.

It should also consider the relationship of the (proposed) Sanctuary with other existing measures to protect whales from such anthropogenic and other environmental factors.

*2. Assess the anticipated effects of the proposed Sanctuary in terms of:*

- (a) improving protection of whales, in breeding areas, feeding grounds and/or migratory routes;
- (b) improving the conservation of breeding sites, migratory routes and/or feeding grounds; and
- (c) complementing existing or potential protection including the Commission's current management regime and regional and international agreements concerning biodiversity and conservation of nature.

*3. Provide advice on whether the proposed boundaries of the Sanctuary are ecologically appropriate.*

*4. Provide advice on whether the Sanctuary addresses the issue of critical habitat and non-critical whale habitat*

*5. Evaluate whether the Sanctuary may contribute to or impede the conduct of scientific research useful for meeting IWC objectives and facilitate coordinated and integrated research and monitoring programmes.*

*6. Provide advice on whether the Sanctuary is consistent with the precautionary approach.*

In addition, at the conclusion of the Southern Ocean Sanctuary review in 2004, the Commission endorsed (IWC, 2005a, pp.33-34) the Committee's recommendations for additional items to 'facilitate the review of future proposal and future Sanctuary reviews' (IWC, 2005b, p.50). In summary:

- (a) external independent reviewers should be involved in the review and to improve the partnership between the Committee and independent reviewers it should include discussion in different organisations (e.g. IUCN) on high seas conservation; reviewers should represent broad geographic coverage in expertise; involve separate reviews from each reviewer (not a joint review as had been the case for the SOS).

(b) In addition:

1. the purpose(s) of the Sanctuaries should be articulated through a set of refined overall objectives (e.g. preserving species biodiversity; promoting recovery of depleted stocks; increasing whaling yield). In particular, the relationships between the RMP and any Sanctuary programme should be articulated;
2. appropriate performance measures for Sanctuaries should be developed. These performance measures should link the objectives of a Sanctuary with field monitoring programmes;
3. systematic inventory and research programmes should be established or further developed so as to build the required information base for a Sanctuary management plan and subsequent monitoring programmes;
4. a Sanctuary management plan should clearly outline the broad strategies and specific actions needed to achieve Sanctuary objectives (e.g. how to protect x% of a given feeding area for stock y);
5. a monitoring strategy that measures progress toward achieving the Sanctuary objectives should be undertaken. A key component of this monitoring strategy should be the development of tangible indicators to monitor progress;
6. review criteria that reflect the goals and objectives of the Sanctuary (as described above) should be established; and
7. the Sanctuary management plan should be refined periodically to account for ecological, oceanographic and possible other changes in an adaptive fashion.

#### **REFERENCES**

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