

Report of the Intersessional Workshop to Review the South Atlantic Whale Sanctuary (SAWS) Proposal

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1. INTRODUCTORY ITEMS

The Workshop was held at the Hotel Golf, Bled, Slovenia, 5-6 June 2016. The list of participants is given in Annex A.

1.1 Opening remarks

Hall and Zerbini welcomed the participants and informed there would be two days to complete the review of the South Atlantic Whale Sanctuary (SAWS) Proposal. During the 2015 meeting, the Scientific Committee developed a process to review the South Atlantic Whale Sanctuary and the Southern Ocean Sanctuary (IWC, 2016). As part of this process, three external experts were invited to assist the Committee with the reviews. The contribution of Drs Leah Gerber, Susie Grant and Steve Reilly to the SAWS proposal review was welcomed by the Workshop.

1.2 Election of Chair

Hall was elected Chair.

1.3 Appointment of Rapporteurs

Hall and Zerbini acted as rapporteurs.

1.4 Adoption of the Agenda

The adopted agenda is listed in Annex B. The Chair noted that some items in the Agenda referred to topics that were going to be reviewed by a joint meeting of the IWC Scientific Committee (SC) and the Conservation Committee (CC), but they were kept on the Workshop's Agenda to give the participants an opportunity to provide comments that may be relevant for the joint SC/CC meeting to be held before the upcoming Commission meeting.

1.5 Documents available

A list of available documents is provided in Annex C.

2. REVIEW OF PREVIOUS EVALUATIONS OF THE SOUTH ATLANTIC WHALE SANCTUARY

The International Whaling Commission (IWC) first discussed the SAWS in 1998, when the Government of Brazil stated its intention to put forward a proposal for a sanctuary in the South Atlantic Ocean. The Scientific Committee (SC) reviewed the proposal in 2001, 2003, 2004, and 2005, with different views in regard to whether it was justified being supported by SC participants. These reviews are summarised in IWC (2002a; 2002b; 2004a; 2004b; 2006a; 2006b). Between 2006 and 2013, the SAWS proposal was discussed by the Commission, but not reviewed by the SC. In 2014, an updated SAWS proposal was submitted to the SC. The revised document incorporated new information on whale research in the South Atlantic and responded to comments received from the SC in previous years. The new proposal also addressed guidelines to review Sanctuaries and Sanctuary proposals developed by the Commission and included refined objectives. While the SC did not review the SAWS proposal in detail in 2014, it advised the proponents that more details regarding monitoring plans to evaluate whether the proposal objectives had been achieved were needed (IWC, 2015).

3. REVIEW THE SOUTH ATLANTIC WHALE SANCTUARY PROPOSAL AND AVAILABLE INFORMATION ON STATUS, TRENDS AND POTENTIAL THREATS TO WHALES IN THE SANCTUARY

The proposal of the South Atlantic Whale Sanctuary (SAWS; IWC/66/08) is co-sponsored by the Governments of Argentina, Brazil, Gabon, South Africa and Uruguay, and its creation, which would be achieved by the approval of an amendment to the IWC Schedule, aims to maintain or increase current whale stock levels in the region by mitigating identified threats to whale stocks, as well as to identify and quantify other potential threats. The SAWS also intends to stimulate coordinated non-lethal and non-extractive research in the region, especially by developing countries, and through international cooperation with the active participation of the IWC. One of its objectives is to develop the sustainable, non-extractive and non-lethal economic use of whales for the benefit of coastal communities in the region (e.g. whale watching and educational activities), and to integrate national research, management efforts and conservation strategies in a cooperative framework, maximising the effectiveness of management actions. All this will be done taking into full account the rights and responsibilities of coastal States under the UN Convention of the Law of the Sea, and by providing an overall framework for the development of localised measures, in order to maximise the conservation benefits at an ocean basin level. The limits of the SAWS are illustrated in figures 1 and 2, on pages 4 and 5 of the proposal (see Fig.1). There it can be seen that it would, in conjunction with the current geographical area covered by the boundaries of the Southern Ocean Sanctuary and the Indian Ocean Sanctuary, constitute a mosaic of non-intentional catch zones, complementing and reinforcing each other's measures for the conservation of whales. The fact that the SAWS proposal has been under consideration by the IWC for the last 15 years has allowed the proposal to benefit from the many comments it received from the IWC members, both in the Plenary and the Scientific Committee sessions. Those comments were taken into careful consideration and incorporated into the current version of the proposal (IWC/66/08). The document will be presented to the IWC Plenary in October 2016. One major step taken this year was the presentation of the SAWS Management Plan, based on recommendations made by the Scientific Committee at previous meetings. It is the first initiative of this kind made for a Sanctuary proposal within the IWC, which shows the level of commitment of the cosponsor countries towards implementing the measures proposed under the SAWS in strict accordance with suggestions and recommendations by the Scientific Committee.

In discussion, it was noted that within the IWC there are very different positions regarding whales and whaling (IWC, 2003). Some regard whales as a natural resource that could be harvested as long as that harvest is sustainable. Others are committed to protect whales from extractive use irrespective of their stock status. These differences may invoke different interpretations of the definition of 'conservation'. The proponents clarified that the SAWS proposal is based on the

¹Presented to the SC meeting as SC/66b/Rep08.

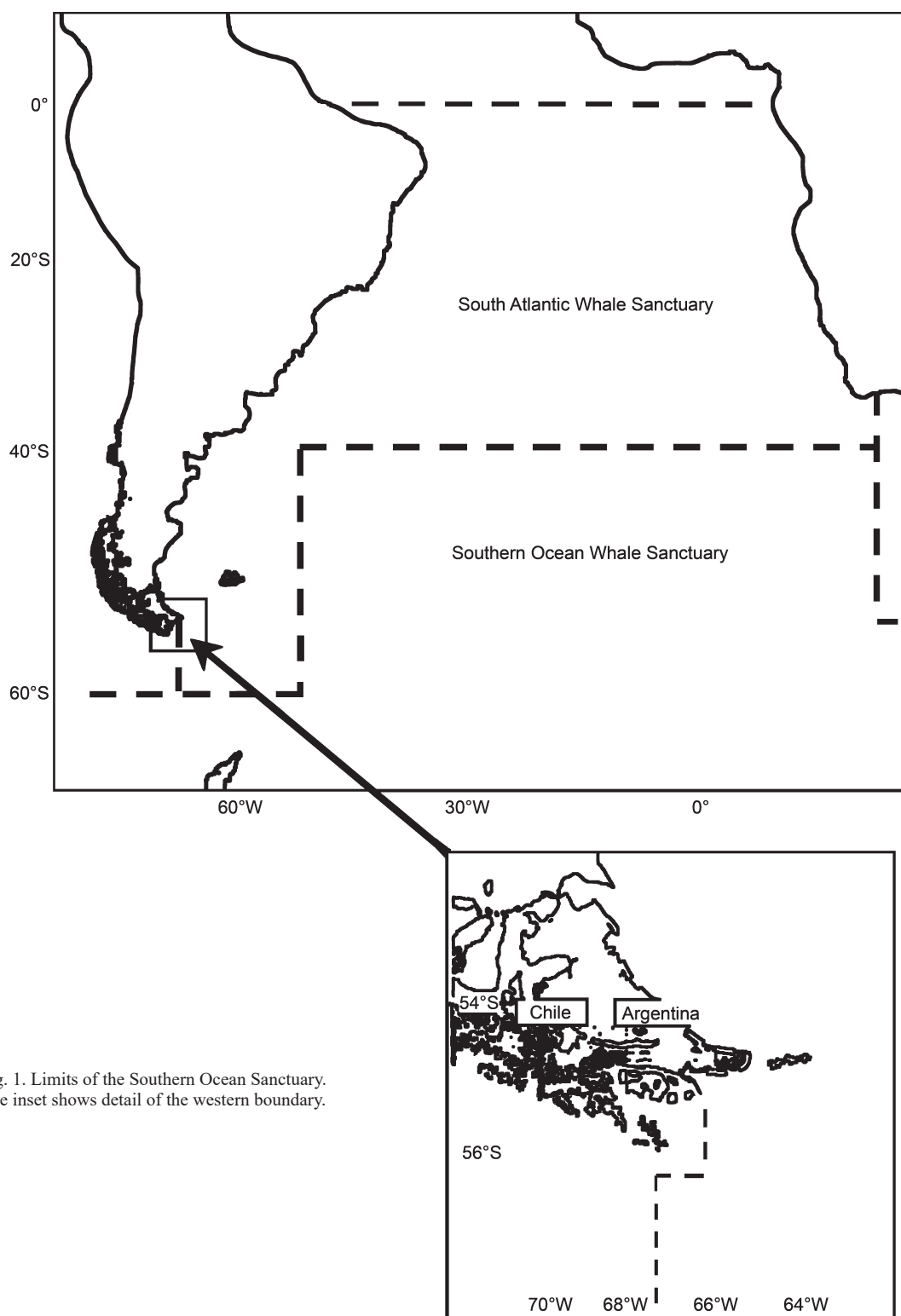


Fig. 1. Limits of the Southern Ocean Sanctuary. The inset shows detail of the western boundary.

position of total protection of whales. In order to concentrate on scientific and technical aspects of the SAWS proposal, discussions below were made without prejudice to the positions of the various participants and the governments. Nothing in this report should be interpreted as changes by Governments of these basic positions. In addition, it was pointed out that a schedule amendment can only introduce a ban on whaling as a management measure. An amendment cannot address certain threats listed in the proposal, as these will not be mitigated by a ban on whaling.

Workshop participants noted that the context in which some terms were used in the SAWS proposal was not clear and

that they should be defined. For example, the proposal often refers to the word 'cetacean', when the protection measures established by the SAWS apply only to large whales. It was suggested to include a glossary with definitions for the following terms in the proposal: cetacean, conservation, constituents, critical area, long-term, performance measure, recovery, status, stock, threat, threatened/endangered, zone/zonation. It was also suggested to check that those terms are used consistently in the text.

A number of requested clarifications on aspects of the proposal were raised by the Workshop participants, including: (a) how research and monitoring actions related

to the SAWS objectives; (b) how existing protected areas within the SAWS were considered by the SAWS proposal; (c) whether boundaries were consistent with the distribution of some whale species in the Sanctuary; and (d) whether all possible threats to whale species had been considered. These points were clarified by the proponents. However, one aspect that may require further consideration is what, if any, actions can be taken to mitigate against land-based threats (e.g. contaminant run-off) or global threats (e.g. climate change).

In discussion of the objectives of the SAWS, it was noted that Objective 2 might require re-wording. Currently, it states that the SAWS, in conjunction with the Southern Ocean Sanctuary (SOS), would promote the long-term conservation of large whales throughout the range of the stocks present. However, some species of large whales in western Africa inhabit regions outside of the SAWS boundaries and therefore their range would not be fully encompassed by the Sanctuary. It was suggested that a modification of the text to: 'promote the long-term conservation of large whales south of the Equator' is perhaps a more accurate representation of the SAWS proposal's Objective 2, given the stated boundaries.

The SAWS proposal considered present and potential threats to whale stocks and their habitats within the Sanctuary. These threats included interactions with fisheries, collisions with ships, contaminants, acoustic and noise pollution, hydrocarbon exploration, climate change, and die offs. Workshop participants discussed whether the northern boundary of the SAWS was ecologically appropriate with respect to current knowledge on whale distribution and threats. It was noted that the boundary at the Equator implies that the SAWS would not encompass an appreciable portion of the range of humpback whales and perhaps of other species that occur further to the north. Item 7 below includes additional consideration of the SAWS boundaries with respect to the distribution of South Atlantic whales. However, it was noted that threats in western Africa also occur north of the Equator, with potential appreciable impact to one or more stocks in the region.

In discussion of the section 'Fisheries Interactions' in the SAWS proposal (pp.16-17 of IWC/66/08), it was noted that care should be exercised to check the accuracy of the statement that 'Very little data on actual cetacean bycatch exists for some Western African countries'. However, fisheries interactions, such as bycatches, are known to occur in some African countries.

In discussing abundance and trend information for whales stocks in the SAWS, the Workshop noted that information is available from southern right whales (calving grounds off Península Valdés and the South African coast) and humpback whales (Brazilian breeding stock A, west African breeding stocks B1 and B2). In the western South Atlantic, the abundance of southern right whales on the Península Valdés calving ground in Argentina was estimated at 3,373 in 2009 and to be increasing at 7.1% per annum (IWC, 2013a). The abundance of humpback whales off Brazil was estimated at 6,404 (CV=0.11) in 2005 (Andriolo *et al.*, 2010), with an annual population increase rate of 7.4% between 1995 and 1998 (Ward *et al.*, 2011). In the eastern South Atlantic, the abundance of southern right whales off South Africa was estimated at 3,612 in 2008, and to be increasing at an annual rate of 6.8% (95% CI 6.3-7.4%) from 1979 to 2008 (IWC, 2013a). The abundance of humpback whales in the waters of Gabon was estimated at 6,800 in 2005 (95% CI 4,350-10,400; Collins *et al.*, 2010). There is a feeding ground for humpback whales off west South Africa (breeding stock

B2); these whales are genetically distinct from whales off Gabon (Carvalho *et al.*, 2014) and so are considered to be associated with the breeding ground elsewhere than Gabon. The abundance of humpback whales feeding in western South African waters was 510 (95% CI 230-790) in 2008 (Barendse, 2011).

No recent and precise abundance or trend data are currently available for any other large whales within the SAWS area. Other large whales using the SAWS area include Bryde's, Antarctic blue, pygmy blue, fin, sei, sperm, common and Antarctic minke whales. Abundance and trend information is available for some of these species from other regions, but it is not well determined how connected those populations are to the SAWS or what component of each population uses the SAWS. In the Antarctic, total abundance of Antarctic blue whales was estimated at 2,280 whales (95% CI 1,100-4,500) in 1997, with 298 whales (CV=0.55) estimated in Antarctic Area II 60-0°W (Branch, 2007). In the Scotia Sea immediately to the south of SAWS, fin whale abundance was estimated at 4,487 (95% CI 1,326-15,179) in 2001/02, although only part of their distribution in this region was surveyed (Williams *et al.*, 2006) and this species is known to be distributed primarily to the east of the area covered by these surveys. Antarctic minke whales to the south of SAWS have been surveyed across Antarctic Area II, with abundance estimated at 57,200 whales (27,200-120,000) in 1998 (IWC, 2013b). No regional estimates of abundance are available for sperm, sei or Bryde's whales across this ocean basin.

Catch data indicate that appreciable numbers of Antarctic blue, fin, sei, sperm and minke whales were present in the SAWS area prior to modern whaling. Antarctic blue, pygmy blue, fin, sei and Bryde's whales were hunted off South Africa, Namibia and Angola (Best, 1994; Branch *et al.*, 2007; 2008). In the southwestern Atlantic the most commonly seen species are Antarctic minke, sei and Bryde's whales, with very rare occurrences of fin or blue whales (Zerbini *et al.*, 1997).

Workshop participants commended the proponents for their efforts to develop a comprehensive proposal and **agreed** it represents an impressive amount of work. In general, the information provided in the proposal is comprehensive, and Workshop participants suggested an approach to better articulate performance measures. It was noted that this is the first IWC Sanctuary proposal to provide a management plan and that the proponents appear to have made an effort to address the many recommendations put forward by the SC in previous reviews of Sanctuaries and Sanctuary Proposals (IWC, 2005).

The Workshop recognised that Sanctuaries constitute a tool available to the Commission for the management of whale stocks and that provisions for their designation are included in the Convention for Regulation of Whaling (Article V). However, in the past, the SC has been unable to reach a consensus view in supporting the SAWS proposal. General arguments in favour and not in favour of the SAWS proposal (and other IWC Sanctuaries in general) were expressed during the meeting. Workshop participants noted these views are consistent with those expressed by the SC in previous years (IWC, 2002a, p.67).

Workshop participants noted that the SAWS proposal has previously been referred back to the Scientific Committee because amendments of scientific relevance had been incorporated to the proposal. They also **agreed** that an adequate review of the scientific aspect of the SAWS proposal was performed during this Workshop and that a new review

of its scientific aspects by the Scientific Committee, should these aspects be slightly revised by the proponents in line with suggestions made in this report, would not be needed.

4. IDENTIFICATION AND CONSIDERATION OF OTHER MEASURES TO PROTECT WHALES FROM HUMAN IMPACTS WITHIN THE SANCTUARY AREA

The Workshop participants did not identify any points under this agenda item, apart from a query on the necessity to establish SAWS despite the existence of the IWC's moratorium on commercial whaling.

5. REVIEW OF THE SOUTH ATLANTIC WHALE SANCTUARY MANAGEMENT PLAN

The proponents summarised the Management Plan described in document IWC/66/08. The purpose of the Management Plan is twofold: (1) to provide information regarding the Sanctuary goals and actions planned for the next ten years; and (2) to propose strategies toward the achievement of the Sanctuary's goals using the best means available, listing clear performance measures for each proposed action. The Management Plan proposal focuses on all great whales that occur in the SAWS area and provides the best up-to-date scientific information about their stock-structure, threats, abundance estimates and trends in abundance for each recognised stock. The Management Plan was designed to guide the management of threats faced by whales and the monitoring of their potential recovery for the next ten years in the South Atlantic Ocean. Thus, the Sanctuary Management Plan should be reviewed and refined every ten years to account for ecological, oceanographic and other possible changes in an adaptive fashion. Two Action Plans comprising 11 actions are proposed: the Research and Monitoring Action Plan and the Education and Outreach Action Plan. The implementation of the Research and Monitoring Action Plan (REAP) is key to achieving the main goals of the SAWS concerning: (1) the assessment and addressing of threats; and (2) the monitoring of the recovery of whale populations, while the establishment of the Education and Outreach Action Plan (EOAP) is key to increasing the development of the non-extractive sustainable use of whales and to disseminate the information gathered for local, national and international communities. This Management Plan (MP) was designed to provide a scientific basis to facilitate the reviewing process regarding the effectiveness of SAWS in accordance with its objectives.

5.1 Outlines broad strategies and actions needed to achieve the Sanctuary's objectives

The Workshop **agreed** that the Management Plan generally outlines broad strategies and actions needed to achieve the SAWS objectives while recognising that certain aspects need to be further specified at the implementation stage. The Workshop participants welcomed the Management Plan and noted that this was one of the strengths of the SAWS proposal as it is the first time that a proposal to establish an IWC sanctuary provides a Management Plan.

5.2 Presents performance measures to measure progress toward achieving the Sanctuary's objectives

The Workshop participants agreed that the Management Plan does present a number of performance measures that would be used to measure progress against objectives but emphasised that the Management Plan as it stands should

be seen as a proposal of intent. It was **agreed** that if the Sanctuary proposal was approved by the Commission, a more detailed process to implement the Management Plan would first need to be established. It was therefore **recommended** that, should approval be forthcoming, a more detailed implementation plan be developed with the active and close involvement of the SC.

The Workshop participants noted that financial resources in particular are usually limited for the research required to generate the data and information needed for the performance measures listed. Therefore, some form of prioritisation would be necessary.

5.3 Evaluate whether performance measures of the South Atlantic Whale Sanctuary links objectives with field monitoring programmes (e.g. estimation of abundance and trends)

The Workshop participants noted that the SAWS Management Plan performance measures had been linked to field monitoring. However, they suggested that the two main tables in the Management Plan (IWC/66/08) which establish this link should be combined to make it more explicit. They also noted these performance measures are ambitious. The first table presents a number of actions to assess and address threats and to monitor population abundance and trends, listed as Goals 1 to 5 (Table 1, IWC/66/08, pp.64-69), whilst the second presents evaluation measures to assess the performance of these actions (Table 2, IWC/66/08, p.81). In discussion, it was recognised that the way the tables were presented made it difficult to link measures of success to each Action. A more efficient manner to assess performance is needed to define the indicators of success to each action in quantitative terms. A suggested template was presented with example data to illustrate how this could be achieved (see Annex D).

5.4 Includes a provision for periodic review and refinement to account for ecological, oceanographic and possibly other changes in an adaptive fashion

The Sanctuary Management Plan would be reviewed and refined every ten years to account for ecological, oceanographic and other possible changes in an adaptive fashion (as recommended by previous reviews of the SAWS proposal). The Management Plan does not give the details of this process but the proponents confirmed that a detailed review plan would be produced should the Sanctuary be established.

5.5 Other

The Workshop also discussed the potential for mitigation of threats to large whales under the provisions of any IWC Sanctuary. The potential to link Sanctuary proposal MPs to other IWC initiatives, such as the IWC development of Conservation and Management plans (CMPs), was also highlighted. It was suggested that a table could be included in Sanctuary proposal MPs that consists of a number of columns. The column headings might be as follows: 'threat', 'hypothesised role of Sanctuary in mitigating threat', 'empirical evidence (by species/stock)', 'management institutions with regulatory authority' and 'policy/regulatory change needed to fully address threat'. The species-specific threats (as table rows) might include, for example, by catch, entanglement, depredation, ship strikes, underwater noise, marine mining, pollution and marine debris, climate change and ocean acidification.

6. ASSESS THE EFFECTIVENESS OF THE SOUTH ATLANTIC WHALE SANCTUARY AND THE ADJACENT IWC SANCTUARIES

6.1 Protection of whales from human impacts in breeding, feeding and migratory areas

In reviewing whether the SAWS and adjacent Sanctuaries (the Southern Ocean and the Indian Ocean Sanctuaries) protect whales from human impacts, it was noted that the SAWS alone does not encompass the full range of some species and stocks, but that the SAWS, in combination with other existing Sanctuaries, would. It was also noted that while many sources of impact were listed in the SAWS proposal, these Sanctuaries only prevent whaling. Ongoing cooperation between the IWC and the International Maritime Organization (IMO) may provide a basis for Sanctuaries to address issues related to ship strikes, but other threats (e.g. incidental mortality, climate change) will remain.

It was noted that while the evaluation of the effectiveness of the Sanctuaries can be carried out for these collectively, individual evaluation is also needed. Simulation studies have suggested that partial Sanctuaries, covering only some stocks, constitute an improved approach to estimation of some parameters that are important for management, compared to full exploitation or all-encompassing Sanctuaries (Rademeyer and Butterworth, 2004).

6.2 International agreements

The Workshop noted the effectiveness of the SAWS and adjacent IWC Sanctuaries may be enhanced by cooperation with other international organisations such as the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and the IMO.

7. PROVIDE ADVICE ON WHETHER THE PROPOSED BOUNDARIES OF THE SANCTUARY ARE ECOLOGICALLY APPROPRIATE

The Workshop noted that the northern boundary of the SAWS proposal is not consistent with what is known from the distribution of some whale species in the eastern South Atlantic and thus full coverage would require the boundary to be extended further northwards. For example, a humpback whale population (labelled as IWC breeding stock B1) migrates seasonally to regions north of the Equator (which crosses the coast at Gabon), including as far north as Senegal and Guinea (14°N) (Van Waerebeek *et al.*, 2013). Many identified threats to this population also lie to the north of the Equator. Coastal human population densities in West Africa are very high, and artisanal fisheries are correspondingly extensive. Inshore oil and gas development is prevalent and increasing, as are ports and associated shipping. It is assumed that related threats like noise and pollution will also grow with increased development.

For other populations of large whales in this region there is little information beyond basic descriptions of occurrence and some information on spatial and temporal trends. Although limited, these accounts also suggest that the Equator boundary on the eastern side of the South Atlantic Basin may not be the most northerly extent of their distribution.

Whilst this does not mean that a Sanctuary south of the Equator has no value, the current Proposal and Management Plan (MP) state that boundaries are closely linked to whale distribution and critical habitats. However, for the Western African coast humpback whale population an important calving area exists north of the Equator (Van Waerebeek *et al.*, 2013).

The Workshop also noted that while many stocks of whales migrate to areas encompassed by the SAWS during the breeding season, they will move outside of the Sanctuary, towards the feeding grounds in the Southern Oceans, during the summer. However, these stocks would be protected by the SOS, which is contiguous to the SAWS.

8. USING EXAMPLES (e.g. SORP), EVALUATE IF THE SANCTUARY ALLOWS FOR AND ENCOURAGES CONDUCTING SCIENTIFIC RESEARCH

The Workshop **agreed** that a Sanctuary such as the SAWS has, in principle, the potential to encourage collaboration and to facilitate development of coordinated scientific research and monitoring programs relevant to meet IWC management and conservation goals. However, this is not always the case and it is difficult to determine whether this will occur with the SAWS. For example, it was noted that in the early stages of the Indian Ocean Sanctuary (IOS), Workshops to coordinate research were held but it was difficult to implement an effective research program because of limited capacity and resources for many range states. In contrast, the on-going research coordinated by the Southern Ocean Research Partnership (SORP) in the Southern Hemisphere demonstrates that there is now expertise within the Scientific Committee to generate effective, multi-national research programs capable of producing information relevant to the IWC within the Sanctuaries.

It was noted that there is limited evidence that the establishment of Sanctuaries could or would generate financial resources to address some of their goals or threats within the Sanctuary concerned, and that successes in this regard would vary by individual sanctuary or by region. In many cases, budget allocation is a function of economic benefit and if a Sanctuary does not bring net economic benefit (e.g. by increasing whalewatching revenue to the local economy), resources may not be allocated for research and management programs. There are examples in which protected areas have contributed to generate resources for research, but there are also examples where they have not.

9. ASSESS WHETHER THE SAWS IS CONSISTENT WITH THE PRECAUTIONARY APPROACH IN ACCORDANCE TO PRINCIPLE 15 OF THE 1992 RIO DECLARATION

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'. In discussion, it was noted that one possible linkage of the Sanctuary with the precautionary approach is to assume that where data are insufficient, the burden of proof rests with resource-users to demonstrate that stock status is sufficiently robust to withstand potential human impacts.

In discussion, it was noted that concepts underlying a Sanctuary are consistent with the precautionary approach. The concept of the precautionary approach is commonly invoked in the literature to justify the establishment of marine reserves and marine protected areas, particularly in cases where fisheries management strategies are said to have failed. It was noted however, that in many cases, 'failure' of fisheries management strategies has been a result of their not having been properly implemented.

It was noted that a possible approach to evaluate consistency of the SAWS with the precautionary approach is to assess how it applies to each individual threat within the Sanctuary, and if it could be properly implemented. This, however, would not allow for proper assessment of the cumulative effect of threats in combination. The resilience (ability to recover from depletion) of a stock could be reduced if it is subject to multiple sources of impact. In this sense, it was pointed out that the establishment of a Sanctuary would improve resilience if it contributes to reducing the impact of one or multiple threats to a stock.

10. EVALUATE WHETHER THE SOUTH ATLANTIC WHALE SANCTUARY ESTABLISHES REVIEW CRITERIA THAT REFLECTS THE GOALS AND OBJECTIVES OF THE SANCTUARY

The Workshop noted that the SAWS proposal presented review criteria that reflected the goals and objectives of the Sanctuary. Further comments to this point were addressed under Item 5 above, in discussion of the SAWS Management Plan.

11. ADOPTION OF THE REPORT

The report was adopted at 16:07 on 7 June 2016. The Chair acknowledged the participants for their contributions to the discussion and the participants thanked the Chair for her guidance during the meeting.

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Annex A

List of Participants

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Justin Cooke
Thais Coutinho
William de la Mare
Caterina Fortuna (SC Chair)
Pedro Fruet
Dan Goodman
Miguel Iñiguez

Jennifer Jackson
Russell Leaper
David Lundquist
Joji Morishita
Hideki Moronuki
Hiroto Murase
Naohito Okazoe
Debra Palka
Juan Pablo Paniego
Vincent Ridoux
Fabian Ritter

Lorenzo Rojas-Bracho
Salvatore Siciliano
Liz Slooten
Hawsun Sohn
Alex Zerbini
Kirill Zharikov

Invited Experts

Susie Grant
Leah Gerber
Steve Reilly

Annex B

Agenda

1. Introductory items
 - 1.1 Opening remarks
 - 1.2 Election of Chair
 - 1.3 Appointment of rapporteurs
 - 1.4 Adoption of the agenda
 - 1.5 Documents available
2. Review previous evaluations of the SAWS
3. Review the SAWS proposal and available information on status, trends and potential threats to whales in the Sanctuary
4. Identification and consideration of other measures to protect whales from human impacts within the Sanctuary area*
5. Review of the SAWS Management Plan and provide advice on whether the Plan
 - 5.1 Outlines broad strategies and actions needed to achieve the Sanctuary's objectives
 - 5.2 Presents performance measures to measure progress toward achieving the Sanctuary objectives
 - 5.3 Evaluate whether performance measures of the SAWS links objectives with field monitoring programmes (e.g. estimation of abundance and trends)
 - 5.4 Includes a provision for periodic review and refinement to account for ecological, oceanographic and possibly other changes in an adaptive fashion
 - 5.5 Other
6. Assess the effectiveness of the SAWS and the adjacent IWC Sanctuaries in terms of:
 - 6.1 Protection of whales from human impacts in breeding, feeding and migratory areas
 - 6.2 International agreements*
7. Provide advice on whether the proposed boundaries of the sanctuary are ecologically appropriate
8. Using examples (e.g. SORP), evaluate if the Sanctuary allows for and encourages conducting scientific research useful for:
 - 8.1 Providing advice towards meeting IWC conservation and management objectives
 - 8.2 Coordinated and integrated research and monitoring programmes across issues of global relevance (e.g. climate change, ship strikes, entanglement)
9. Assess whether the SAWS is consistent with the precautionary approach in accordance to Principle 15 of the 1992 Rio Declaration*
10. Evaluate whether the SAWS establishes review criteria that reflects the goals and objectives of the Sanctuary
11. Adoption of the report

REFERENCE

International Whaling Commission. 2016. Report of the Scientific Committee. Annex O. Report of the Working Group to Review Sanctuaries and Sanctuary Proposals. *J. Cetacean Res. Manage. (Suppl.)* 17:404-08.

*It was suggested these items would be better addressed by a joint SC/CC Workshop (IWC, 2016), but they were kept here for the Scientific Committee to address scientific aspects that may be relevant to these topics.

Annex C

Documents Available to the Meeting

IWC/66/08

Governments of Argentina, Brazil, Gabon, South Africa and Uruguay. The South Atlantic: A Sanctuary for Whales Presented to the 66th Meeting of the International Whaling Commission Portorož, Slovenia, October 2016.

For Information

1. International Whaling Commission. 2002. Report of the Scientific Committee. *J. Cetacean Res. Manage. (Suppl.)* 4: 1-78.
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3. International Whaling Commission. 2002. Chair's Report of the 53rd Annual Meeting. Annex E. Instructions from the Commission to Scientific Committee for Reviews of Sanctuaries. *Ann. Rep. Int. Whal. Comm.* 2001: 65.
4. International Whaling Commission. 2003. Report of the Scientific Committee. *J. Cetacean Res. Manage. (Suppl.)* 5: 1-92.
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8. International Whaling Commission. 2006. Report of the Scientific Committee. Annex R. Comments on Plenary Item 17: Whale Sanctuaries. *J. Cetacean Res. Manage. (Suppl.)* 8: 300-301.
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11. International Whaling Commission. 2016. Report of the Scientific Committee. Annex O. Report of the Working Group to Review Sanctuaries and Sanctuary Proposals. *J. Cetacean Res. Manage. (Suppl.)* 17: 404-408.
12. Hilborn, R. 2014. Introduction to Marine Managed Areas. *Advances in Marine Biology* 69: 13pp.
13. Garcia, S.M., Kolding, J., Rice, J., Rochet, M.J., Zhou, S., Arimoto, T., Beyer, J.E., Borges, L., Bundy, A., Dunn, D., Fulton, E.A., Hall, M., Heino, M., Law, R., Makino, M., Rijnsdorp, A.D., Simard, F. and Smith, A.D.M. 2012. Reconsidering the consequences of selective fisheries. *Science* 335 (6072): 1045-1047.

Annex D

Example of a Table to Combine Identifiable Objectives, Performance Measures, Priorities and Timelines for a Sanctuary Proposal Management Plan

Action	Species/ stock	Objective	Strategy	Indicator			Priority	Time scale ¹	Responsible party	
				Successful	Moderately					Un- successful
					Successful	Unsuccessful				
Goal 1: Maintain or increase current whale population sizes										
A1	All species	Zero deliberate whale catches in the Sanctuary.	(a) Maintain the existing international legal protection and management measures for whales. (b) Report to IWC infractions to the zero whale catches.	No whale catch identified		Many whales caught	High	Long- term	Government Agency	
							High	Medium- term	Dr. X	
A2	Species A, Stock Y	Reduce mortality due to entanglements in fishing gear.	(a) Evaluate the degree of overlap between fisheries and the distributions of whales.	Negative trend of whales (per unit of observation effort) reported dead due to entanglements.			Low	Medium- term	NGO B	

¹Define time scale (e.g. short-term=2 years, medium-term=5 years, long-term=10 years).