Managing Antarctic vessels - Avoiding future disasters
Managing Antarctic Vessels - Avoiding Future Disasters

Information Paper Submitted by ASOC\(^1\) to ATCM XXXII

Summary
This Information Paper calls on the ATCM to take urgent action to prevent environmental disasters in Antarctica from any more groundings, sinkings, fires or other accidents and incidents and in particular to:

- work within the IMO to review and extend the Guidelines for shipping in Arctic ice-covered waters and to work cooperatively to adopt a binding, mandatory legal instrument addressing vessels in Antarctic waters,
- undertake greater analysis of hazards and events of concern identified through the risk assessment process to ensure that all risks associated with vessels in Antarctic waters are addressed,
- seek an extension to the Antarctic Special Areas as agreed under MARPOL Annex I, II and V and assess the vulnerability of Antarctic waters under the IMO Particularly Sensitive Sea Area Guidelines,
- agree to further controls on sewage and greywater discharges and on the discharge of garbage from vessels operating in the area,
- agree to develop a vessel traffic monitoring and information system,
- recognise the importance of collaboration with national maritime experts participating in IMO processes and undertake to work closely to address the associated environmental impacts of all vessel activities in the area, including fisheries, the whaling fleet and ancillary vessels,
- urgently ratify and ensure full implementation of existing vessel instruments,
- increase inspections and controls over vessels operating in the Antarctic region in order to ensure strict compliance with the highest safety and environmental standards, and
- urgently ratify Annex VI of the Protocol on liability resulting from environmental emergencies.

1. Introduction
Shipping and fishing in the Southern Ocean continue to increase,\(^2\) leading to increased risks of incidents and potentially disastrous accidents in the Southern Ocean. In the latest summer season, two vessel groundings made headlines around the world. In early December 2008, the *MV Ushuaia* ran aground at the entrance to Wilhemina Bay,\(^3\) resulting in hull damage and the spillage of an unknown amount of fuel, and in February 2009 the *Ocean Nova* grounded, reportedly in extremely high winds, on the Western Antarctic Peninsula. Furthermore, there have been reports of a number of fishing vessels beset in ice in the Amundsen Sea in the past summer season. ASOC has previously provided information on several other recent incidents:\(^4\)

- The *M/S Explorer*, a commercial tourism vessel, sank in November 2007, spilling an unknown amount of fuel.

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\(^1\) Lead Author: Dr Sian Prior
\(^3\) The Panamanian flagged *MV Ushuaia*, built in 1970, grounded near Cape Anna in the NW Antarctic Peninsula on 4th December, 2008 and was evacuated. The ship was successfully refloated before returning to Punta Arenas for repairs.
\(^4\) See ATCM XXXI IP058
Two cruise ships: the *M/V Lybov Orlova* and the *M/V Nordkapp*, grounded at Deception Island in the South Shetland Islands in November 2006 and January 2007 respectively. The grounding of the *Nordkapp* resulted in hull damage and the spillage of an unknown amount of fuel.

The cruise ship *M/S Fram* lost power on December 30 2007 along the Antarctic Peninsula and drifted into an iceberg.

The trawler *Argos Georgia* drifted for 15 days after losing power while fishing in the Ross Sea off Antarctica’s northern coast on December 23 2007.

The *Nisshin Maru*, a Japanese whale processing ship, suffered an explosion and caught fire in February 2007, resulting in the loss of one life and loss of power for several days.

ASOC’s vision is for the highest standards for all vessels operating in the Antarctic region and a consistent set of best practices to be agreed upon, in legally binding instruments, to protect the sensitive environment and to avoid loss of human life. This paper reviews the latest developments and identifies a number of gaps requiring deliberation and further action.

Annexes IV and VI of the Environment Protocol (the latter not yet into force) are applicable for most shipping activities in the Antarctic Treaty Area. Competence for shipping and vessels operating in the southern ocean is shared by the Antarctic Treaty Consultative Meeting (ATCM) and the International Maritime Organization (IMO). ASOC is concerned that the work underway on vessels operating in Antarctic waters - at the ATCM, including through the IGC on vessels, and at various IMO bodies - will address only some of the existing problems in a piecemeal fashion.

ASOC continues to call for a comprehensive assessment of the full range of vessel activities in the region, and for the development of mitigation measures accordingly. Such an assessment should address the full range of threats, both accidental and operational.

At the last meeting of the IMO’s Marine Environmental Protection Committee (MEPC), ASOC proposed a joint Working Group of appropriate national representatives from the IMO and the ATCM to be formed to conduct a comprehensive assessment and to agree on further action, but this proposal was not fully supported. There remains a need for greater recognition of the importance of collaboration between the expertise of the ATCM and national maritime experts involved in IMO processes. Through closer cooperation ATCM proposals for consideration at the IMO can be developed to ensure the minimum of delay in their adoption, which will provide greater environmental protection and ensure safer shipping activities in the Southern Ocean on a faster basis.

### 2. Recent developments

**Review and extension of the IMO Guidelines for ships operating in Arctic ice-covered waters**

The report from an IMO Correspondence Group convened in 2008, will be considered by an IMO sub-committee which meets two weeks before ATCM, and the existing Maritime Safety Committee (MSC) / MEPC Guidelines will most likely be redrafted and extended to also cover Antarctic waters. The revised Guidelines are due to be considered further and adopted in May / June 2009. ASOC has for some time been calling for a legally-binding instrument to ensure that the highest standards of vessel design and operation are met for the operation of whaling vessels.
are applicable in Antarctic waters. We strongly welcome the US notification of its intention to propose a new work programme item for the MSC to develop the recommendations into mandatory requirements.

**ATCM Intersessional Contact Group on passenger vessels**
The Intersessional Contact Group (ICG) is investigating risks associated with passenger vessels. The primary areas of deficiency must be addressed and necessary measures must be identified so they can be addressed by the ATCM and be brought to the attention of the IMO.

ASOC is concerned that some important mitigation measures may be overlooked, including focusing on routing measures and protection of areas with higher risks. While it is important that work to reduce the risks identified to date progresses rapidly, ASOC would also like to see further analysis to ensure that the standards adopted for vessels in the Antarctic area are comprehensive and of the highest standard, and of course we would wish for those standards to become binding and mandatory.

The ICG’s work is important for the review of the extension to Antarctic waters of the Arctic Guidelines for ships operating in ice-covered waters. It will be important to ensure that the outcomes of the ICG are brought to the attention of the IMO’s MSC expeditiously.

**Ban on the use and carriage of heavy grade oil on ships operating in the Antarctic area**
The IMO sub-committee on bulk fuel and gases (BLG) will meet in early March 2009 to consider a proposal to ban the use and carriage of heavy grade oil in Antarctic waters. The discussion has been underway for some time, and ASOC is hopeful that an amendment to Annex I of MARPOL, which effectively bans the carriage and use of heavy grade fuel oil on ships operating in Antarctic waters, will be adopted in 2009.

**Environmental aspects and impacts of tourism and non-governmental activities in Antarctica**
CEP has said it intends to investigate the environmental aspects and impacts of Antarctic tourism and non-governmental activities, to include vessel routes. This work will be invaluable and should lead to the identification of areas to be avoided for safety and environmental purposes as well as possible controls over areas that continue to be used.

**Noise from commercial shipping**
The 58th session of the IMO’s Marine Environmental Protection Committee (MEPC) adopted a proposal to initiate a high-priority work programme on “Noise from commercial shipping and its adverse impacts on marine life” with a target completion date of three or four sessions. An intersessional correspondence group, coordinated by the United States, was approved and charged to identify and address ways to minimize the introduction of incidental noise into the marine environment from commercial shipping in order to reduce the potential adverse impact on marine life, and in particular to develop voluntary technical guidelines for ship-quieting technologies as well as potential navigation and operational practices. ASOC encourages the ATCPs to participate and urges consideration of ATCM adopting similar measures as the parameters of best practices for ship quieting become clear in the coming years.

**Ballast water management guidelines**
In 2006, ahead of full ratification and entry into force of the International Convention for the Control and Management of Ships’ Ballast Waters and Sediments, ATCPs adopted a Resolution implementing an interim Ballast Water Regional Management Plan for Antarctica in the form of practical guidelines to be used by all vessels entering the Antarctic Treaty area. The guidelines were also adopted by IMO’s Marine

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9 DE 52/9/2 Submission from the US
10 It is the process that will take time, and that it may be the most productive to first update the Arctic guidelines for use in the Antarctic, and then once that is done to take the necessary legal steps to agree on a binding Polar Code that is mandatory.
11 The report of the ICG is submitted to ATCM XXXII.
12 Through for example, the designation of areas to be avoided of areas to be avoided (ATBAs).
13 See ATCM Decision 8 (2005) on the use of Heavy Fuel Oil (HFO) in Antarctica.
14 MEPC 58/Inf. 19 submitted by Australia provides information on the levels of shipping noise from commercial shipping operations in Australia and the Antarctic oceans.
Environmental Protection Committee (MEPC) as Resolution MEPC. 163 (56) and in 2008, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) adopted Resolution 28/XXVII on ballast water exchange in the Convention on the Conservation of Antarctic Marine Living Resources Area, which extended the guidelines to vessels operating only in the Convention area north of 60°S.16

Ice training and certification
In 2008, Finland submitted a proposal17 to IMO’s Ship Design and Equipment sub-committee on the development of training courses on operation of ships in ice-covered waters, and in February 2009 Norway submitted a proposal18 to incorporate mandatory training and certification requirements for navigators on ships operating in ice conditions in the context of an ongoing revision of the IMO International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) adopted in 1978, which is being addressed by IMO’s Standards for Training and Watch-keeping (STW) sub-committee.19 At the last meeting in February 2009 a Correspondence Group was established to develop a preliminary proposed text for training guidance for personnel operating in Arctic and Antarctic ice-covered waters.

3. Additional issues to be addressed
In the absence of a comprehensive assessment of the threats from increased vessel activity in Antarctic waters, a number of matters still require attention.

Vessel routing and areas to be avoided
There are no routeing measures or “areas to be avoided” (ATBA) identified in Antarctic waters. Routeing measures are normally used for congested areas or difficult hydrographic conditions, while ATBAs are commonly identified for safety or for environmental purposes. The ICG’s risk assessment process identifies mandatory navigation routes for four of the six identified hazards. Mandatory routes and areas to be avoided can not only reduce the risk of accidents and minimise impact of routine vessel operations in environmentally sensitive areas but can also minimise the impact of vessel disturbance to marine mammals. ASOC is concerned that there is no process for further deliberation of these important management measures being used in the Antarctic.

Sewage
The increasing number of passenger ships and other vessels in the area leads inevitably to increased discharges of sewage and greywater. Even when treated, sewage and greywater contain pollutants and pathogens that are harmful to marine ecosystems, particularly in a pristine environment such as Antarctica. Stronger controls of sewage / greywater discharges could be addressed through amendments to Annex IV of the Environment Protocol and/or through Annex IV to the IMO MARPOL 73/78 Convention. Options for control measures for sewage/ greywater discharges are needed, including:

• banning all discharges of treated or untreated sewage or greywater from vessels operating south of 60°S (or even better, the CCAMLR Area), and certified to carry more than 10 people
• the creation of sewage / greywater “no discharge zones” in the most sensitive and biologically rich areas;20 and
• requiring advanced waste water treatment systems on board all vessels south of 60 degrees S.

16 ASOC would be pleased to learn from Parties how these obligations are being met and enforced.
17 DE 51/1/2 submitted by Finland on Ice operation training.
18 STW 40/7/24 and 40/7/25 submitted by Norway.
19 ATCM Recommendation XV-4 (Paris, 1989) on “Human impact on the Antarctic environment: Prevention, control and response to marine pollution” requests Parties to take measures within their competence necessary to ensure compliance by all their vessels engaged in or supporting Antarctic operations with the relevant provisions of several conventions, including International Convention on Standards of Training, Certification and Watchkeeping for Seafarers with Annex, 1978, (the STCW Convention).
20 Such as within a stated distance of the ice face, in or adjacent to ASPAs and ASMAs, near to important wildlife populations, and within marine protected areas.
Garbage
The disposal of garbage from vessels remains a problem, both on shores and in wildlife bird colonies. Rubbish is mainly from fishing boats and the disposal of fishing gear, but there are a lot of plastic bottles in some areas. The IMO is currently reviewing MARPOL 73/78 Annex V, which addresses garbage, to determine if the Annex needs updating or if the guidelines on garbage disposal require review and amendment. Since all disposal of plastic wastes from ships into the ocean is banned, and disposal of most other forms of garbage is banned within a designated MARPOL Special Area such as the Antarctic Treaty Area, it is clear that the primary focus for further activity in the Antarctic is enforcement. However, it should be noted that two of five sites from which data is provided – Bird Island and the Prince Edward Islands – fall outside of the MARPOL Special Area but within the area managed by CCAMLR. ASOC believes that an extension to the MARPOL Antarctic Special Area is required to cover the whole area south of the Antarctic convergence. Further action within the IMO framework is necessary to extend the Antarctic Special Area, and other fora for further action on enforcement of existing provisions should be considered, including CCAMLR and the FAO. ASOC believes that improved enforcement of existing provisions must be explored further, including the development of clearer directions regarding onboard retention within the Antarctic Treaty Area and the use of reception facilities.

Special Area / Particularly sensitive sea area
The sensitivity and vulnerability of the Antarctic area to vessel operations has been well established and in recognition of certain potential adverse impacts from vessels the IMO designated the Antarctic Area south of 60°S as a Special Area. The existing Special Area boundary should be extended to coincide with the Antarctic convergence for the purposes of all three MARPOL Annexes. Also, particularly sensitive sea areas (PSSAs) have been identified outside Antarctica, and protective measures identified. A vulnerability assessment of the potential impacts to Antarctic waters from vessels should be undertaken to determine how best to proceed to address any outstanding vulnerabilities. These should include identification of appropriate routing measures and the identification of areas to be avoided for the most sensitive of sites.

Addressing / minimizing the associated environmental impact of whaling operations
The conduct of whaling operations and their ancillary activities, such as refueling at sea and offal discharge, raise significant maritime safety an environmental protection issues. Whaling operations in the Southern Ocean generate significant marine pollution as a result of discarding several thousand tones of whale offal and other incidental waste annually. Whaling operations also carry significant environmental risk as they are conducted in challenging sea and ice conditions through a large and diverse fleet of vessels (including sighter, catcher, factory and resupply vessels), not all of which are of ice class and not all of which are flagged to ATCS parties. While in the past few years, ATCM has initiated efforts to increase safety of tourist vessels in the Antarctic area, so far little or no attention has been paid to safety and environmental standards of whaling operations. The issue of safety of whaling operations and their associated environmental risks has attracted the attention of ATCM 30 in 2007 in the aftermath of the fire on board of the Nisshin Maru, but no concrete actions have been taken as a result.

Antarctic vessel traffic monitoring and information system
There needs to be a comprehensive system of vessel traffic monitoring for Antarctic vessels, to include vessels’ relevant characteristics. This is essential to establish, apply and enforce better standards for vessels and for improving the ability of Maritime Rescue Coordination Centres to respond to maritime safety (search and rescue) and environmental incidents in the Antarctic area. Vessel routing, monitoring and control measures need to be considered for areas where there is uncertainty about ice flows or hydrographic conditions, particularly the busiest areas frequented by commercial tourism vessels.

Implementation and enforcement
The success of any new measures and provisions to improve shipping safety and environmental protection in the Southern Ocean will only be as good as the processes installed at a national level, be it flag state, port

22 See a proposal to extend the Antarctic Special Area submitted by the US, ATCM XXII WP015.
23 Under MARPOL 73/78 Annexes I, II and V.
24 The whaling fleet has operated, for instance, far south into the Ross Sea.
state or permitting authority, for implementation and enforcement. A recent assessment by ASOC\textsuperscript{26} of the ratification of a number of primary IMO instruments of importance to shipping activity in the Southern Ocean and which address safety and environmental protection indicates that there is considerable work remaining to be done by ATCPs.

**Further issues requiring detailed consideration**

In light of the ongoing pressures exerted on the Southern Ocean from increasing shipping activity and the number of recent developments within fora such as IMO, ATCM should ensure ongoing continuous review of the adequacy and currency of its marine pollution prevention measures within the terms of Annex IV to the Protocol on Environmental Protection.

A further area that would benefit from review by ATCM, for relevance to the Antarctic Treaty Area, concerns the IMO’s compensation and liability conventions, particularly those conventions and protocols addressing oil pollution, hazardous and noxious substances and bunker fuel oil. ATCM should consider the appropriateness of adopting the IMO’s compensation and liability conventions in order to achieve a compensation and liability regime that fulfils the requirements of Article 16 of the Protocol on Environmental Protection. In addition, Parties should redouble their efforts to ensure that Annex VI of the Protocol - on Liability Arising from Environmental Emergencies - enters into force as a matter of urgency.\textsuperscript{27}

**4. Action at XXXII ATCM**

This ATCM should commit ATCPs to:

- work within the IMO to review and extend the Guidelines for shipping in Arctic ice-covered waters and to work cooperatively to adopt a binding, mandatory legal instrument addressing vessels in Antarctic waters.
- undertake greater analysis of hazards and events of concern identified through the risk assessment process to ensure that all risks associated with vessels in Antarctic waters are addressed.
- seek an extension to the Antarctic Special Areas as agreed under MARPOL Annex I, II and V and assess the vulnerability of Antarctic waters under the IMO Particularly Sensitive Sea Area Guidelines.
- agree to further controls on sewage and greywater discharges and on the discharge of garbage from vessels operating in the area.
- agree to develop a vessel traffic monitoring and information system.
- recognise the importance of collaboration with national maritime experts participating in IMO processes and undertake to work closely to address the associated environmental impacts of all vessel activities in the area, including fisheries, the whaling fleet and ancillary vessels (such as refuelling and offal discharge).
- urgently ratify and ensure full implementation of existing vessel instruments.
- increase inspections and controls over vessels operating in the Antarctic region in order to ensure strict compliance with the highest safety and environmental standards.
- quickly ratify Annex VI of the Protocol on Liability Resulting from Environmental Emergencies.

\textsuperscript{26} See MEPC 58/8 submitted by Friends of the Earth International (FOEI), Greenpeace, International Fund for Animal Welfare (IFAW) and Greenpeace.

\textsuperscript{27} Annex VI was signed in 2005 after more than a decade of negotiations. To date (March 2009) only Sweden and Peru have ratified Annex VI. Article 16 of the Protocol requests Parties to elaborate rules and procedures relating to liability for damage arising from activities taking place in the Antarctic Treaty area and covered by the Protocol. Those rules and procedures shall be included in one or more Annexes. ASOC regards Annex VI as a first step in addressing the liability issue.