Manual of Regulations and Guidelines Relevant to Tourism and Non-Governmental Activities in the Antarctic Treaty Area

Ready to print version. Updated June 2023

The first edition of this manual was prepared by the Antarctic Treaty Consultative Parties through the work of a group of Informal Discussions on the elaboration of a Manual of Regulations and Guidelines Relevant to Tourism and Non-Governmental Activities, and compiled by the Antarctic Treaty Secretariat, in accordance to Decision 6 (2019). The Secretariat systematically updates this Manual according to new Measures, Resolutions or Decisions applicable to tourism activities adopted by Antarctic Treaty Consultative Meetings (ATCM).

Introduction

a) Background

Based on a proposal contained in WP 51[1] submitted to ATCM XLII (2019), the Parties agreed, through Decision 6 (2019), to elaborate a "*Manual of Regulations and Guidelines Relevant to Tourism and Non-Governmental Activities in the Antarctic Treaty Area*" and to task the Antarctic Treaty Secretariat (ATS) with compiling, producing and making the Manual available to them. The Parties assisted the Secretariat in this task through an online forum hosted on the Secretariat's website. Decision 6 (2019) also stated that the Manual would be a digital document.

The Manual is available in the following formats:

- A "synoptic digital" version, containing only the name of each provision and a hyperlink to its full text.
- A "ready to print" version, containing the same provisions, along with explanatory texts, and the full provisions in an appendix; and
- A leaflet, intended to provide vessel-based operators with a synoptic and user-friendly tool.

Finally, through Decision 6 (2021) the Parties agreed to make available the Manual (on its two versions and the Tourist Leaflet) on the ATS website. And, consistent with Decision 6 (2019), all these three materials will be simultaneously updated by the Secretariat upon request from the Antarctic Treaty Consultative Meeting (ATCM).

General Principles

The manual is intended to be a practical tool making it easier for users to access the different applicable provisions. This manual gathers in a single document, all relevant documents addressing tourism and non-governmental activities.

[1] WP51 *Compiling a manual on tourism and non-governmental activities in Antarctica* – France, Argentina, United States – ATCM XLII, 2019

The manual also refers to texts that have been adopted outside of the Antarctic Treaty System and have an impact on Antarctic activities (for example, the SOLAS Convention, the MARPOL Convention, the Polar Code, etc.). A list of these texts is included in this Manual, with links to the relevant external websites, which direct the reader to the relevant authorities responsible for updating those texts.

In order to facilitate updates and access, this Manual is accessible on the ATS's website in.pdf version and will be periodically updated by the Secretariat. This Manual does not offer or represent an official interpretation of the underlying instruments or alter the referenced source material. As a courtesy, it is provided as a practical tool for visitors to and operators in the Antarctic Treaty region.

b) Goals of the Manual

The overall goal of the manual is to improve knowledge of – and therefore compliance with – the provisions applicable to tourism and non-governmental activities in the Antarctic.

The document is intended for a wide target audience, given the risks of conflicts of use in the Treaty area. This includes National competent authorities; tour operators and visitors; and other stakeholders.

Likewise, specific goals of this manual include, *inter alia*, to:

- Improve the accessibility of texts (by compiling them in a single document)
- Identify obsolete or redundant provisions for the ATCM to consider deleting through existing procedures

c) Current provisions applicable to Antarctic tourism

The current source of provisions applicable to Antarctic tourist activities consists in the first place on the provisions of the Antarctic Treaty System, which include the Antarctic Treaty, the Madrid Protocol and its Annexes, as well as the many Measures, Decisions and Resolutions (and, previous to 1995, also Recommendations)[2] adopted at ATCMs that deal directly with tourism-related issues or that have an impact on these activities. In addition, because the vast majority of Antarctic tour activities is currently ship-based, relevant provisions come also from international instruments under the International Maritime Organization (IMO).

Therefore, the following sources have been used:

1- The Antarctic Treaty states that Antarctica shall be used for peaceful purposes only (Art. I) and stipulates that each Contracting Party shall inform the other Contracting Parties, and thereafter shall give them notice in advance, of all expeditions to Antarctica organized in or proceeding from its territory (Art.VII.5).

[2] *After Decision1 (1995), measures adopted by the ATCM (previously called "Recommendations") were divided into three categories: "Measures", "Decisions" and "Resolutions". Measures, Decisions and Resolutions, which are adopted at the ATCM by consensus, give effect to the principles of the Antarctic Treaty and the Environment Protocol and provide regulations and guidelines for the management of the Antarctic Treaty area and the work of the ATCM. Decisions, which address internal organizational matters of the ATCM, and Resolutions, which are hortatory texts, are not legally binding on Contracting Parties. In contrast, Measures are legally binding on the Consultative Parties once they have been approved by all Consultative Parties.*

2- The Protocol on Environmental Protection to the Antarctic Treaty (and its Annexes) is applicable to tourism. After the Protocol, activities in the Antarctic are subject to a number of obligations and procedures related to Environmental Impact Assessment, protection of fauna and flora, waste management, marine pollution from ships, and protected areas.

3- A number of ATS provisions also apply to tourism as they do to any other activity south of 60°S Latitude. These include, for instance, requirements for exchanging information and guidelines on different matters attached to provisions adopted by the ATCM[3].

4- The ATS provisions specifically applicable to tourism consists of, generally speaking, codes of conduct or behavioural guidelines and reporting requirements connected to the exchange of information system in place within the ATS. Other issues covered by ATS regulatory provisions applicable to tourism operations also include guidance and tools to assist in the conduct of different aspects of tourist activities. These provisions adopted the form of Recommendations (up to 1995), Measures, Resolutions and Decisions (as of 1995), depending on its nature.

5- Finally, relevant provisions come also from IMO agreements, including the International Convention for the Prevention of Pollution from Ships (MARPOL, 1973/78), the International Convention for the Safety of Life at Sea (SOLAS, 1974), the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW, 1978/1995), and the International Code for Ships Operating in Polar Waters (the Polar Code[4]), which is mandatory under both together SOLAS and MARPOL Conventions (http://www.imo.org). Among these provisions, the IMO's "Enhanced contingency planning guidance for passenger ships operating in areas remote from Search and Rescue facilities" (MSC.1/Circ/1184) is also relevant as Resolution 6 (2008) recommends that Parties encourage operators of tourist vessels to consider this measure in planning their activities.

d) General structure and content

The present Manual is divided into three main sections: one containing provisions addressed primarily to National Competent Authorities –NCAs- (Section A), another with those relating to tour operators (Section B) and the third one (Section C) addresses both NCA and Tour operators and contains references to legal instruments adopted outside the ATCM framework. This three-section format is intended to allow for an easier and quicker accessibility of the Manual.

In turn, Sections A and B are divided into three chapters. The first three chapters (numbered A.1 to A.3 in Section A, and B.1 to B.3 in Section B) are structured around the steps usually followed by an activity in Antarctica and incorporate references to all the ATCM provisions related to Tourism and

[3] *For example, Guidelines on Environmental Impact Assessment, Guidelines on Contingency Planning, Insurance and Other Matters for Tourist and Other Non-Governmental Activities in the Antarctic Treaty Area and Guidelines for the Operation of Aircraft Near Concentrations of Birds in Antarctica, among others. Be aware that some of these guidelines and other guidance material might be revised and updated on a periodical basis by the ATCM.*

[4] *The Polar Code, adopted in November 2014, covers the full range of design, construction, equipment, operational, training, search and rescue and environmental protection matters relevant to ships operating in waters surrounding the two poles.*

Non-Governmental activities that apply to each group of main users (NCAs and tour operators, respectively).

Finally, Appendix 1 contains a full list of the ATCM provisions included in the Manual.

The Manual is then structured as follows:

SECTION A: National Competent Authorities

Chapter A.1: Planning the activity

a) General considerations about Antarctic Tourism and Non-Governmental Activities

Resolution 7 (2009) *General Principles of Antarctic Tourism*

It contains general principles to inform and guide work in managing Antarctic tourism activities. These include considerations on, among other things, the need for these activities to be conducted in accordance with the Antarctic Treaty System, the need to avoid long-term degradation of the Antarctic environment and values; the priority accorded to scientific research in relation to all tourism activities; the need to proactively develop regulations relating to tourism activities; and the need for cooperation, coordination and sharing information, and for the promotion of educational values of Antarctica.

> *This Resolution also applies to Chapter A.1. section d) Issues related to emergency and contingency plans, safety and insurance and Chapter A.2. section d) Provisions for the protection of fauna and flora*
>
> *In addition, this Resolution applies to Chapter B.1, sections a) General Considerations about Tourism and Non- Governmental Activities, d) Issues related to emergency and contingency plans, safety and insurance and Chapter B.2, section d) Provisions for the protection of fauna and flora.*

Resolution 5 (2007) Long-term effects of tourism

Parties should discourage any tourism activities which may substantially contribute to the long-term degradation of the Antarctic environment and its dependent and associated ecosystems. Operators and participants of tour activities should be fully conversant with, and adhere to, the advice contained in this resolution.

Resolution 11 (2012) Checklist for visitors' in-field activities

This checklist is aimed to support inspections under Article VII of the Antarctic Treaty and Article 14 of the Madrid Protocol, and the issues included herein this checklist are to supplement (but not be a substitute for) information obtained from environmental assessment processes, information exchange, reports by Parties and Experts to the ATCM and CEP, and from documented industry practices and procedures (where applicable). This checklist is neither exhaustive nor prescriptive and is intended for guidance purposes only. The ATCM recommended Parties to encourage its use.

Resolution 5 (2022) Permanent facilities for tourism and other non-governmental activities in Antarctica

This resolution recommends that Parties make every effort to prevent, and not authorise, permit or approve, the construction and/or exploitation of any structure or facility exclusively for tourism and other non-governmental activities to be operated in Antarctica over multiple seasons, where its construction, operations or removal is expected to have more than a minor or transitory impact on the Antarctic environment.

b) *Information Exchange and Advance Notifications Requirements*

This subsection includes regulation for both Parties and Operators, relating to the type of information they should submit to the ATCM and the appropriate national authorities, respectively, in advance to the start of operations in Antarctica.

Antarctic Treaty

Article VII.5 requires each Party to freely exchange information about its activities by giving advance notice of, among others, all expeditions to Antarctica organized in or proceeding from its territory. This requirement was later elaborated in various measures of the Antarctic Treaty Consultative Meeting.

As this requirement was later elaborated in various measures of the Antarctic Treaty Consultative Meeting, you should also see below *Decision 5 (2022)* and *Resolution 3 (1997)*

Protocol on Environmental Protection to the Antarctic Treaty

Article 17: *Annual Report by Parties* establishes that each Party shall report annually on the steps taken to implement the Environment Protocol, including, *inter alia*, information on the establishment of contingency plans for response to incidents with potential adverse effects on the Antarctic environment.

Recommendation XVIII-1 (1994) Tourism and Non-Governmental Activities

Attachment A of this recommendation details the information organisers should provide to the appropriate national authorities in advance to the start of their operations in Antarctica. Such information should be reported in a standard form, according to Resolution 3 (1997) *Standard form for advance notification and post-visit reporting on Tourism and Non-Governmental Activities. (see below)*

Resolution 3 (1997) Standard form for advance notification and post-visit reporting on Tourism and Non-Governmental Activities

This Resolution recommends Parties that a standard form be used for Advance Notifications (and also Post-Visit Reporting) on tourism and non-governmental activities in Antarctica in order to obtain consistent information that will facilitate analysis of the scope, frequency and intensity of tourism and non-governmental activities. See Section on Advance Notifications.

Resolution 6 (2010) Improving the co-ordination of maritime search and rescue in the Antarctic Treaty area

Through this Resolution, the ATCM recommends that Parties recognise the importance of ensuring the effectiveness of Search and Rescue (SAR) efforts by making available in advance vessel schedules of tourist operators to the Secretariat (e.g. through the EIES) which then would be available to all MRCC to access.

This Resolution also applies to Chapter A.2. During the Activity, section g) Reporting Requirements

Decision 5 (2022) Information Exchange Requirements

The list of the information agreed to be exchanged by Parties is included under this Decision. Be aware that this list is periodically reviewed and updated.

According to this Decision, Parties should provide Pre-season Information on Non-governmental Expeditions as early as possible, preferably by 1 October, and in any event no later than the start of the activities being reported. Information on NGOs activities should include details on vessel and land-

based operations, as well as on proposed aircraft activities, on any likely previous denial of authorizations and on any proposed visit to protected areas.

This information should be provided to the Electronic Information Exchange System (EIES) as established by Decision 4 (2012) *Electronic Information Exchange System*. See particularly Section 1.1.2 Non-Governmental Expeditions, and, if applicable, Section 1.2. Visits to Protected Areas.

This Decision also applies to Chapter A.3. After the expedition, section a) Information Exchange Requirements

c) Provisions concerning Environmental Impact Assessments[5]

Protocol on Environmental Protection to the Antarctic Treaty

Article 3: Environmental Principles establishes a number of environmental principles which can be considered a guide to environmental protection in Antarctica and its dependent and associated ecosystems.
To give effect to the above over-arching principle, Article 3.2(c) requires that "activities in the Antarctic Treaty area shall be planned and conducted on the basis of information sufficient to allow prior assessments of, and informed judgements about, their possible impacts on the Antarctic environment and dependent and associated ecosystems and on the value of Antarctica for the conduct of scientific research".

Article 8: *Environmental Impact Assessment* introduces the term "Environmental Impact Assessment" and provides three categories of environmental impacts (less than a minor or transitory impact, a minor or transitory impact and more than a minor or transitory impact), according to their significance. The Article also requires that activities proposed to be undertaken in Antarctica shall be subject to the prior assessment procedures set out in Annex I to the Protocol.

See in particular Article 3: Environmental Principles, and Article 8: Environmental Impact Assessment. Also please check its Annexes:

Annex I to the Protocol: Environmental Impact Assessment

Annex I provides a more comprehensive explanation of the three different environmental impact categories and establishes a set of basic principles to conduct an EIA for planned activities in Antarctica. In addition, it sets up a preliminary stage for assessing the environmental impact of Antarctic activities, which is intended to determine if an impact produced by a certain activity is less than minor or transitory or not. Such a determination must be accomplished through the appropriate national procedures.

According to the results of the preliminary stage, or subsequent evaluations if required, the activity can either proceed (if the predicted impacts of the activity are likely to be less than minor or transitory); or be preceded by an Initial Environmental Evaluation (IEE), if predicted impacts are likely

[5] *The Antarctic Treaty Secretariat keeps an Environmental Impact Assessment database which can be visited at:* https://www.ats.aq/devAS/EP/EIAList?lang=e

to be no more than minor or transitory; or be preceded by a Comprehensive Environmental Evaluation (CEE), if the predicted impacts are to be more than minor or transitory.

As Annexes II to V to the Protocol contain key elements that should be carefully considered when preparing an EIA[6], references to them are included below.

Annex II: Conservation of Antarctic Fauna and Flora

Annex III: Waste Disposal and Waste Management

Annex IV: Prevention of Marine Pollution

Annex V: Area Protection and Management

Specific provisions of these five Annexes applicable to Antarctic Tourism are included again in appropriate sections of this Manual.

Resolution 1 (2016) Revised Guidelines for Environmental Impact Assessment in Antarctica

The latest update of these guidelines is included under this Resolution. Be aware that they are periodically subject to a review process.

The objective of these Guidelines is to achieve transparency and effectiveness in assessing environmental impacts during the planning stages of possible activities in Antarctica, as well as consistency of approach in fulfilling the obligations of the Protocol.

Specifically, the guidelines aim to:

- assist in determining the proper level of EIA document (according to the Protocol) to be prepared and in the consideration of cumulative impacts relevant to the proposal;
- facilitate co-operation and co-ordination in EIA for joint activities, and comparison of EIAs for similar activities and/or environmental conditions;
- where appropriate, assist proponents to give consideration to: a) the possible implications of climate change for proposed activities and their associated environmental impacts; b) risks of introduction or dissemination of non-native species associated with proposed activities;

This Resolution also applies to Chapter B.1. Section c) Provisions concerning Environmental Impact Assessment.

Resolution 9 (2012) The Assessment of Land-Based Expeditionary Activities

In case land-based activities are considered, Parties have prepared a set of questions that National Competent Authorities may find helpful to consider as part of the authorisation process for such activities, to ensure full compliance with the Protocol on Environmental Protection and other relevant ATCM instruments.

[6] *These Annexes establish that certain activities are prohibited or regulated, while others require a permit issued by National appropriate authorities before proceeding.*

These questions cover a broad range of aspects: General Environmental Issues, Contingency Plans, Health and Safety, Liaison with other Competent Authorities and Treaty Parties and Education and Outreach. The list of questions is neither exhaustive nor prescriptive and is intended for guidance purposes only.

This Resolution also applies to Chapter B.1. Section c) Provisions concerning Environmental Impact Assessment.

Resolution 3 (2004) Tourism and Non-Governmental Activities: Enhanced Cooperation amongst Parties

Through this resolution, the ATCM recommend that Parties exchange information about tourism and non-Governmental activities in Antarctica during the process of evaluating such activities and, where applicable, prior to any decision to authorise the activity or permit to proceed. This is particularly relevant where Parties are notified, or become aware, of an activity involving a vessel or aircraft flagged or registered with another Treaty Party; or where the organisers are nationals of another Treaty Party.

Resolution 6 (2014) Toward a Risk-based Assessment of Tourism and Non-governmental Activities

By means of this resolution, the ATCM recommends Parties' Governments to encourage operators to utilise a risk-based assessment process as a planning tool; and to take into account a risk-based assessment developed by operators as part of the authorisation or comparable regulatory process, consistent with their national legislation and as appropriate for tourism and non-governmental activities in Antarctica.

Resolution 4 (2018) Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica

These guidelines are aimed to assist implementation of Environmental Impact Assessment (EIA) requirements and aid decision-making for use of RPAS in order to help minimize impacts on the environment and to assist users in meeting their obligations under the Protocol, through provision of guidance based on current best available knowledge.

The Guidelines take into account different stages of the operation of RPAS in Antarctica. In particular, a number of considerations and requirements, on the, inter alia, the Madrid Protocol, the RPAS Characteristics and the Operator experience, were included in a Pre-deployment Planning and Environmental Impact Assessment (EIA) stage.

This Resolution also applies to Chapter A.1. Planning the Activity; section f) Air operations and Chapter A.2. During the Activity, sections c) Air Operations, and d) Provisions for the protection of fauna and flora

In addition, this Resolution applies to Chapter B.1. Planning the Activity; sections c) Provisions Concerning Environmental Impact Assessments, f) Air Operations, and Chapter B.2. During the activity, sections c) Air Operations and d) Provisions for the Protection of fauna and flora

Resolution 4 (2016) Non-native Species Manual

The overall objective of this Manual is to protect Antarctic biodiversity and intrinsic values by preventing the unintended introduction to the Antarctic region of species not native to that region,

and the movement of species within Antarctica from one biogeographic zone to any other. The Manual states that the risk of non-native species introductions should be identified and addressed in the planning of all activities, including through the environmental impact assessment (EIA) process under Article 8 and Annex I to the Protocol. Those organising, conducting and participating in Antarctic activities are encouraged to use it.

This Resolution also applies to Chapter A.2. During the Activity, section d) Provisions for the protection of fauna and flora.

In addition, this Resolution applies to Chapter B.1. Planning the Activity; section c) Provisions concerning Environmental Impact Assessments and Chapter B.2. During the Activity, Section d) Provisions for the protection of fauna and flora

d) Issues related to emergency and contingency plans, safety and insurance

Resolution 6 (2008) Enhancing the role of Maritime Rescue Coordination Centres with Search and Rescue Regions in the Antarctic Treaty Area

It recommends that Parties, in accordance with their national laws, encourage operators of tourist vessels to consider the IMO's "Enhanced contingency planning guidance for passenger ships operating in areas remote from SAR facilities" (MSC.1/Circ/1184) in planning their activities.

This Resolution also applies to Chapter A.2. During the Activity, section g) Reporting requirements

In addition, this Resolution applies to Chapter B.1. Planning the Activity. Section d) Issues related to emergency and contingency plans, safety and insurance, and Chapter B.2. During the activity. Section g) Reporting requirements.

Measure 4 (2004) Insurance and Contingency Planning for Tourism and Non-governmental Expeditions in the Antarctic Treaty Area

It asks Parties to require tour operators drawing up and putting in place appropriate contingency plans and sufficient arrangements for health and safety, search and rescue (SAR), and medical care and evacuation prior to the start of the activity, including adequate insurance or other arrangements to cover any costs associated with SAR and medical care and evacuation. Measure 4 (2004) is not yet in force[7].

Resolution 6 (2017) Guidelines on Contingency Planning, Insurance and Other Matters for Tourist and Other Non-Governmental Activities in the Antarctic Treaty Area

The latest update of these Guidelines, which took note of the entry into force of the International Code for Ships Operating in Polar Waters (Polar Code), is included under this Resolution. Be aware that they may be reviewed in the future.

[7] *Measure 4 (2004) is currently not yet in force, as their approval is still pending by a number of Parties. By the time it was agreed, the Parties, aware of the fact that some time would be needed to this Measure to enter into force and desiring to promote its objectives and principles, adopted Resolution 4 (2004) "Guidelines on Contingency Planning, Insurance and Other Matters for Tourist and Other Non-governmental Activities in the Antarctic Treaty Area", which were later superseded by Resolution 6 (2017).*

This Resolution –very similar to the text of Measure 4 (2004) - recommended that those organising or conducting tourist or other non-governmental activities in the Antarctic Treaty area should ensure that appropriate contingency plans and adequate insurance or other arrangements were in place to cover any costs associated with search and rescue and medical care and evacuation. This Resolution also included some guidelines aimed to set up appropriate requirements for safety measures to bet put in place while conducting activities without the supervision or support in the field of another operator or a national programme, and for the need to ensure adequate skills and capabilities of thoseparticipating of such activities.

This Resolution also applies to Chapter B.1. Section d) Issues related to Emergency and Contingency Plans, Safety and Insurance

Resolution 7 (2009) General Principles of Antarctic Tourism

Specifically related to safety issues, General Principle #5 recommends that all operators conducting tourism activities in Antarctica should be encouraged to cooperate with each other and with the Antarctic Treaty Parties to coordinate tourism activities and share best practice on environmental and safety management issues. See General Principle #5, specifically related to safety issues.

This Resolution also applies to Chapter A.1, section a) General Considerations about Tourism and Non-Governmental Activities and Chapter A.2. Section d) Provisions for the protection of fauna and flora.

In addition, this Resolution applies to Chapter B.1, sections a) General Considerations about Tourism and Non- Governmental Activities, d) Issues related to emergency and contingency plans, safety and insurance and Chapter B.2, section d) Provisions for the protection of fauna and flora.

e) Yachting Activities

Resolution 10 (2012) Yachting Guidelines

This resolution incorporates two different elements: the *Checklist of yacht specific items for preparing safe Antarctic voyages*, which is attached to the Resolution, and the *Yachting Guidelines for Antarctic Cruises,* placed on the ATS website, by request of the Resolution.

Both are intended to ensure the yacht and vessel safety in the Southern Ocean and to minimize the possible risk of accidents and the resulting harm to both persons and the environment.

The intention of the *Checklist of yacht specific items for preparing safe Antarctic voyages* is to support those planning yacht operations, and to provide guidance as to appropriate standards for Antarctic yacht operation, equipment of the yacht, experience and training of the crew, etc.).

The *Yachting Guidelines for Antarctic Cruises* compiles in a single document a number of considerations and recommendations relating to yacht operations in Antarctica, including the regulatory framework and permits, a description of the particular conditions in the Antarctic cruising area, aspects connected to vessel selection, equipment and operational and itinerary plannings, and environmental and further safety considerations.

Resolution 10 (2012) recommends Parties to urge all those intending to undertake a yacht visit to Antarctica to take into account in planning their voyage *the Checklist of yacht specific items for preparing safe Antarctic voyages* and, as appropriate, the *Yachting Guidelines for Antarctic Cruises*.

In addition, this Resolution recommends the Parties, consistent with their national law and as they consider appropriate, to utilise the *Checklist of yacht specific items for preparing safe Antarctic voyages* when assessing proposed yacht visits to Antarctica; and to provide details (contact details of national competent authorities and relevant Maritime Rescue Co-ordination Centres) to the Secretariat, to enable it to maintain on its website in conjunction with the *Yachting Guidelines for Antarctic Cruises*.

This Resolution also applies to Chapter B.1. Section e) Yachting activities

Resolution 1 (2003) Advice to vessel and yacht operators

This Resolution states that yacht and vessel operators, in relation to the obligations set out in the Environment Protocol and, in particular, its Annex IV (Prevention of Marine Pollution), should also seek advice in the form of, for example, Antarctic "Sailing Directions", "Marine Notices", or "Pilots". These publications provide important safety related information, general guidance and details about changes to legislation to the shipping and maritime community, as well as essential information to support port entry and coastal navigation for all classes of ships at sea, covering the world's main commercial shipping routes and ports.

This Resolution also applies to ***Chapter B.1. Section e) Yachting activities***

f) Air operations

Resolution 3 (2022) Air safety in Antarctica

It contains a number of recommendations aimed to ensuring and improving the safety of air operations in the Antarctic Treaty area. These include, *inter alia*, the need to exchange information about planned air operations –including non-governmental flights- among Parties, the recommended use of COMNAP's Antarctic Flight Information Manual (AFIM) by all pilots filing a flight plan for flights to Antarctica, and the designation of Primary and Secondary Air Information Stations (PAIS and SAIS) to ensuring mutual awareness of current air operations. See in particular points 6 and 7 of this resolution.

This Resolution also applies to Chapter A.2. During the activity, section c) Air Operations.
In addition, this Resolution applies to Chapter B.1. Planning the activity. Section f) Air Operations and Chapter B.2. During the Activity. Section c) Air Operations

Recommendation X-8 (1979) Effects of tourists and non-government expeditions in the Antarctic Treaty Area

It establishes that the Parties should recommend to their governments that they notify commercial aircraft operators about the particular conditions Antarctica presents in terms of capabilities for air traffic control, communications and search and rescue, the limited capacity to respond adequately to an unplanned emergency landing and the likely interferences they may occur with normal operational flights in support of expeditions engaged in ongoing scientific programs in the Antarctic. See in

particular point IV of this recommendation (Commercial Overflights in Antarctica)

This Resolution also applies to Chapter B.1. Planning the activity. Section f) Air Operations

Resolution 4 (2018) Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica

They are aimed to assist in the implementation of Environmental Impact Assessment (EIA) requirements and aid decision-making for use of RPAS in order to help minimize impacts on the environment and to assist users in meeting their obligations under the Protocol, through provision of guidance based on current best available knowledge.

These guidelines include a number of considerations that should be taken into account at the Pre-deployment Planning stage, including those associated to the requirements of the Madrid Protocol and its Annexes, the characteristics of the RPAs and their operators, plus some general recommendations. Selected technical documents relevant to environmental guidelines for RPAS in Antarctica, and peer reviewed scientific papers on the environmental impacts of RPAS are also included.

This Resolution also applies to Chapter A.1. Planning the Activity; section c) Provisions concerning Environmental Impact Assessments and Chapter A.2. During the Activity, sections c) Air Operations, and d) Provisions for the protection of fauna and flora.

In addition, this Resolution applies to Chapter B.1. Planning the Activity; sections c) Provisions Concerning Environmental Impact Assessments, f) Air Operations, and Chapter B.2. During the activity, sections c) Air Operations and d) Provisions for the Protection of fauna and flora

Resolution 4 (2023) Urgent measures to be taken with respect to certain tourist and non-governmental activities

These measures recommend operators organising or conducting tourist or other non-governmental activities in Antarctica to discontinue the use of helicopters for recreational purposes in areas with concentrations of wildlife, except in case of emergencies and for the purpose of enhancing human safety. See in particular point 1.b. of this resolution.

This Resolution also applies to Chapter A.2. During the activity; sections b) *Disembarking,* c) Air operations *and* d) Provisions for the protection of Fauna and Flora*;* Chapter B1. Planning the activity, section f) Air operations*; and Chapter B.2. During the Activity. Sections b) Disembarking,* c) Air operations *and* d) Provisions for the protection of Fauna and Flora*.*

Chapter A.2: During the activity

a) Guidelines for visitors

Resolution 2 (2022) Site Guidelines for Visitors

The latest update of these Site Guidelines is attached to this Resolution. It contains detailed information on 45 sites, including maps, photographs and specific recommendations on how to behave in each site. The objectives of these Site Guidelines is to provide guidance for tour operators and guides on how they should conduct visits in specific Antarctic sites, and to ensure that the management of visitors within such sites is tailored to their environmental values and sensitivities.

All potential visitors to the sites included in this Resolution should ensure that they are fully conversant with and adhere to the relevant Site Guidelines. Be aware that they are periodically reviewed, and new sites are continuously incorporated.

To download specific Site Guidelines for Visitors please visit:
https://www.ats.aq/devAS/Ats/VisitorSiteGuidelines?lang=e

This Resolution also applies to the following section b) Disembarking

b) Disembarking

Resolution 4 (2023) **Urgent measures to be taken with respect to certain tourist and non-governmental activities**

These measures recommend operators organising or conducting tourist or other non-governmental activities in Antarctica to discontinue any off-ship activities in Antarctica from vessels carrying more than 500 passengers to clarify the purpose of Measure 15 (2009) -see below-, except in case of emergencies. See in particular point 1.a. of this resolution.

This Resolution also applies to Chapter A.1. Planning the activity, section f) Air operations*; Chapter A.2. During the activity; sections* c) Air operations *and* d) Provisions for the protection of Fauna and Flora*;* Chapter B1. Planning the activity, section f) Air operations*; and* Chapter B.2. During the activity; sections b) Disembarking*,* c) Air operations *and* d) Provisions for the protection of Fauna and Flora*.*

Measure 15 (2009) Landing of Persons from Passenger Vessels in the Antarctic Treaty Area

This Measure asks Parties to require tour operators to avoid landings in Antarctica from vessels carrying more than 500 passengers. For vessels carrying 500 or fewer passengers, it establishes the need to coordinate with each other, to restrict the number of passengers on shore and to maintain specific guide-to-passenger ratios. Measure 15 (2009) is currently not yet in force as their approval is still pending by a number of Parties. It was adopted after Resolution 4 (2007), which contains a very similar text (see below).

Resolution 4 (2007) Ship-based Tourism in the Antarctic Treaty Area

It recommends that Parties, consistent with their national law, discourage or decline to authorise tour operators that use vessels carrying more than 500 passengers from making any landings in Antarctica; and encourage or require tour operators to a) coordinate with each other such that not more than one tourist vessel is at a landing site at any one time; b) restrict the number of passengers on shore at

any one time to 100 or fewer, unless otherwise specified in applicable ATCM Measures or Resolutions; and c) maintain a minimum 1:20 guide-to-passenger ratio while ashore, unless otherwise specified in applicable ATCM Measures or Resolutions.

After Resolution 4 (2007), the ATCM adopted a new Measure with a very similar text: Measure 15 (2009) *Landing of Persons from Passenger Vessels in the Antarctic Treaty Area*, which is, however, not yet in force as their approval is still pending by a number of Parties.

This Resolution also applies to Chapter B.2. During the Activity. Section b) Disembarking

Resolution 2 (2022) Site Guidelines for Visitors

When tour activities take place in sites contained in the list of existing "Site Guidelines for Visitors", operators should specifically follow the recommendations made in relevant sections "Landing Requirements", "Visitor Area" (including zoning schemes, such as Landing, Closed and Guided Walking areas) and "Visitor code of conduct" of each Guideline.

Specific Site Guidelines for Visitors can be downloaded from the Antarctic Treaty Secretariat website at: https://www.ats.aq/devAS/Ats/VisitorSiteGuidelines?lang=e

This Resolution also applies to Chapter A.2. During the Activity; section a) Guidelines for visitors

c) Air operations

Antarctic tour activities that make use of aircraft (including also remotely piloted aircraft systems – RPAS- or, commonly called, "drones") should take into account the resolutions included below.

Resolution 3 (2022) Air safety in Antarctica

For those actually operating in Antarctica, this resolution recommends the use of COMNAP's Antarctic Flight Information Manual (AFIM) by all pilots and the use of a specific radio frequency in areas beyond the range of VHF radio coverage of Primary and Secondary Air Information Stations (PAIS and SAIS) to ensuring mutual awareness of current air operations, in accordance to the Convention on International Civil Aviation.

See in particular points 6 and 7 of this resolution.

This Resolution also applies to Chapter A.1. Planning the activity, section f) Air Operations.
In addition, this Resolution applies to Chapter B.1. Planning the activity. Section f) Air Operations and Chapter B.2. During the Activity. Section c) Air Operations

Resolution 2 (2004) Guidelines for the Operation of Aircraft Near Concentrations of Birds in Antarctica

These Guidelines provides advice on, *inter alia*, minimum recommended separation distances for aircraft operations close to concentrations of birds and include a number of considerations on the location and timing of aircraft operations when in presence of bird colonies.

They were elaborated taking into account that aircraft operations have the potential to cause disturbance leading to changes in the behaviour, physiology and the breeding success of wildlife.

This Resolution also applies to Chapter A.2. During the activity, section d) Provisions for the Protection of Fauna and flora; Chapter B.1. Planning the Activity. Section f) Air Operations; and Chapter B.2. Section d)

Provisions for the Protection of fauna and flora

Resolution 4 (2018) Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica

These guidelines include a number of considerations that should be taken into account at the On-site and In-flight Operations, and Post-flight Actions and Reporting, including those associated to the conduct of Operations over or near wildlife, over terrestrial & freshwater ecosystems, and around Historic Sites or Monuments (HSMs), plus some general recommendations to minimize or avoid intrusion or disturbance to others.

> *This Resolution also applies to Chapter A.1. Planning the Activity; sections c) Provisions concerning Environmental Impact Assessments and f) Air Operations; and Chapter A.2. During the Activity, section d) Provisions for the protection of fauna and flora.*
>
> *In addition, this Resolution applies to Chapter B.1. Planning the Activity; sections c) Provisions Concerning Environmental Impact Assessments, f) Air Operations, and Chapter B.2. During the activity, sections c) Air Operations and d) Provisions for the Protection of fauna and flora*

Resolution 4 (2023) Urgent measures to be taken with respect to certain tourist and non-governmental activities

These measures recommend operators organising or conducting tourist or other non-governmental activities in Antarctica to discontinue the use of helicopters for recreational purposes in areas with concentrations of wildlife, except in case of emergencies. See in particular point 1.b. of this resolution.

> *This Resolution also applies to* Chapter A.1. Planning the activity, section f) Air operations*; Chapter A.2. During the activity; sections* b) Disembarking *and* d) Provisions for the protection of Fauna and Flora*;* Chapter B1. Planning the activity, section f) Air operations*; and* Chapter B.2. During the activity; sections b) Disembarking*,* c) Air operations *and* d) Provisions for the protection of Fauna and Flora

d) Provisions for the protection of fauna and flora

Protocol on Environmental Protection to the Antarctic Treaty

Article 3.2: *Environmental Principles* provides that activities to be undertaken in Antarctica shall be planned and conducted so as to avoid "detrimental changes in the distribution, abundance or productivity of species or populations of species of fauna and flora" and "further jeopardy to endangered or threatened species or populations of such species".

In addition, Annex II sets out specific measures to give effect to this. It provides several different mechanisms to protect Antarctic species, including:

- the prohibition of taking (removing) and of harmful interference, except in accordance with a permit;
- the prohibition of introducing non-native species, except in accordance with a permit; and
- the designation of Specially Protected Species.

See in particular Article 3.2 (Environmental Principles) and Annex II to the Protocol (Conservation of Antarctic Fauna and Flora)

Resolution 7 (2009) General Principles of Antarctic Tourism

In reference to Antarctic wildlife, General Principle #2 states that Tourism should not be allowed to

contribute to the long-term degradation of the Antarctic environment and its dependent and associated ecosystems. It also states that, in the absence of adequate information about potential impacts, decisions on tourism should be based on a pragmatic and precautionary approach. See General Principle #2, in reference to Antarctic wildlife.

This Resolution also applies to Chapter A.1, sections a) General considerations about Tourism and Non-Governmental Activities and d) Issues related to emergency and contingency plans, safety and insurance

In addition, this Resolution applies to Chapter B.1, sections a) General Considerations about Tourism and Non- Governmental Activities, d) Issues related to emergency and contingency plans, safety and insurance and Chapter B.2, section d) Provisions for the protection of fauna and flora.

Resolution 2 (2004) Guidelines for the Operation of Aircraft Near Concentrations of Birds in Antarctica

These Guidelines contains a number of recommendations for the conduct of air operations when in presence of concentrations of birds, including precautionary distances that should be observed when overflying or landing. References to specific bird species were also included.

This Resolution also applies to Chapter A.1. Planning the activity, section f) Air Operations.
In addition, this Resolution applies to Chapter B.1. Planning the Activity. Section f) Air Operations and Chapter B.2. Section d) Provisions for the Protection of fauna and flora

Resolution 4 (2018) Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica

These Guidelines provides, within the chapter devoted to "On-site and In-flight Operations", specific recommendations to operate RPAS near concentrations of wildlife (and other sensitive features), in order to avoid causing unaccepted levels of disturbance. See particularly Section 6. Operations over or near wildlife and Section, and Section 7. Operations over terrestrial & freshwater ecosystems

This Resolution also applies to Chapter A.1. Planning the Activity; sections c) Provisions concerning Environmental Impact Assessments and f) Air Operations; and Chapter A.2. During the Activity, section c) Air Operations

In addition, this Resolution applies to Chapter B.1. Planning the Activity; sections c) Provisions Concerning Environmental Impact Assessments, f) Air Operations, and Chapter B.2. During the activity, sections c) Air Operations and d) Provisions for the Protection of fauna and flora

Resolution 4 (2023) Urgent measures to be taken with respect to certain tourist and non-governmental activities

These measures recommend operators organising or conducting tourist or other non-governmental activities in Antarctica to discontinue the use of helicopters for recreational purposes in areas with concentrations of wildlife, except in case of emergencies and for the purpose of enhancing human safety. See in particular point 1.b. of this resolution.

This Resolution also applies to Chapter A.1. Planning the activity, section f) Air operations*; Chapter A.2. During the activity; sections* b) Disembarking *and* c) Air operations*;* Chapter B1. Planning the activity, section f) Air operations*; and* Chapter B.2. During the activity; sections b) Disembarking*,* c) Air operations *and* d) Provisions for the protection of Fauna and Flora

Resolution 4 (2016) Non-native Species Manual

The overall objective of this Manual is to protect Antarctic biodiversity and intrinsic values by preventing the unintended introduction to the Antarctic region of species not native to that region, and the movement of species within Antarctica from one biogeographic zone to any other. Those organising, conducting and participating in Antarctic activities are encouraged to use it.

This manual includes key guiding principles and links to recommended practical guidelines and resources that operators can apply and use, as appropriate, to assist with meeting their responsibilities under Annex II to the Protocol. The latest update of this Manual is included under Resolution 4 (2016).

This Resolution also applies to Chapter A.1. Planning the Activity; section c) Provisions concerning Environmental Impact Assessment.

In addition, this Resolution applies to Chapter B.1. Planning the Activity; section c) Provisions concerning Environmental Impact Assessments and Chapter B.2. During the Activity, Section d) Provisions for the protection of fauna and flora

Resolution 3 (2006) Ballast Water Exchange in the Antarctic Treaty Area

The Practical Guidelines for Ballast Water Exchange in the Antarctic Treaty area annexed to this Resolution are to be used by all ships in the Antarctic Treaty area to prevent the introduction of non-native species to the Antarctic Treaty area by ships in their ballast water.

This resolution is linked to the International Convention for the Control and Management of Ships' Ballast Waters and Sediments, 2004 (IMO Ballast Water Management Convention), which was adopted in February, 2004, and entered into force in September, 2017.

This Resolution also applies to Chapter B.2. During the activity. Section d) Provisions for the protection of fauna and flora.

e) Provisions related to waste management and marine pollution

Annex III to the Protocol: Waste Disposal and Waste Management

Annex III to the Environment Protocol requires that "the amount of wastes produced or disposed of in the Antarctic Treaty area shall be reduced as far as practicable so as to minimize impacts on the Antarctic environment and to minimize interference with the natural values of Antarctica, with the scientific research and with other uses of Antarctica which are consistent with the Antarctic Treaty" (Art. 1.2).

The Annex identifies types of waste which have to be removed and establishes rules for the storage and disposal of waste. Some products like PCBs cannot be introduced into Antarctica at all. The Annex also provides for waste management planning and the removal of wastes of past activities.

Annex IV to the Protocol: Prevention of Marine Pollution

Annex IV prohibits discharge of oil, noxious liquid substances and garbage in the Antarctic Treaty area. It also contains rules for the discharge of sewage; and for ship retention capacity; reception facilities; sovereign immunity; preventive measures; and emergency preparedness and response.

Resolution 5 (2019) Reducing Plastic Pollution in Antarctica and the Southern Ocean

It establishes that those organising or conducting Antarctic tourist or other non-governmental activities are encouraged to eliminate personal care products containing micro-plastic beads in the

Antarctic Treaty area.

This Resolution also applies to Chapter B.2. During the activity. Section e) Provisions related to Waste Management and Marine Pollution

f) Provisions related to protected areas, historic sites and monuments, and historic remains[8]

Annex V to the Protocol: Area Protection and Management

Annex V to the Protocol provides for the designation of Antarctic Specially Protected Areas (ASPA), Antarctic Specially Managed Areas (ASMA) and Historic Sites and Monuments (HSMs).

Entry into an Antarctic Specially Protected Area is prohibited except in accordance with a permit issued by a National appropriate authority[9] Entry into an ASMA does not require a permit, but an ASMA may contain one or more ASPAs, entry into which is prohibited except in accordance with a permit issued by a National appropriate authority. Finally, according to Annex V, sites or monuments of recognised historic values that have been designated as HSMs shall not be damaged, removed or destroyed.

Resolution 5 (2001) Guidelines for handling of pre-1958 historic remains whose existence or present location is not yet known

These guidelines should be applied, as far as possible, to provide interim protection of pre-1958 historic artefacts/sites until the Parties have had due time to consider their inclusion into the protection system under Annex V to the Protocol.

Among other things, they establish that any person/expedition who discovers pre-1958 historic remains should notify the appropriate authorities in their home country. They also recommend that if there is uncertainty as to the age of a newly discovered historic artefact/site it should be treated as a pre-1958 artefact/site until its age has been established.

This Resolution also applies to Chapter B.2. Section f) Provisions related to protected areas, historic sites and monuments and historic remains.

Resolution 3 (2009) Guidelines for the designation and protection of Historic Sites and Monuments

According to these guidelines (see point 8), visitors to Antarctica should be informed of the importance of protecting the historic and cultural heritage of the Antarctic continent and its surrounding islands and of all restrictions applying to artefacts, sites and monuments listed under the Antarctic Treaty system or protected under Resolution 5 (2001).

This Resolution also applies to Chapter B.2. Section f) Provisions related to protected areas, historic sites and monuments and historic remains.

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[8] *The Antarctic Treaty Secretariat keeps an Antarctic Protected Areas Database, containing the texts of the management plans for Antarctic Specially Protected Areas and Antarctic Specially Managed Areas, their legal status, location in the Antarctic continent and a summary of the purpose of designation. It also contains information related to the list and location of Historic Sites and Monuments in Antarctica. The Antarctic Protected Areas Database can be visited at:* https://www.ats.aq/devph/en/apa-database

g) Reporting Requirements

Resolution 6 (2008) Enhancing the role of Maritime Rescue Coordination Centres with Search and Rescue Regions in the Antarctic Treaty Area

It recommends that Parties, in accordance with their national laws, encourage operators of tourist vessels to report their vessel positions on a regular basis to the relevant regional Maritime Rescue Coordination Centres while operating within the Antarctic Treaty area.

> *This Resolution also applies to Chapter A.1. Planning the Activity, section d) Issues related to emergency and contingency plans, safety and insurance.*
>
> *In addition, this Resolution applies to Chapter B.1. Planning the Activity. Section d) Issues related to emergency and contingency plans, safety and insurance, and Chapter B.2. During the activity. Section g) Reporting requirements.*

Resolution 6 (2010) Improving the co-ordination of maritime search and rescue in the Antarctic Treaty area

Through this Resolution, the ATCM recommends that Parties recognise the importance of ensuring the effectiveness of SAR efforts by encouraging operators of tourist vessels not participating in the COMNAP and IAATO vessel tracking schemes to report the positions of their vessels regularly to the relevant regional MRCC.

> *This Resolution also applies to Chapter A.1. Planning the Activity, section b) Information Exchange and Advance Notification Requirements*

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[9] *Such a permit is only issued if the proposed activities are in accordance with the provisions of the ASPA management plan (Art. 7 Annex V Environment Protocol). The current ASPA's management plans can be divided into three groups with respect to Antarctic tourism: Management plans which (1) contain an explicit prohibition of tourist activities, (2) permit tourist activities, and (3) contain neither an explicit prohibition of tourist activities nor explicitly permit them. In principle, tourism is an acceptable activity in a limited number of ASPAs, all of them containing historic huts which are subject to visits under the condition that a permit for entering the ASPA has been issued by a Party to the Protocol in accordance with the ASPA management plan.*

Chapter A.3: After the expedition

a) Information Exchange Requirements

Since 2012 these requirements are implemented through the Electronic Information Exchange System (EIES), a central repository maintained by the Antarctic Treaty Secretariat, in accordance with the Antarctic Treaty and the Protocol on Environmental Protection to the Antarctic Treaty and its annexes.

Decision 5 (2022) Information Exchange Requirements

The list of the information agreed to be exchanged by the Parties is included under this Decision. Be aware that this list is periodically reviewed and updated.

According to this Decision, Parties should provide an annual report of the operational information of their Non-governmental expeditions, as early as possible after the end of the austral summer season, but in all cases before 1 October, with a reporting period of 1 April to 30 March. Information on NGOs activities should include an update of the information submitted as part of the Pre-season information (Section 1.1.2, proposed vessel and land-based operations, aircraft activities, any likely denial of authorizations and visits to protected areas), plus, for vessel and land-based operations, information on the total amount of passengers transported in each journey, and the total number of crew members on board in each journey.

This information should be provided to the Electronic Information Exchange System (EIES) as established by Decision 4 (2012) *Electronic Information Exchange System*.

See particularly Section 2.2.2 Non-Governmental Expeditions, and, if applicable, Section 2.3.1. Visits to Protected Areas.

> *This Decision also applies to Chapter A.1. Planning the activity; section b) Information Exchange and Advance Notification Requirements*

Resolution 6 (2022) Revised Standard Post Visit Site Report Form.

The inclusion of this Resolution is to remind NCAs to recommend Tour Operators the use of the standard Post Visit Report Form attached to it, to exchange information on vessel activities.

Resolution 7 (2012) Vessel Safety in the Antarctic Treaty Area

According to this resolution Parties should report annually to the Committee for Environmental Protection on responses to environmental emergencies involving vessels that are flagged to Parties and that operate in the Antarctic Treaty area in accordance with Article 17 of the Protocol on Environmental Protection to the Antarctic Treaty.

SECTION B: TOUR OPERATORS

Chapter B.1: Planning the activity

a) *General considerations about Antarctic Tourism and Non-Governmental Activities*

At a planning stage, those intending to organize tourism activities in Antarctica should refer to relevant domestic instruments concerning environmental impact assessments and the provision of information to their National Competent Authorities. They should also take into account:

Recommendation XVIII-1 (1994) Tourism and Non-Governmental Activities

Among other things, this recommendation establishes a number of key obligations and procedures to be followed by organisers and operators. It includes guidance for visitors and for those organising and conducting tourism and non-governmental Activities in the Antarctic and also information that organisers should provide to the appropriate national authorities in advance to the start of their operations in Antarctic.

This Recommendation also applies to Chapter B.2, sections d) Provisions for the protection of fauna and flora, and e) Provisions related to waste management and marine pollution.

Resolution 7 (2009) General Principles of Antarctic Tourism

It contains general principles to inform and guide work in managing Antarctic tourism activities. These include considerations on, among other things, the need for these activities to be conducted in accordance with the Antarctic Treaty System, the need to avoid long-term degradation of the Antarctic environment and values; the priority accorded to scientific research in relation to all tourism activities; the need to proactively develop regulations relating to tourism activities; and the need for cooperation, coordination and sharing information, and for the promotion of educational values of Antarctica.

This Resolution also applies to Chapter B.1. Section d) Issues related to emergency and contingency plans, safety and insurance", Chapter B.2. Section d) Provisions for the protection of fauna and flora.

In addition, this Resolution applies to Chapter A.1. Section a) General considerations about Tourism and Non-Governmental Expeditions, d) Issues related to emergency and contingency plans, safety and insurance, and Chapter A.2. Section d) Provisions for the protection of fauna and flora.

b) Information Exchange and Advance Notifications Requirements

Resolution 3 (1997) Standard form for advance notification and post-visit reporting on Tourism and Non-Governmental Activities

This Resolution recommends Parties that a standard form be used for Advance Notifications (and also Post-Visit Reporting) on tourism and non-governmental activities in Antarctica in order to obtain consistent information that will facilitate analysis of the scope, frequency and intensity of tourism and non-governmental activities. See Section on Advance Notifications.

c) *Provisions concerning Environmental Impact Assessments*[10]

Protocol on Environmental Protection to the Antarctic Treaty

Article 3*: Environmental Principles* establishes a number of environmental principles which can be considered a guide to environmental protection in Antarctica and its dependent and associated ecosystems.
To give effect to the above over-arching principle, Article 3.2(c) requires that "activities in the Antarctic Treaty area shall be planned and conducted on the basis of information sufficient to allow prior assessments of, and informed judgements about, their possible impacts on the Antarctic environment and dependent and associated ecosystems and on the value of Antarctica for the conduct of scientific research".

Article 8: *Environmental Impact Assessment* introduces the term "Environmental Impact Assessment" and provides three categories of environmental impacts (less than a minor or transitory impact, a minor or transitory impact and more than a minor or transitory impact), according to their significance. The Article also requires that activities proposed to be undertaken in Antarctica shall be subject to the prior assessment procedures set out in Annex I to the Protocol.

See in particular Article 3: Environmental Principles, and Article 8: Environmental Impact Assessment. Also please check its Annexes:

Annex I to the Protocol: Environmental Impact Assessment

Annex I provides a more comprehensive explanation of the three different environmental impact categories and establishes a set of basic principles to conduct an EIA for planned activities in Antarctica. In addition, it sets up a preliminary stage for assessing the environmental impact of Antarctic activities, which is intended to determine if an impact produced by a certain activity is less than minor or transitory or not. Such a determination must be accomplished through the appropriate national procedures.

According to the results of the preliminary stage, or subsequent evaluations if required, the activity can either proceed (if the predicted impacts of the activity are likely to be less than minor or transitory); or be preceded by an Initial Environmental Evaluation (IEE), if predicted impacts are likely to be no more than minor or transitory; or be preceded by a Comprehensive Environmental Evaluation (CEE), if the predicted impacts are to be more than minor or transitory.
As Annexes II to V to the Protocol contain key elements that should be carefully considered when preparing an EIA[11], references to them are included below.

Annex II to the Protocol: Conservation of Antarctic Fauna and Flora

Annex III to the Protocol: Waste Disposal and Waste Management

Annex IV to the Protocol: Prevention of Marine Pollution

Annex V to the Protocol: Area Protection and Management

[10] *The Antarctic Treaty Secretariat keeps an Environmental Impact Assessment database which can be visited at:* https://www.ats.aq/devAS/EP/EIAList?lang=e

The references to the Environment Protocol and relevant annexes indicated above were included to allow operators understand the full suite of mandatory legal requirements, even though these are usually implemented via domestic legislation and are, to varying extents, captured in specific ATCM provisions agreed later (see below).

Resolution 1 (2016) Revised Guidelines for Environmental Impact Assessment in Antarctica.

The latest update of these guidelines is included under this Resolution. Be aware that they are periodically subject to a review process.

The objective of these Guidelines is to achieve transparency and effectiveness in assessing environmental impacts during the planning stages of possible activities in Antarctica, as well as consistency of approach in fulfilling the obligations of the Protocol.

Specifically, the guidelines aim to:

- assist in determining the proper level of EIA document (according to the Protocol) to be prepared and in the consideration of cumulative impacts relevant to the proposal;
- facilitate co-operation and co-ordination in EIA for joint activities, and comparison of EIAs for similar activities and/or environmental conditions;
- where appropriate, assist proponents to give consideration to: a) the possible implications of climate change for proposed activities and their associated environmental impacts; b) risks of introduction or dissemination of non-native species associated with proposed activities;

This Resolution also applies to Chapter A.1. Section c) Provisions concerning Environmental Impact Assessment.

Resolution 9 (2012) The Assessment of Land-Based Expeditionary Activities

The attachment to this Resolution, "Questions to consider as part of the authorisation process for non-Governmental land-based activities in Antarctica", might serve as a useful guidance for those planning to organise these kinds of activities.

This Resolution also applies to Chapter A.1. Section c) Provisions concerning Environmental Impact Assessment

Resolution 4 (2018) Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica

These guidelines are aimed to assist implementation of Environmental Impact Assessment (EIA) requirements and aid decision-making for use of RPAS in order to help minimize impacts on the environment and to assist users in meeting their obligations under the Protocol, through provision of guidance based on current best available knowledge.

The Guidelines take into account different stages of the operation of RPAS in Antarctica. Check in particular Section "Pre-deployment Planning and Environmental Impact Assessment (EIA) stage".

[11] *These Annexes establish that certain activities are prohibited or regulated, while others require a permit issued by National appropriate authorities before proceeding.*

This Resolution also applies to Chapter B.1. Planning the Activity; section f) Air Operations, and Chapter B.2. During the activity, sections c) Air Operations and d) Provisions for the Protection of fauna and flora.

In addition, this Resolution applies to Chapter A.1. Planning the Activity; sections c) Provisions Concerning Environmental Impact Assessments, f) Air Operations, and Chapter A.2. During the activity, sections c) Air Operations and d) Provisions for the Protection of fauna and flora

Resolution 4 (2016) Non-native Species Manual

The overall objective of this Manual is to protect Antarctic biodiversity and intrinsic values by preventing the unintended introduction to the Antarctic region of species not native to that region, and the movement of species within Antarctica from one biogeographic zone to any other. The Manual states that the risk of non-native species introductions should be identified and addressed in the planning of all activities, including through the environmental impact assessment (EIA) process under Article 8 and Annex I to the Protocol. Those organising, conducting and participating in Antarctic activities are encouraged to use it. See in particular Section 3. Of the Manual: "Guidelines and resources to support prevention of the introduction of non-native species", subsection "Prevention" (points 1 to 5)

This Resolution also applies to Chapter B.2. During the Activity, Section d) Provisions for the protection of fauna and flora.

In addition, this Resolution applies to Chapter A.1. Planning the Activity; section c) Provisions concerning Environmental Impact Assessments and Chapter A.2. During the Activity, Section d) Provisions for the protection of fauna and flora

d) Issues related to emergency and contingency plans, safety and insurance

Resolution 6 (2008) Enhancing the role of Maritime Rescue Coordination Centres with Search and Rescue Regions in the Antarctic Treaty Area

This resolution is connected to the IMO's "Enhanced contingency planning guidance for passenger ships operating in areas remote from SAR facilities" (MSC.1/Circ/1184).

The resolution recommends that Parties, in accordance with their national laws, encourage operators of tourist vessels to consider this guidance when planning their activities.

This Resolution also applies to Chapter B.2. During the activity. Section g) Reporting Requirements

In addition, this Resolution applies to Chapter A.1. Planning the Activity. Section d) Issues related to emergency and contingency plans, safety and insurance, and Chapter A.2. During the activity. Section g) Reporting requirements.

Measure 4 (2004) Insurance and Contingency Planning for Tourism and Non-governmental Expeditions in the Antarctic Treaty Area

By virtue of this Measure, tour operators are required to drawing up and putting in place appropriate contingency plans and sufficient arrangements for health and safety, search and rescue (SAR), and medical care and evacuation prior to the start of the activity, including adequate insurance or other arrangements to cover any costs associated with SAR and medical care and evacuation. Measure 4 (2004) is currently not yet in force[12].

Resolution 6 (2017) Guidelines on Contingency Planning, Insurance and Other Matters for Tourist and Other Non-Governmental Activities in the Antarctic Treaty Area

The latest update of these Guidelines, which took note of the entry into force of the International Code for Ships Operating in Polar Waters (Polar Code), is included under this Resolution. Be aware that they may be reviewed in the future.

This Resolution –very similar to the text of Measure 4 (2004) - recommended that those organising or conducting tourist or other non-governmental activities in the Antarctic Treaty area should ensure that appropriate contingency plans and adequate insurance or other arrangements were in place to cover any costs associated with search and rescue and medical care and evacuation. This Resolution also included some guidelines aimed to set up appropriate requirements for safety measures to bet put in place while conducting activities without the supervision or support in the field of another operator or a national programme, and for the need to ensure adequate skills and capabilities of thoseparticipating of such activities.

This Resolution also applies to Chapter A.1. Section d) Issues related to Emergency and Contingency Plans, Safety and Insurance

Resolution 7 (2009) General Principles of Antarctic Tourism

Specifically related to safety issues, General Principle #5 recommends that all operators conducting tourism activities in Antarctica should be encouraged to cooperate with each other and with the Antarctic Treaty Parties to coordinate tourism activities and share best practice on environmental and safety management issues. See General Principle #5, specifically related to safety issues.

This Resolution also applies to Chapter B.1, section a) General Considerations about Tourism and Non-Governmental Activities and Chapter B.2. Section d) Provisions for the protection of fauna and flora.

In addition, this Resolution applies to Chapter A.1. Section a) General considerations about Tourism and Non-Governmental Expeditions, d) Issues related to emergency and contingency plans, safety and insurance, and Chapter A.2. Section d) Provisions for the protection of fauna and flora.

e) Yachting Activities

Resolution 10 (2012) Yachting Guidelines

This resolution incorporates two different elements: the *Checklist of yacht specific items for preparing safe Antarctic voyages*, which is attached to the Resolution, and the *Yachting Guidelines for Antarctic Cruises,* placed on the ATS website, by request of the Resolution.

Both are intended to ensure the yacht and vessel safety in the Southern Ocean and to minimize the possible risk of accidents and the resulting harm to both persons and the environment.

[12] *Measure 4 (2004) is currently not yet in force, as their approval is still pending by a number of Parties. By the time it was agreed, the Parties, aware of the fact that some time would be needed to this Measure to enter into force and desiring to promote its objectives and principles, adopted Resolution 4 (2004)" Guidelines on Contingency Planning, Insurance and Other Matters for Tourist and Other Non-governmental Activities in the Antarctic Treaty Area", which were later superseded by Resolution 6 (2017).*

Resolution 10 (2012) recommends Parties to urge all those intending to undertake a yacht visit to Antarctica to take into account in planning their voyage *the Checklist of yacht specific items for preparing safe Antarctic voyages* and, as appropriate, the *Yachting Guidelines for Antarctic Cruises*.

In addition, this Resolution recommends the Parties, consistent with their national law and as they consider appropriate, to utilise the *Checklist of yacht specific items for preparing safe Antarctic voyages* when assessing proposed yacht visits to Antarctica; and to provide details (contact details of national competent authorities and relevant Maritime Rescue Co-ordination Centres) to the Secretariat, to enable it to maintain on its website in conjunction with the *Yachting Guidelines for Antarctic Cruises*.

This Resolution also applies to Chapter A.1. section e) Yachting activities

Resolution 1 (2003) Advice to vessel and yacht operators

This Resolution states that yacht and vessel operators, in relation to the obligations set out in the Environment Protocol and, in particular, its Annex IV (Prevention of Marine Pollution), should also seek advice in the form of, for example, Antarctic "Sailing Directions", "Marine Notices", or "Pilots". These publications provide important safety related information, general guidance and details about changes to legislation to the shipping and maritime community, as well as essential information to support port entry and coastal navigation for all classes of ships at sea, covering the world's main commercial shipping routes and ports.

This Resolution also applies to Chapter A.1. Section e) Yachting activities

f) Air operations

Resolution 4 (2023) Urgent measures to be taken with respect to certain tourist and non-governmental activities

These measures recommend operators organising or conducting tourist or other non-governmental activities in Antarctica to discontinue the use of helicopters for recreational purposes in areas with concentrations of wildlife, except in case of emergencies and for the purpose of enhancing human safety. See in particular point 1.b. of this resolution.

This Resolution also applies to Chapter A.1. Planning the activity, section f) Air operations*; Chapter A.2. During the activity; sections* b) Disembarking*,* c) Air operations *and d)* Provisions for the protection of fauna and flora*; and* Chapter B.2. During the activity; sections b) Disembarking*,* c) Air operations *and* d) Provisions for the protection of Fauna and Flora

Resolution 3 (2022) Air safety in Antarctica

It establishes that the Parties should recommend to their Governments that they should keep one another informed about non-governmental flights and a reminder about the AFIM should be given to all pilots filing a flight plan for flights to Antarctica. See in particular points 6 and 7 of this resolution.

This resolution also applies to Chapter B.2. During the activity, Section c) Air Operations.

In addition, this Resolution applies to Chapter A.1. Planning the activity. Section f) Air Operations and Chapter A.2. During the Activity. Section c) Air Operations.

This Resolution also applies to Chapter A.1. Planning the activity. Section f) Air Operations

Recommendation X-8 (1979) Effects of tourists and non-government expeditions in the Antarctic Treaty Area

It establishes that the Parties should recommend to their Governments that they notify commercial aircraft operators about the particular conditions Antarctica presents in terms of capabilities for air traffic control, communications and search and rescue, the limited capacity to respond adequately to an unplanned emergency landing and the likely interferences they may occur with normal operational flights in support of expeditions engaged in ongoing scientific programs in the Antarctic. See in particular point IV of this recommendation (Commercial Overflights in Antarctica)

This Resolution also applies to Chapter A.1. Planning the activity. Section f) Air Operations

Resolution 4 (2018) Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica

They are aimed to assist in the implementation of Environmental Impact Assessment (EIA) requirements and aid decision-making for use of RPAS in order to help minimize impacts on the environment and to assist users in meeting their obligations under the Protocol, through provision of guidance based on current best available knowledge.

These guidelines include a number of considerations that should be taken into account at the Pre-deployment Planning stage, including those associated to the requirements of the Madrid Protocol and its Annexes, the characteristics of the RPAs and their operators, plus some general recommendations. Selected technical documents relevant to environmental guidelines for RPAS in Antarctica, and peer reviewed scientific papers on the environmental impacts of RPAS are also included.

This Resolution also applies to Chapter B.1. Planning the Activity; section c) Provisions concerning Environmental Impact Assessments and Chapter B.2. During the Activity, sections c) Air Operations, and d) Provisions for the protection of fauna and flora.

In addition, this Resolution applies to Chapter A.1. Planning the Activity; sections c) Provisions Concerning Environmental Impact Assessments, f) Air Operations, and Chapter A.2. During the activity, sections c) Air Operations and d) Provisions for the Protection of fauna and flora

Chapter B.2: During the activity

a) Guidelines for visitors

Resolution 4 (2021) General Guidelines and Site Guidelines Checklist for Visitors to the Antarctic

These Guidelines provide general advice for visiting any location, with the aim of ensuring visits do not have adverse impacts on the Antarctic environment, or on its scientific and aesthetic values. They include considerations on how to behave in relation to Antarctic wildlife, presence of protected areas, and conduct of scientific research. They also refer to a number of safety precautions/preparations and landing and transport requirements.

This Resolution also applies to Chapter B.2. During the Activity, section d) Provisions for the protection of fauna and flora, e) Provisions related to Waste Management and Marine Pollution and Section f) Provisions related to protected areas, historic sites and monuments and historic remains

Resolution 2 (2022) Site Guidelines for Visitors

The latest update of these Site Guidelines is attached to this Resolution. It contains detailed information on 45 sites, including maps, photographs and specific recommendations on how to behave in each site. The objectives of these Site Guidelines is to provide guidance for tour operators and guides on how they should conduct visits in specific Antarctic sites, and to ensure that the management of visitors within such sites is tailored to their environmental values and sensitivities.

All potential visitors to the sites included in this Resolution should ensure that they are fully conversant with and adhere to the relevant Site Guidelines. Be aware that they are periodically reviewed, and new sites are continuously incorporated. Specific Site Guidelines for visitors can be downloaded from the Antarctic Treaty Secretariat website at: https://www.ats.aq/devAS/Ats/VisitorSiteGuidelines?lang=e

This Resolution also applies to the following section b) Disembarking

b) Disembarking

Resolution 4 (2023) Urgent measures to be taken with respect to certain tourist and non-governmental activities

These measures recommend operators organising or conducting tourist or other non-governmental activities in Antarctica to discontinue any off-ship activities in Antarctica from vessels carrying more than 500 passengers to clarify the purpose of Measure 15 (2009) -see below-, except in case of emergencies. See in particular point 1.a. of this resolution.

This Resolution also applies to Chapter A.1. Planning the activity, section f) Air operations*; Chapter A.2. During the activity; sections* b) Disembarking*,* c) Air operations *and d)* Provisions for the protection of fauna and flora*;* Chapter B1. Planning the activity, section f) Air operations*; and Chapter B.2. During the activity; sections* c) Air operations *and* d) Provisions for the protection of Fauna and Flora

Measure 15 (2009) Landing of Persons from Passenger Vessels in the Antarctic Treaty Area

This Measure asks Parties to require tour operators to avoid landings in Antarctica from vessels carrying more than 500 passengers. For vessels carrying 500 or fewer passengers, it establishes the need to coordinate with each other, to restrict the number of passengers on shore and to maintain

specific guide-to-passenger ratios. Measure 15 (2009) is not yet in force as their approval is still pending by a number of Parties. It was adopted after Resolution 4 (2007), which contains a very similar text (see below).

Resolution 4 (2007) Ship-based Tourism in the Antarctic Treaty Area

It recommends that Parties, consistent with their national law, discourage or decline to authorise tour operators that use vessels carrying more than 500 passengers from making any landings in Antarctica; and encourage or require tour operators to a) coordinate with each other such that not more than one tourist vessel is at a landing site at any one time; b) restrict the number of passengers on shore at any one time to 100 or fewer, unless otherwise specified in applicable ATCM Measures or Resolutions; and c) maintain a minimum 1:20 guide-to-passenger ratio while ashore, unless otherwise specified in applicable ATCM Measures or Resolutions.

After Resolution 4 (2007), the ATCM adopted a new Measure with a very similar text: Measure 15 (2009) *Landing of Persons from Passenger Vessels in the Antarctic Treaty Area*, which is, however, currently not yet in force as their approval is still pending by a number of Parties.

This Resolution also applies to Chapter A.2. During the Activity. Section b) Disembarking

Resolution 2 (2022) Site Guidelines for Visitors

When tour activities take place in sites contained in the list of existing "Site Guidelines for Visitors", operators should specifically see recommendations made in relevant sections "Landing Requirements", "Visitor Area" (including zoning schemes, such as Landing, Closed and Guided Walking areas) and "Visitor code of conduct". Remember that specific Site Guidelines for visitors can be downloaded from the Antarctic Treaty Secretariat website

This Resolution also applies to Chapter B.2. During the Activity; section a) Guidelines for visitors

c) Air operations

Only for Antarctic tour activities that make use of aircraft (including also remotely piloted aircraft systems –RPAS- or, commonly called, "drones")

Resolution 4 (2023) Urgent measures to be taken with respect to certain tourist and non-governmental activities

These measures recommend operators organising or conducting tourist or other non-governmental activities in Antarctica to discontinue the use of helicopters for recreational purposes in areas with concentrations of wildlife, except in case of emergencies and for the purpose of enhancing human safety. See in particular point 1.b. of this resolution.

This Resolution also applies to Chapter A.1. Planning the activity, section f) Air operations*; Chapter A.2. During the activity; sections* b) Disembarking*,* c) Air operations *and d)* Provisions for the protection of fauna and flora*;* Chapter B1. Planning the activity, section f) Air operations*; and* Chapter B.2. During the activity; sections b) Disembarking *and* d) Provisions for the protection of Fauna and Flora

Resolution 3 (2022) Air safety in Antarctica

For those actually operating in Antarctica, this resolution recommends the use of COMNAP's Antarctic Flight Information Manual (AFIM) by all pilots and the use of a specific radio frequency in areas beyond the range of VHF radio coverage of Primary and Secondary Air Information Stations (PAIS and SAIS) to

ensuring mutual awareness of current air operations, in accordance to the Convention on International Civil Aviation. See in particular points 6 and 7 of this Resolution.

This Resolution also applies to Chapter B.1. Planning the activity, section f) Air Operations

Resolution 2 (2004) Guidelines for the Operation of Aircraft Near Concentrations of Birds in Antarctica

These Guidelines provides advice on, *inter alia*, minimum recommended separation distances for aircraft operations close to concentrations of birds and include a number of considerations on the location and timing of aircraft operations when in presence of bird colonies.

They were elaborated taking into account that aircraft operations have the potential to cause disturbance leading to changes in the behaviour, physiology and the breeding success of wildlife.

This Resolution also applies to Chapter B.2. During the activity, section d) Provisions for the Protection of fauna and flora.

In addition, this Resolution applies to Chapter A.1. Section f) Air Operations, and Chapter A.2. Section d) Provisions for the Protection of fauna and flora

Resolution 4 (2018) Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica

These guidelines include a number of considerations that should be taken into account at the On-site and In-flight Operations, and Post-flight Actions and Reporting, including those associated to the conduct of Operations over or near wildlife, over terrestrial & freshwater ecosystems, and around Historic Sites or Monuments (HSMs), plus some general recommendations to minimize or avoid intrusion or disturbance to others.

This Resolution also applies to Chapter B.1. Planning the Activity; sections c) Provisions concerning Environmental Impact Assessments and f) Air Operations; and Chapter B.2. During the Activity, section d) Provisions for the protection of fauna and flora.

In addition, this Resolution applies to Chapter A.1. Planning the Activity; sections c) Provisions Concerning Environmental Impact Assessments, f) Air Operations, and Chapter A.2. During the activity, sections c) Air Operations and d) Provisions for the Protection of fauna and flora

d) Provisions for the protection of fauna and flora

Protocol on Environmental Protection to the Antarctic Treaty

Article 3.2: Environmental Principles provides that activities to be undertaken in Antarctica shall be planned and conducted so as to avoid "detrimental changes in the distribution, abundance or productivity of species or populations of species of fauna and flora" and "further jeopardy to endangered or threatened species or populations of such species".

Annex II to the Protocol: Conservation of Antarctic Fauna and Flora

Annex II sets out specific measures to give effect to this. It provides several different mechanisms to protect Antarctic species, including:

- the prohibition of taking (removing) and of harmful interference, except in accordance with a permit;

- the prohibition of introducing non-native species, except in accordance with a permit; and
- the designation of Specially Protected Species.

The references to the Environment Protocol and Annex II indicated above were included to allow operators understand the overall protection framework in place. The requirements stemmed from them are usually implemented via domestic legislation and are, to varying extents, captured in specific ATCM provisions agreed later (see below).

Recommendation XVIII-1 (1994) Tourism and Non-Governmental Activities

In relation to conservation of fauna and flora, this recommendation includes a section called "Protect Antarctic Wildlife", which describes a number of activities/actions that shall be avoided as they may cause disturbances to fauna and flora. See in particular Section "Guidance for Visitors", subsection A. protect Antarctic Wildlife

> *This Recommendation also applies to Chapter B.1. Planning the Activity, sections a) General Considerations about Tourism and Non-Governmental Activities and Chapter B.2, section e) Provisions related to waste management and marine pollution*

Resolution 7 (2009) General Principles of Antarctic Tourism

In reference to Antarctic wildlife, General Principle #2 states that Tourism should not be allowed to contribute to the long-term degradation of the Antarctic environment and its dependent and associated ecosystems. It also states that, in the absence of adequate information about potential impacts, decisions on tourism should be based on a pragmatic and precautionary approach.

> *This Resolution also applies to Chapter B.1, sections a) General considerations about Tourism and Non-Governmental Activities and d) Issues related to emergency and contingency plans, safety and insurance.*
>
> *In addition, this Resolution applies to Chapter A.1. Section a) General considerations about Tourism and Non-Governmental Expeditions, d) Issues related to emergency and contingency plans, safety and insurance, and Chapter A.2. Section d) Provisions for the protection of fauna and flora.*

Resolution 4 (2021) General Guidelines and Site Guidelines Checklist for Visitors to the Antarctic

These guidelines include a specific section called "Protect Antarctic Wildlife" that includes an exhaustive list of recommendations on how to behave in the presence of wildlife and vegetation, and some considerations on how to minimize the risk of non-native species to Antarctica.

> *This Resolution also applies to Chapter B.2. During the Activity. Section a) Guidelines for Visitors, e) Provisions related to Waste Management and Marine Pollution and f) Provisions related to protected areas, historic sites and monuments and historic remains*

Resolution 4 (2023) Urgent measures to be taken with respect to certain tourist and non-governmental activities

These measures recommend operators organising or conducting tourist or other non-governmental activities in Antarctica to discontinue the use of helicopters for recreational purposes in areas with concentrations of wildlife, except in case of emergencies and for the purpose of enhancing human safety. See in particular point 1.b. of this resolution.

> *This Resolution also applies to* Chapter A.1. Planning the activity, section f) Air operations*; Chapter A.2. During the activity; sections* b) Disembarking*,* c) Air operations *and d)* Provisions for the protection of fauna and flora*;* Chapter B1. Planning the activity, section f) Air operations*; and* Chapter B.2. During the activity; sections b)

Disembarking *and* c) Air operations

Resolution 2 (2004) Guidelines for the Operation of Aircraft Near Concentrations of Birds in Antarctica

These Guidelines contains a number of recommendations for the conduct of air operations when in presence of concentrations of birds, including precautionary distances that should be observed when overflying or landing. References to specific bird species were also included.

This Resolution also applies to Chapter B.1. Planning the activity, section f) Air Operations.

In addition, this Resolution applies to Chapter A.1. Section f) Air Operations, and Chapter A.2. Section d) Provisions for the Protection of fauna and flora

Resolution 4 (2018) Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica

These Guidelines provides, within the chapter devoted to "On-site and In-flight Operations", specific recommendations to operate RPAS near concentrations of wildlife (and other sensitive features), in order to avoid causing unaccepted levels of disturbance. See particularly Section 6. Operations over or near wildlife and Section, and Section 7. Operations over terrestrial & freshwater ecosystems.

This Resolution also applies to Chapter B.1. Planning the Activity; sections c) Provisions concerning Environmental Impact Assessments and f) Air Operations; and Chapter B.2. During the Activity, section c) Air Operations.

In addition, this Resolution applies to Chapter A.1. Planning the Activity; sections c) Provisions Concerning Environmental Impact Assessments, f) Air Operations, and Chapter A.2. During the activity, sections c) Air Operations and d) Provisions for the Protection of fauna and flora

Resolution 4 (2016) Non-native Species Manual

The overall objective of this Manual is to protect Antarctic biodiversity and intrinsic values by preventing the unintended introduction to the Antarctic region of species not native to that region, and the movement of species within Antarctica from one biogeographic zone to any other. Those organising, conducting and participating in Antarctic activities are encouraged to use it.

This manual includes key guiding principles and links to recommended practical guidelines and resources that operators can apply and use, as appropriate, to assist with meeting their responsibilities under Annex II to the Protocol. The latest update of this Manual is included under Resolution 4 (2016). Check in particular Section 3. Of the Manual: "Guidelines and resources to support prevention of the introduction of non-native species", subsection "Prevention" (points 1 to 5)

This Resolution also applies to Chapter B.1. Planning the Activity; section c) Provisions concerning Environmental Impact Assessments.

In addition, this Resolution applies to Chapter A.1. Planning the Activity; section c) Provisions concerning Environmental Impact Assessments and Chapter A.2. During the Activity, Section d) Provisions for the protection of fauna and flora

Resolution 3 (2006) Ballast Water Exchange in the Antarctic Treaty Area

The Practical Guidelines for Ballast Water Exchange in the Antarctic Treaty area annexed to this Resolution are to be used by all ships in the Antarctic Treaty area to prevent the introduction of non-native species to the Antarctic Treaty area by ships in their ballast water.

This resolution is linked to the International Convention for the Control and Management of Ships'

Ballast Waters and Sediments, 2004 (IMO Ballast Water Management Convention), which was adopted in February, 2004, and entered into force in September, 2017.

This Resolution also applies to Chapter A.2. During the activity. Section d) Provisions for the protection of fauna and flora

e) Provisions related to waste management and marine pollution

Annex III to the Protocol: Waste Disposal and Waste Management

Annex III to the Environment Protocol requires that "the amount of wastes produced or disposed of in the Antarctic Treaty area shall be reduced as far as practicable so as to minimize impacts on the Antarctic environment and to minimize interference with the natural values of Antarctica, with the scientific research and with other uses of Antarctica which are consistent with the Antarctic Treaty" (Art. 1.2).

The Annex identifies types of waste which have to be removed and establishes rules for the storage and disposal of waste. Some products like PCBs cannot be introduced into Antarctica at all. The Annex also provides for waste management planning and the removal of wastes of past activities.

Annex IV to the Protocol: Prevention of Marine Pollution

Annex IV prohibits discharge of oil, noxious liquid substances and garbage in the Antarctic Treaty area. It also contains rules for the discharge of sewage; and for ship retention capacity; reception facilities; sovereign immunity; preventive measures; and emergency preparedness and response.

Be aware that the legally binding requirements for waste disposal and management and marine pollution avoidance of Annexes III and IV are, in some jurisdictions, implemented through other (non-Antarctic specific) legislation and/or by other authorities.

Resolution 4 (2021) General Guidelines and Site Guidelines Checklist for Visitors to the Antarctic

These guidelines call for keeping Antarctica pristine and contain several recommendations on how to handle litter or garbage once in Antarctica and how to keep Antarctic wilderness values undisturbed. Please see Section “Keep Antarctic Pristine -Leave no trace of your visit” of these Guidelines.

This Resolution also applies to Chapter B.2. During the Activity. Section a) Guidelines for Visitors, d) Provisions for the protection of fauna and flora; and f) Provisions related to protected areas, historic sites and monuments and historic remains

Recommendation XVIII-1 (1994) Tourism and Non-Governmental Activities

This Recommendation states that these should provide for effective response to environmental emergencies, especially with regard to marine pollution; and that they should also prevent the disposal and discharge of prohibited waste. See section “Key obligations on organisers and operators”, with regard to marine pollution.

This Recommendation also applies to Chapter B.1. Planning the Activity, section a) General Considerations about Tourism and Non-Governmental Activities and Chapter B.2, section d) Provisions for the protection of fauna and flora

Resolution 5 (2019) Reducing Plastic Pollution in Antarctica and the Southern Ocean

It establishes that those organising or conducting Antarctic tourist or other non-governmental activities are encouraged to eliminate personal care products containing micro-plastic beads in the Antarctic Treaty area.

This Resolution also applies to Chapter A.2. During the activity. Section e) Provisions related to Waste Management and Marine Pollution

f) Provisions related to protected areas, historic sites and monuments and historic remains[13]

Annex V to the Protocol: Area Protection and Management

Annex V to the Protocol provides for the designation of Antarctic Specially Protected Areas (ASPA), Antarctic Specially Managed Areas (ASMA) and Historic Sites and Monuments (HSMs). Attention is drawn to the need to require permits to enter to certain protected areas, to protect historic values, and to comply with management plans, when applicable. Specific provisions related to protected areas and HSMs agreed later (see below) complements the framework provided by the Environment Protocol to such matters.

Resolution 4 (2021) General Guidelines and Site Guidelines Checklist for Visitors to the Antarctic

These guidelines provides specific guidance on how to behave once in the field to avoid any disturbance to Antarctic protected areas. See Section "Respect Protected Areas and Structures" of these Guidelines.

This Resolution also applies to Chapter B.2. During the Activity. Section a) Guidelines for Visitors, d) Provisions for the Protection of fauna and flora, and e) Provisions related to Waste Management and Marine Pollution

Resolution 5 (2001) Guidelines for handling of pre-1958 historic remains whose existence or present location is not yet known

These guidelines are to be applied, as far as possible, to provide interim protection of pre-1958 historic artefacts/sites until the Parties have had due time to consider their inclusion into the protection system under Annex V to the Protocol.

See points 4 and 7 of the Guidelines, on the need to notify discoveries and on the way to proceed in case there is uncertainty as to the age of a newly discovered historic artefact/site, respectively.

This Resolution also applies to Chapter A.2. During the Activity. Section f) Protected Areas.

Resolution 3 (2009) Guidelines for the designation and protection of Historic Sites and Monuments

According to these guidelines, visitors to Antarctica should be informed of the importance of protecting the historic and cultural heritage of the Antarctic continent and its surrounding islands and of all restrictions applying to artefacts, sites and monuments listed under the Antarctic Treaty system or protected under the above-mentioned Resolution 5 (2001). See in particular point 8 of the Guidelines, on the restrictions applying to historic objects.

This Resolution also applies to Chapter A.2. During the Activity. Section f) Protected Areas.

g) Reporting Requirements

Resolution 6 (2008) Enhancing the role of Maritime Rescue Coordination Centres with Search and Rescue Regions in the Antarctic Treaty Area

In accordance with their national laws, operators of tourist vessels are encouraged to report their vessel positions on a regular basis to the relevant regional Maritime Rescue Coordination Centres while operating within the Antarctic Treaty area.

This Resolution also applies to Chapter B.1. Planning the Activity. Section d) Issues related to emergency and contingency plans, safety and insurance.

In addition, this Resolution applies to Chapter A.1. Planning the Activity. Section d) Issues related to emergency and contingency plans, safety and insurance, and Chapter A.2. During the activity. Section g) Reporting requirements.

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[13] *The Antarctic Treaty Secretariat keeps an Antarctic Protected Areas Database containing the texts of the management plans for Antarctic Specially Protected Areas and Antarctic Specially Managed Areas, their legal status, location in the Antarctic continent and a summary of the purpose of designation. It also contains information related to the list and location of Historic Sites and Monuments in Antarctica. The Antarctic Protected Areas Database can be visited at:* https://www.ats.aq/devph/en/apa-database

Chapter B.3: After the expedition

h) Information Exchange Requirements

Resolution 6 (2022) Revised standard Post Visit Site Report Form

This Resolution recommends the use of the standard Post Visit Report Form attached to it, to exchange information on activities carried out by tourist and non-governmental vessels.

SECTION C: References to legal instruments adopted outside the ATCM framework

Besides the provisions applicable to Tourism and Non-Governmental Activities included in Measures, Decisions, Resolutions and Recommendations adopted by the ATCM and those included in key instruments of the Antarctic Treaty System, and provided that the vast majority of Antarctic tour activities are ship-based, relevant provisions applicable to Antarctic tour operations come also from international instruments under the International Maritime Organization (IMO).

These include the International Convention for the Prevention of Pollution from Ships (MARPOL, 1973/78), the International Agreement Concerning Safety of Life at Sea (SOLAS, 1974), the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW, 1978/1995). The International Code for Ships Operating in Polar Waters (the Polar Code) and the "Enhanced contingency planning guidance for passenger ships operating in areas remote from SAR facilities" (MSC.1/Circ/1184) apply to Antarctic Tour operations as well.

The texts of MARPOL, SOLAS and STCW Conventions have been published by IMO. Below you can find a summary of their goals and contents. Contact your IMO National Delegate to have access to their full texts.

Regarding the Polar Code and the "Enhanced contingency planning guidance for passenger ships operating in areas remote from Search and Rescue facilities" (MSC.1/Circ/1184), a brief synthesis of each of them can be found below. Links to IMO's web pages where you can download their full texts have also been included.

Contact your IMO National Delegate to have access to the most updated versions of these texts, and to any likely complementary provisions to them.

a) International Convention for the Prevention of Pollution from Ships (MARPOL)

Adoption: 1973 (Convention), 1978 (1978 Protocol), 1997 (Protocol - Annex VI); Entry into force: 2 October 1983 (Annexes I and II).

The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.

The Convention includes regulations aimed at preventing and minimizing pollution from ships - both accidental pollution and that from routine operations - and currently includes six technical Annexes. Special Areas with strict controls on operational discharges are included in most Annexes.

The MARPOL Convention was adopted on 2 November 1973 at IMO. The Protocol of 1978 was adopted in response to a spate of tanker accidents in 1976-1977. As the 1973 MARPOL Convention had not yet entered into force, the 1978 MARPOL Protocol absorbed the parent Convention. The combined instrument entered into force on 2 October 1983. In 1997, a Protocol was adopted to amend the Convention and a new Annex VI was added which entered into force on 19 May 2005. MARPOL has been updated by amendments through the years.

b) *International Convention for the Safety of Life at Sea (SOLAS), 1974*

Adoption: 1 November 1974; Entry into force: 25 May 1980

The SOLAS Convention in its successive forms is generally regarded as the most important of all international treaties concerning the safety of merchant ships. The first version was adopted in 1914. The 1974 version includes the tacit acceptance procedure - which provides that an amendment shall enter into force on a specified date unless, before that date, objections to the amendment are received from an agreed number of Parties. As a result the 1974 Convention has been updated and amended on numerous occasions. The Convention in force today is sometimes referred to as SOLAS, 1974, as amended.

The main objective of the SOLAS Convention is to specify minimum standards for the construction, equipment and operation of ships, compatible with their safety. Flag States are responsible for ensuring that ships under their flag comply with its requirements, and a number of certificates are prescribed in the Convention as proof that this has been done. Control provisions also allow Contracting Governments to inspect ships of other Contracting States if there are clear grounds for believing that the ship and its equipment do not substantially comply with the requirements of the Convention - this procedure is known as port State control. The current SOLAS Convention includes Articles setting out general obligations, amendment procedure and so on, followed by an Annex divided into 14 Chapters.

c) *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW)*

Adoption: 7 July 1978; Entry into force: 28 April 1984; Major revisions in 1995 and 2010

The 1978 STCW Convention prescribes minimum standards relating to training, certification and watchkeeping for seafarers which countries are obliged to meet or exceed.

The 1995 amendments, adopted by a Conference, represented a major revision of the Convention and entered into force on 1 February 1997. One of the major features of the revision was the division of the technical annex into regulations, divided into Chapters as before, and a new STCW Code, to which many technical regulations were transferred. Part A of the Code is mandatory while Part B is recommended. Dividing the regulations up in this way makes administration easier and it also makes the task of revising and updating them simpler: for procedural and legal reasons there is no need to call a full conference to make changes to Codes. Another major change was the requirement for Parties to the Convention are required to provide detailed information to IMO concerning administrative measures taken to ensure compliance with the Convention.

d) *International Code for Ships Operating in Polar Waters (the Polar Code)*

Adopted by Maritime Safety Committee (MSC), at its 94th session, by resolution MSC.385 (94), and by the Marine Environmental Protection Committee (MEPC), at its 68th session, by resolution MEPC.264 (68).

Entry into force: 1 January, 2017

Mandatory under both MARPOL and SOLAS Conventions.

The International Code for Ships Operating in Polar Waters –the Polar Code- has been developed to supplement existing IMO instruments in order to increase the safety of ships' operation and mitigate the impact on the people and environment in the remote, vulnerable and potentially harsh polar

waters. The Code acknowledges that polar water operation may impose additional demands on ships, their systems and operation beyond the existing requirements of the SOLAS and MARPOL Conventions, and other relevant binding IMO instruments. The Polar Code contains recommendations and mandatory provisions on safety and on pollution prevention issues.

e) IMO's "Enhanced contingency planning guidance for passenger ships operating in areas remote from SAR facilities" (MSC.1/Circ/1184)

Approved by the Maritime Safety Committee, at its eighty-first session (10-19 May 2006).

Resolution 6 (2008) *Enhancing the role of Maritime Rescue Coordination Centres with Search and Rescue Regions in the Antarctic Treaty Area* recommends that Parties, in accordance with their national laws, encourage operators of tourist vessels to consider this guidance in planning their activities.

The MSC.1/Circ/1184 describes the criteria for determining what constitutes an area remote from SAR Facilities and points out the enhancements needed to be made in relation to SAR co-operation planning arrangements, and to the assessment and planning of the risks of remote area operation.

Appendix 1: Full texts of the provisions included in the Manual

a) *Antarctic Treaty and the Environment Protocol*

Text of the Antarctic Treaty

Text of the Environment Protocol

Annexes to the Environment Protocol

Text of Annex I

Text of Annex II

Text of Annex III

Text of Annex IV

Text of Annex V

b) *ATCM Recommendations, Measures, Resolutions and Decisions (in chronological order)*

Resolution 4 (2023) Urgent measures to be taken with respect to certain tourist and non-governmental activities

Resolution 2 (2022) Site Guidelines for Visitors

Resolution 3 (2022) Air safety in Antarctica

Resolution 5 (2022) Permanent facilities for tourism and other non-governmental activities in Antarctica

Resolution 6 (2022) Revised standard Post Visit Site Report Form

Decision 5 (2022) Information Exchange Requirements

Resolution 4 (2021) General Guidelines and Site Guidelines Checklist for Visitors to the Antarctic

Decision 6 (2021) Manual of Regulations and Guidelines Relevant to Tourism and Non-Governmental Activities in the Antarctic Treaty area

Resolution 5 (2019) Reducing Plastic Pollution in Antarctica and the Southern Ocean

Decision 6 (2019) Manual of Regulations and Guidelines Relevant to Tourism and Non-Governmental Activities in the Antarctic Treaty Area

Resolution 4 (2018) Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica

Resolution 6 (2017) Guidelines on Contingency Planning, Insurance and Other Matters for Tourist and Other Non-Governmental Activities in the Antarctic Treaty Area

Resolution 1 (2016) Revised Guidelines for Environmental Impact Assessment in Antarctica.

Resolution 4 (2016) Non-native Species Manual

Resolution 6 (2014) Toward a Risk-based Assessment of Tourism and Non-governmental Activities

Resolution 7 (2012) Vessel Safety in the Antarctic Treaty Area

Resolution 9 (2012) The Assessment of Land-Based Expeditionary Activities

Resolution 10 (2012) Yachting Guidelines

Resolution 11 (2012) Checklist for visitors' in-field activities

Resolution 6 (2010) Improving the co-ordination of maritime search and rescue in the Antarctic Treaty area

Measure 15 (2009) Landing of Persons from Passenger Vessels in the Antarctic Treaty Area (current, but not yet in force as their approval is still pending by a number of Parties)

Resolution 3 (2009) Guidelines for the designation and protection of Historic Sites and Monuments

Resolution 7 (2009) General Principles of Antarctic Tourism

Resolution 6 (2008) Enhancing the role of Maritime Rescue Coordination Centres with Search and Rescue Regions in the Antarctic Treaty Area

Resolution 4 (2007) Ship-based Tourism in the Antarctic Treaty Area

Resolution 5 (2007) Long-term effects of tourism

Resolution 3 (2006) Ballast water exchange in the Antarctic Treaty Area

Measure 4 (2004) Insurance and Contingency Planning for Tourism and Non-governmental Expeditions in the Antarctic Treaty Area (current, but not yet in force as their approval is still pending by a number of Parties)

Resolution 2 (2004) Guidelines for the Operation of Aircraft Near Concentrations of Birds in Antarctica

Resolution 3 (2004) Tourism and Non-Governmental Activities: Enhanced Cooperation amongst Parties

Resolution 1 (2003) Advice to vessel and yacht operators

Resolution 5 (2001) Guidelines for handling of pre-1958 historic remains whose existence or present location is not yet known

Resolution 3 (1997) Standard form for advance notification and post-visit reporting on Tourism and Non-Governmental Activities

Recommendation XVIII-1 (1994) Tourism and Non-Governmental Activities

Recommendation X-8 (1979) Effects of tourists and non-government expeditions in the Antarctic Treaty Area

Antarctic Treaty and the Environment Protocol

THE ANTARCTIC TREATY

The Governments of Argentina, Australia, Belgium, Chile, the French Republic, Japan, New Zealand, Norway, the Union of South Africa, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, and the United States of America,

Recognizing that it is in the interest of all mankind that Antarctica shall continue for ever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord;

Acknowledging the substantial contributions to scientific knowledge resulting from international cooperation in scientific investigation in Antarctica;

Convinced that the establishment of a firm foundation for the continuation and development of such cooperation on the basis of freedom of scientific investigation in Antarctica as applied during the International Geophysical Year accords with the interests of science and the progress of all mankind;

Convinced also that a treaty ensuring the use of Antarctica for peaceful purposes only and the continuance of international harmony in Antarctica will further the purposes and principles embodied in the Charter of the United Nations; Have agreed as follows:

ARTICLE I

1. Antarctica shall be used for peaceful purposes only. There shall be prohibited, inter alia, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military maneuvers, as well as the testing of any type of weapons.

2. The present Treaty shall not prevent the use of military personnel or equipment for scientific research or for any other peaceful purpose.

ARTICLE II

Freedom of scientific investigation in Antarctica and cooperation toward that end, as applied during the International Geophysical Year, shall continue, subject to the provisions of the present Treaty.

ARTICLE III

1. In order to promote international cooperation in scientific investigation in Antarctica, as provided for in Article II of the present Treaty, the Contracting Parties agree that, to the greatest extent feasible and practicable:

   (a) information regarding plans for scientific programs in Antarctica shall be exchanged to permit maximum economy and efficiency of operations;

   (b) scientific personnel shall be exchanged in Antarctica between expeditions and stations;

   (c) scientific observations and results from Antarctica shall be exchanged and made freely available.

2. In implementing this Article, every encouragement shall be given to the establishment of cooperative working relations with those Specialized Agencies of the United Nations and other international organizations

having a scientific or technical interest in Antarctica.

ARTICLE IV

1. Nothing contained in the present Treaty shall be interpreted as:

   (a) a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica;

   (b) a renunciation or diminution by any Contracting Party of any basis of claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise;

   (c) prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any other State's right of or claim or basis of claim to territorial sovereignty in Antarctica.

2. No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.

ARTICLE V

1. Any nuclear explosions in Antarctica and the disposal there of radioactive waste material shall be prohibited.

2. In the event of the conclusion of international agreements concerning the use of nuclear energy, including nuclear explosions and the disposal of radioactive waste material, to which all of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX are parties, the rules established under such agreements shall apply in Antarctica.

ARTICLE VI

The provisions of the present Treaty shall apply to the area south of 60º South Latitude, including all ice shelves, but nothing in the present Treaty shall prejudice or in any way affect the rights, or the exercise of the rights, of any State under international law with regard to the high seas within that area.

ARTICLE VII

1. In order to promote the objectives and ensure the observance of the provisions of the present Treaty, each Contracting Party whose representatives are entitled to participate in the meetings referred to in Article IX of the Treaty shall have the right to designate observers to carry out any inspection provided for by the present Article. Observers shall be nationals of the Contracting Parties which designate them. The names of observers shall be communicated to every other Contracting Party having the right to designate observers, and like notice shall be given of the termination of their appointment.

2. Each observer designated in accordance with the provisions of paragraph 1 of this Article shall have complete freedom of access at any time to any or all areas of Antarctica.

3. All areas of Antarctica, including all stations, installations and equipment within those areas, and all ships and aircraft at points of discharging or embarking cargoes or personnel in Antarctica, shall be open at all times to inspection by any observers designated in accordance with paragraph 1 of this Article.

4. Aerial observation may be carried out at any time over any or all areas of Antarctica by any of the Contracting Parties having the right to designate observers.

5. Each Contracting Party shall, at the time when the present Treaty enters into force for it, inform the other Contracting Parties, and thereafter shall give them notice in advance, of

(a) all expeditions to and within Antarctica, on the part of its ships or nationals, and all expeditions to Antarctica organized in or proceeding from its territory;

(b) all stations in Antarctica occupied by its nationals; and

(c) any military personnel or equipment intended to be introduced by it into Antarctica subject to the conditions prescribed in paragraph 2 of Article I of the present Treaty.

ARTICLE VIII

1. In order to facilitate the exercise of their functions under the present Treaty, and without prejudice to the respective positions of the Contracting Parties relating to jurisdiction over all other persons in Antarctica, observers designated under paragraph 1 of Article VII and scientific personnel exchanged under subparagraph 1(b) of Article III of the Treaty, and members of the staffs accompanying any such persons, shall be subject only to the jurisdiction of the Contracting Party of which they are nationals in respect of all acts or omissions occurring while they are in Antarctica for the purpose of exercising their functions.

2. Without prejudice to the provisions of paragraph 1 of this Article, and pending the adoption of measures in pursuance of subparagraph 1(e) of Article IX, the Contracting Parties concerned in any case of dispute with regard to the exercise of jurisdiction in Antarctica shall immediately consult together with a view to reaching a mutually acceptable solution.

ARTICLE IX

1. Representatives of the Contracting Parties named in the preamble to the present Treaty shall meet at the City of Canberra within two months after the date of entry into force of the Treaty, and thereafter at suitable intervals and places, for the purpose of exchanging information, consulting together on matters of common interest pertaining to Antarctica, and formulating and considering, and recommending to their Governments, measures in furtherance of the principles and objectives of the Treaty, including measures regarding:

(a) use of Antarctica for peaceful purposes only;

(b) facilitation of scientific research in Antarctica;

(c) facilitation of international scientific cooperation in Antarctica;

(d) facilitation of the exercise of the rights of inspection provided for in Article VII of the Treaty;

(e) questions relating to the exercise of jurisdiction in Antarctica;

(f) preservation and conservation of living resources in Antarctica.

2. Each Contracting Party which has become a party to the present Treaty by accession under Article XIII shall be entitled to appoint representatives to participate in the meetings referred to in paragraph 1 of the present Article, during such time as that Contracting Party demonstrates its interest in Antarctica by conducting substantial scientific research activity there, such as the establishment of a scientific station or the despatch of a scientific expedition.

3. Reports from the observers referred to in Article VII of the present Treaty shall be transmitted to the representatives of the Contracting Parties participating in the meetings referred to in paragraph 1 of the present Article.

4. The measures referred to in paragraph 1 of this Article shall become effective when approved by all the Contracting Parties whose representatives were entitled to participate in the meetings held to consider those measures.

5. Any or all of the rights established in the present Treaty may be exercised as from the date of entry into force of the Treaty whether or not any measures facilitating the exercise of such rights have been proposed, considered or approved as provided in this Article.

ARTICLE X

Each of the Contracting Parties undertakes to exert appropriate efforts, consistent with the Charter of the United Nations, to the end that no one engages in any activity in Antarctica contrary to the principles or purposes of the present Treaty.

ARTICLE XI

1. If any dispute arises between two or more of the Contracting Parties concerning the interpretation or application of the present Treaty, those Contracting Parties shall consult among themselves with a view to having the dispute resolved by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement or other peaceful means of their own choice.

2. Any dispute of this character not so resolved shall, with the consent, in each case, of all parties to the dispute, be referred to the International Court of Justice for settlem ent; but failure to reach agreement on reference to the International Court shall not abs olve parties to the dispute from the responsibility of continuing to seek to resolve it by any of the various peaceful means referred to in paragraph 1 of this Article.

ARTICLE XII

1. (a) The present Treaty may be modified or amended at any time by unanimous agreement of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX. Any such modification or amendment shall enter into force when the depositary Government has received notice from all such Contracting Parties that they have ratified it.

   (b) Such modification or amendment shall thereafter enter into force as to any other Contracting Party when notice of ratification by it has been received by the depositary Government. Any such Contracting Party from which no notice of ratification is received within a period of two years from the date of entry into force of the modification or amendment in accordance with the provisions of subparagraph 1(a) of this Article shall be deemed to have withdrawn from the present Treaty on the date of the expiration of such period.

2. (a) If after the expiration of thirty years from the date of entry into force of the present Treaty, any of the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX so requests by a communication addressed to the depositary Government, a Conference of all the Contracting Parties shall be held as soon as practicable to review the operation of the Treaty.

   (b) Any modification or amendment to the present Treaty which is approved at such a Conference by a majority of the Contracting Parties there represented, including a majority of those whose

representatives are entitled to participate in the meetings provided for under Article IX, shall be communicated by the depositary Government to all the Contracting Parties immediately after the termination of the Conference and shall enter into force in accordance with the provisions of paragraph 1 of the present Article

(c) If any such modification or amendment has not entered into force in accordance with the provisions of subparagraph 1(a) of this Article within a period of two years after the date of its communication to all the Contracting Parties, any Contracting Party may at any time after the expiration of that period give notice to the depositary Government of its withdrawal from the present Treaty; and such withdrawal shall take effect two years after the receipt of the notice by the depositary Government.

ARTICLE XIII

1. The present Treaty shall be subject to ratification by the signatory States. It shall be open for accession by any State which is a Member of the United Nations, or by any other State which may be invited to accede to the Treaty with the consent of all the Contracting Parties whose representatives are entitled to participate in the meetings provided for under Article IX of the Treaty.

2. Ratification of or accession to the present Treaty shall be effected by each State in accordance with its constitutional processes.

3. Instruments of ratification and instruments of accession shall be deposited with the Government of the United States of America, hereby designated as the depositary Government.

4. The depositary Government shall inform all signatory and acceding States of the date of each deposit of an instrument of ratification or accession, and the date of entry into force of the Treaty and of any modification or amendment thereto.

5. Upon the deposit of instruments of ratification by all the signatory States, the present Treaty shall enter into force for those States and for States which have deposited instruments of accession. Thereafter the Treaty shall enter into force for any acceding State upon the deposit of its instrument of accession.

6. The present Treaty shall be registered by the depositary Government pursuant to Article 102 of the Charter of the United Nations.

ARTICLE XIV

The present Treaty, done in the English, French, Russian and Spanish languages, each version being equally authentic, shall be deposited in the archives of the Government of the United States of America, which shall transmit duly certified copies thereof to the Governments of the signatory and acceding States.

PROTOCOL ON ENVIRONMENTAL PROTECTION TO THE ANTARCTIC TREATY

PREAMBLE

The States Parties to this Protocol to the Antarctic Treaty, hereinafter referred to as the Parties,

Convinced of the need to enhance the protection of the Antarctic environment and dependent and associated ecosystems;

Convinced of the need to strengthen the Antarctic Treaty system so as to ensure that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord;

Bearing in mind the special legal and political status of Antarctica and the special responsibility of the Antarctic Treaty Consultative Parties to ensure that all activities in Antarctica are consistent with the purposes and principles of the Antarctic Treaty;

Recalling the designation of Antarctica as a Special Conservation Area and other measures adopted under the Antarctic Treaty system to protect the Antarctic environment and dependent and associated ecosystems;

Acknowledging further the unique opportunities Antarctica offers for scientific monitoring of and research on processes of global as well as regional importance;

Reaffirming the conservation principles of the Convention on the Conservation of Antarctic Marine Living Resources;

Convinced that the development of a comprehensive regime for the protection of the Antarctic environment and dependent and associated ecosystems is in the interest of mankind as a whole;

Desiring to supplement the Antarctic Treaty to this end; Have agreed as follows:

ARTICLE 1 Definitions

For the purposes of this Protocol:

(a) "The Antarctic Treaty" means the Antarctic Treaty done at Washington on 1 December 1959;

(b) "Antarctic Treaty area" means the area to which the provisions of the Antarctic Treaty apply in accordance with Article VI of that Treaty;

(c) "Antarctic Treaty Consultative Meetings" means the meetings referred to in Article IX of the Antarctic Treaty;

(d) "Antarctic Treaty Consultative Parties" means the Contracting Parties to the Antarctic Treaty entitled to appoint representatives to participate in the meetings referred to in Article IX of that Treaty;

(e) "Antarctic Treaty system" means the Antarctic Treaty, the measures in effect under that Treaty, its associated separate international instruments in force and the measures in effect under those instruments;

(f) "Arbitral Tribunal" means the Arbitral Tribunal established in accordance with the Schedule to this Protocol, which forms an integral part thereof;

(g) "Committee" means the Committee for Environmental Protection established in accordance with Article 11.

ARTICLE 2 Objective and Designation

The Parties commit themselves to the comprehensive protection of the Antarctic environment and dependent and associated ecosystems and hereby designate Antarctica as a natural reserve, devoted to peace and science.

ARTICLE 3 Environmental Principles

1. The protection of the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research, in particular research essential to understanding the global environment, shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area.

2. To this end:

(a) activities in the Antarctic Treaty area shall be planned and conducted so as to limit adverse impacts on the Antarctic environment and dependent and associated ecosystems;

(b) activities in the Antarctic Treaty area shall be planned and conducted so as to avoid:

(i) adverse effects on climate or weather patterns;

(ii) significant adverse effects on air or water quality;

(iii) significant changes in the atmospheric, terrestrial (including aquatic), glacial or marine environments;

(iv) detrimental changes in the distribution, abundance or productivity of species or populations of species of fauna and flora;

(v) further jeopardy to endangered or threatened species or populations of such species; or

(vi) degradation of, or substantial risk to, areas of biological, scientific, historic, aesthetic or wilderness significance;

(c) activities in the Antarctic Treaty area shall be planned and conducted on the basis of information sufficient to allow prior assessments of, and informed judgments about, their possible impacts on the Antarctic environment and dependent and associated ecosystems and on the value of Antarctica for the conduct of scientific research; such judgments shall take account of:

(i) the scope of the activity, including its area, duration and intensity;

(ii) the cumulative impacts of the activity, both by itself and in combination with other activities in the Antarctic Treaty area;

(iii) whether the activity will detrimentally affect any other activity in the Antarctic Treaty area;

(iv) whether technology and procedures are available to provide for environmentally safe operations;

(v) whether there exists the capacity to monitor key environmental parameters and ecosystem components so as to identify and provide early warning of any adverse effects of the activity and to provide for such modification of operating procedures as may be necessary in the light

of the results of monitoring or increased knowledge of the Antarctic environment and dependent and associated ecosystems; and

(vi) whether there exists the capacity to respond promptly and effectively to accidents, particularly those with potential environmental effects;

(d) regular and effective monitoring shall take place to allow assessment of the impacts of ongoing activities, including the verification of predicted impacts;

(e) regular and effective monitoring shall take place to facilitate early detection of the possible unforeseen effects of activities carried on both within and outside the Antarctic Treaty area on the Antarctic environment and dependent and associated ecosystems.

3. Activities shall be planned and conducted in the Antarctic Treaty area so as to accord priority to scientific research and to preserve the value of Antarctica as an area for the conduct of such research, including research essential to understanding the global environment.

4. Activities undertaken in the Antarctic Treaty area pursuant to scientific research programmes, tourism and all other governmental and non-governmental activities in the Antarctic Treaty area for which advance notice is required in accordance with Article VII (5) of the Antarctic Treaty, including associated logistic support activities, shall:

(a) take place in a manner consistent with the principles in this Article; and

(b) be modified, suspended or cancelled if they result in or threaten to result in impacts upon the Antarctic environment or dependent or associated ecosystems inconsistent with those principles.

ARTICLE 4 Relationship with the other Components of the Antarctic Treaty system

1. This Protocol shall supplement the Antarctic Treaty and shall neither modify nor amend that Treaty.

2. Nothing in this Protocol shall derogate from the rights and obligations of the Parties to this Protocol under the other international instruments in force within the Antarctic Treaty system.

ARTICLE 5 Consistency with the other Components of the Antarctic Treaty system

The Parties shall consult and co-operate with the Contracting Parties to the other international instruments in force within the Antarctic Treaty system and their respective institutions with a view to ensuring the achievement of the objectives and principles of this Protocol and avoiding any interference with the achievement of the objectives and principles of those instruments or any inconsistency between the implementation of those instruments and of this Protocol.

ARTICLE 6 Co-operation

1. The Parties shall co-operate in the planning and conduct of activities in the Antarctic Treaty area. To this end, each Party shall endeavour to:

(a) promote co-operative programmes of scientific, technical and educational value, concerning the protection of the Antarctic environment and dependent and associated ecosystems;

(b) provide appropriate assistance to other Parties in the preparation of environmental impact assessments;

(c) provide to other Parties upon request information relevant to any potential environmental risk and assistance to minimize the effects of accidents which may damage the Antarctic environment or dependent and associated ecosystems;

(d) consult with other Parties with regard to the choice of sites for prospective stations and other facilities so as to avoid the cumulative impacts caused by their excessive concentration in any location;

(e) where appropriate, undertake joint expeditions and share the use of stations and other facilities; and

(f) carry out such steps as may be agreed upon at Antarctic Treaty Consultative Meetings.

2. Each Party undertakes, to the extent possible, to share information that may be helpful to other Parties in planning and conducting their activities in the Antarctic Treaty area, with a view to the protection of the Antarctic environment and dependent and associated ecosystems.

3. The Parties shall co-operate with those Parties which may exercise jurisdiction in areas adjacent to the Antarctic Treaty area with a view to ensuring that activities in the Antarctic Treaty area do not have adverse environmental impacts on those areas.

ARTICLE 7 Prohibition of Mineral Resource Activities

Any activity relating to mineral resources, other than scientific research, shall be prohibited.

ARTICLE 8 Environmental Impact Assessment

1. Proposed activities referred to in paragraph 2 below shall be subject to the procedures set out in Annex I for prior assessment of the impacts of those activities on the Antarctic environment or on dependent or associated ecosystems according to whether those activities are identified as having:

(a) less than a minor or transitory impact; (b) a minor or transitory

impact; or

(c) more than a minor or transitory impact.

2. Each Party shall ensure that the assessment procedures set out in Annex I are applied in the planning processes leading to decisions about any activities undertaken in the Antarctic Treaty area pursuant to scientific research programmes, tourism and all other governmental and non-governmental activities in the Antarctic Treaty area for which advance notice is required under Article VII (5) of the Antarctic Treaty, including associated logistic support activities.

3. The assessment procedures set out in Annex I shall apply to any change in an activity whether the change arises from an increase or decrease in the intensity of an existing activity, from the addition of an activity, the decommissioning of a facility, or otherwise.

4. Where activities are planned jointly by more than one Party, the Parties involved shall nominate one of their number to coordinate the implementation of the environmental impact assessment procedures set out in Annex I.

ARTICLE 9 Annexes

1. The Annexes to this Protocol shall form an integral part thereof.

2. Annexes, additional to Annexes I-IV, may be adopted and become effective in accordance with Article IX of the Antarctic Treaty.

3. Amendments and modifications to Annexes may be adopted and become effective in accordance with Article IX of the Antarctic Treaty, provided that any Annex may itself make provision for amendments and modifications to become effective on an accelerated basis.

4. Annexes and any amendments and modifications thereto which have become effective in accordance with paragraphs 2 and 3 above shall, unless an Annex itself provides otherwise in respect of the entry into effect of any amendment or modification thereto, become effective for a Contracting Party to the Antarctic Treaty which is not an Antarctic Treaty Consultative Party, or which was not an Antarctic Treaty Consultative Party at the time of the adoption, when notice of approval of that Contracting Party has been received by the Depository.

5. Annexes shall, except to the extent that an Annex provides otherwise, be subject to the procedures for dispute settlement set out in Articles 18 to 20.

ARTICLE 10 Antarctic Treaty Consultative Meetings

1. Antarctic Treaty Consultative Meetings shall, drawing upon the best scientific and technical advice available:

   (a) define, in accordance with the provisions of this Protocol, the general policy for the comprehensive protection of the Antarctic environment and dependent and associated ecosystems; and

   (b) adopt measures under Article IX of the Antarctic Treaty for the implementation of this Protocol.

2. Antarctic Treaty Consultative Meetings shall review the work of the Committee and shall draw fully upon its advice and recommendations in carrying out the tasks referred to in paragraph 1 above, as well as upon the advice of the Scientific Committee on Antarctic Research.

ARTICLE 11 Committee for Environmental Protection

1. There is hereby established the Committee for Environmental Protection.

2. Each Party shall be entitled to be a member of the Committee and to appoint a representative who may be accompanied by experts and advisers.

3. Observer status in the Committee shall be open to any Contracting Party to the Antarctic Treaty which is not a Party to this Protocol.

4. The Committee shall invite the President of the Scientific Committee on Antarctic Research and the Chairman of the Scientific Committee for the Conservation of Antarctic Marine Living Resources to participate as observers at its sessions. The Committee may also, with the approval of the Antarctic Treaty Consultative Meeting, invite such other relevant scientific, environmental and technical organisations which can contribute to its work to participate as observers at its sessions.

5. The Committee shall present a report on each of its sessions to the Antarctic

Treaty Consultative Meeting. The report shall cover all matters considered at the session and shall reflect the views expressed. The report shall be circulated to the Parties and to observers attending the session, and shall thereupon be made publicly available.

6. The Committee shall adopt its rules of procedure which shall be subject to approval by the Antarctic Treaty Consultative Meeting.

ARTICLE 12 Functions of the Committee

1. The functions of the Committee shall be to provide advice and formulate recommendations to the Parties in connection with the implementation of this Protocol, including the operation of its Annexes, for consideration at Antarctic Treaty Consultative Meetings, and to perform such other functions as may be referred to it by the Antarctic Treaty Consultative Meetings. In particular, it shall provide advice on:

(a) the effectiveness of measures taken pursuant to this Protocol;

(b) the need to update, strengthen or otherwise improve such measures;

(c) the need for additional measures, including the need for additional Annexes, where appropriate;

(d) the application and implementation of the environmental impact assessment procedures set out in Article 8 and Annex I;

(e) means of minimising or mitigating environmental impacts of activities in the Antarctic Treaty area;

(f) procedures for situations requiring urgent action, including response action in environmental emergencies;

(g) the operation and further elaboration of the Antarctic Protected Area system;

(h) inspection procedures, including formats for inspection reports and checklists for the conduct of inspections;

(i) the collection, archiving, exchange and evaluation of information related to environmental protection;

(j) the state of the Antarctic environment; and

(k) the need for scientific research, including environmental monitoring, related to the implementation of this Protocol.

2. In carrying out its functions, the Committee shall, as appropriate, consult with the Scientific Committee on Antarctic Research, the Scientific Committee for the Conservation of Antarctic Marine Living Resources and other relevant scientific, environmental and technical organizations.

ARTICLE 13 Compliance with this Protocol

1. Each Party shall take appropriate measures within its competence, including the adoption of laws and regulations, administrative actions and enforcement measures, to ensure compliance with this Protocol.

2. Each Party shall exert appropriate efforts, consistent with the Charter of the United Nations, to the end that no one engages in any activity contrary to this Protocol.

3. Each Party shall notify all other Parties of the measures it takes pursuant to paragraphs 1 and 2 above.

4. Each Party shall draw the attention of all other Parties to any activity which in its opinion affects the implementation of the objectives and principles of this Protocol.

5. The Antarctic Treaty Consultative Meetings shall draw the attention of any State which is not a Party to this Protocol to any activity undertaken by that State, its agencies, instrumentalities, natural or juridical persons, ships, aircraft or other means of transport which affects the implementation of the objectives and principles of this Protocol.

ARTICLE 14 Inspection

1. In order to promote the protection of the Antarctic environment and dependent and associated ecosystems, and to ensure compliance with this Protocol, the Antarctic Treaty Consultative Parties shall arrange, individually or collectively, for inspections by observers to be made in accordance with Article VII of the Antarctic Treaty.

2. Observers are:

   (a) observers designated by any Antarctic Treaty Consultative Party who shall be nationals of that Party; and

   (b) any observers designated at Antarctic Treaty Consultative Meetings to carry out inspections under procedures to be established by an Antarctic Treaty Consultative Meeting.

3. Parties shall co-operate fully with observers undertaking inspections, and shall ensure that during inspections, observers are given access to all parts of stations, installations, equipment, ships and aircraft open to inspection under Article VII (3) of the Antarctic Treaty, as well as to all records maintained thereon which are called for pursuant to this Protocol.

4. Reports of inspections shall be sent to the Parties whose stations, installations, equipment, ships or aircraft are covered by the reports. After those Parties have been given the opportunity to comment, the reports and any comments thereon shall be circulated to all the Parties and to the Committee, considered at the next Antarctic Treaty Consultative Meeting, and thereafter made publicly available.

ARTICLE 15 Emergency Response Action

1. In order to respond to environmental emergencies in the Antarctic Treaty area, each Party agrees to:

   (a) provide for prompt and effective response action to such emergencies which might arise in the performance of scientific research programmes, tourism and all other governmental and non-governmental activities in the Antarctic Treaty area for which advance notice is required under Article VII (5) of the Antarctic Treaty, including associated logistic support activities; and

   (b) establish contingency plans for response to incidents with potential adverse effects on the Antarctic environment or dependent and associated ecosystems.

2. To this end, the Parties shall:

   (a) co-operate in the formulation and implementation of such contingency plans; and

   (b) establish procedures for immediate notification of, and co-operative response to, environmental emergencies.

3. In the implementation of this Article, the Parties shall draw upon the advice of the appropriate international organisations.

ARTICLE 16 Liability

Consistent with the objectives of this Protocol for the comprehensive protection of the Antarctic environment and dependent and associated ecosystems, the Parties undertake to elaborate rules and procedures relating to liability for damage arising from activities taking place in the Antarctic Treaty area and covered by this Protocol. Those rules and procedures shall be included in one or more Annexes to be adopted in accordance with Article 9 (2).

ARTICLE 17 Annual Report by Parties

1. Each Party shall report annually on the steps taken to implement this Protocol. Such reports shall include notifications made in accordance with Article 13 (3), contingency plans established in accordance with Article 15 and any other notifications and information called for pursuant to this Protocol for which there is no other provision concerning the circulation and exchange of information.

2. Reports made in accordance with paragraph 1 above shall be circulated to all Parties and to the Committee, considered at the next Antarctic Treaty Consultative Meeting, and made publicly available.

ARTICLE 18 Dispute Settlement

If a dispute arises concerning the interpretation or application of this Protocol, the parties to the dispute shall, at the request of any one of them, consult among themselves as soon as possible with a view to having the dispute resolved by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement or other peaceful means to which the parties to the dispute agree.

ARTICLE 19 Choice of Dispute Settlement Procedure

1. Each Party, when signing, ratifying, accepting, approving or acceding to this Protocol, or at any time thereafter, may choose, by written declaration, one or both of the following means for the settlement of disputes concerning the interpretation or application of Articles 7, 8 and 15 and, except to the extent that an Annex provides otherwise, the provisions of any Annex and, insofar as it relates to these Articles and provisions, Article 13:

(a) the International Court of Justice;

(b) the Arbitral Tribunal.

2. A declaration made under paragraph 1 above shall not affect the operation of Article 18 and Article 20 (2).

3. A Party which has not made a declaration under paragraph 1 above or in respect of which a declaration is no longer in force shall be deemed to have accepted the competence of the Arbitral Tribunal.

4. If the parties to a dispute have accepted the same means for the settlement of a dispute, the dispute may be submitted only to that procedure, unless the parties otherwise agree.

5. If the parties to a dispute have not accepted the same means for the settlement of a dispute, or if they have both accepted both means, the dispute may be submitted only to the Arbitral Tribunal, unless the parties otherwise agree.

6. A declaration made under paragraph 1 above shall remain in force until it expires in accordance with its terms or until three months after written notice of revocation has been deposited with the Depositary.

7. A new declaration, a notice of revocation or the expiry of a declaration shall not in any way affect proceedings pending before the International Court of Justice or the Arbitral Tribunal, unless the parties to the dispute otherwise agree.

8. Declarations and notices referred to in this Article shall be deposited with the Depositary who shall transmit copies thereof to all Parties.

ARTICLE 20 Dispute Settlement Procedure

1. If the parties to a dispute concerning the interpretation or application of Articles 7, 8 or 15 or, except to the extent that an Annex provides otherwise, the provisions of any Annex or, insofar as it relates to these Articles and provisions, Article 13, have not agreed on a means for resolving it within 12 months of the request for consultation pursuant to Article 18, the dispute shall be referred, at the request of any party to the dispute, for settlement in accordance with the procedure determined by Article 19 (4) and (5).

2. The Arbitral Tribunal shall not be competent to decide or rule upon any matter within the scope of Article IV of the Antarctic Treaty. In addition, nothing in this Protocol shall be interpreted as conferring competence or jurisdiction on the International Court of Justice or any other tribunal established for the purpose of settling disputes between Parties to decide or otherwise rule upon any matter within the scope of Article IV of the Antarctic Treaty.

ARTICLE 21 Signature

This Protocol shall be open for signature at Madrid on the 4th of October 1991 and thereafter at Washington until the 3rd of October 1992 by any State which is a Contracting Party to the Antarctic Treaty.

ARTICLE 22 Ratification, Acceptance, Approval or Accession

1. This Protocol is subject to ratification, acceptance or approval by signatory States.

2. After the 3rd of October 1992 this Protocol shall be open for accession by any State which is a Contracting Party to the Antarctic Treaty.

3. Instruments of ratification, acceptance, approval or accession shall be deposited with the Government of the United States of America, hereby designated as the Depositary.

4. After the date on which this Protocol has entered into force, the Antarctic Treaty Consultative Parties shall not act upon a notification regarding the entitlement of a Contracting Party to the Antarctic Treaty to appoint representatives to participate in Antarctic Treaty Consultative Meetings in accordance with Article IX (2) of the Antarctic Treaty unless that Contracting Party has first ratified, accepted, approved or acceded to this Protocol.

ARTICLE 23 Entry into Force

1. This Protocol shall enter into force on the thirtieth day following the date of deposit of instruments of ratification, acceptance, approval or accession by all States which are Antarctic Treaty Consultative Parties at the date on which this Protocol is adopted.

2. For each Contracting Party to the Antarctic Treaty which, subsequent to the date of entry into force of this Protocol, deposits an instrument of ratification, acceptance, approval or accession, this Protocol shall enter into force on the thirtieth day following such deposit.

ARTICLE 24 Reservations

Reservations to this Protocol shall not be permitted.

ARTICLE 25 Modification or Amendment

1. Without prejudice to the provisions of Article 9, this Protocol may be modified or amended at any time in accordance with the procedures set forth in Article XII (1) (a) and (b) of the Antarctic Treaty.

2. If, after the expiration of 50 years from the date of entry into force of this Protocol, any of the Antarctic Treaty Consultative Parties so requests by a communication addressed to the Depositary, a conference shall be held as soon as practicable to review the operation of this Protocol.

3. A modification or amendment proposed at any Review Conference called pursuant to paragraph 2 above shall be adopted by a majority of the Parties, including 3/4 of the States which are Antarctic Treaty Consultative Parties at the time of adoption of this Protocol.

4. A modification or amendment adopted pursuant to paragraph 3 above shall enter into force upon ratification, acceptance, approval or accession by 3/4 of the Antarctic Treaty Consultative Parties, including ratification, acceptance, approval or accession by all States which are Antarctic Treaty Consultative Parties at the time of adoption of this Protocol.

5. (a) With respect to Article 7, the prohibition on Antarctic mineral resource activities contained therein shall continue unless there is in force a binding legal regime on Antarctic mineral resource activities that includes an agreed means for determining whether, and, if so, under which conditions, any such activities would be acceptable. This regime shall fully safeguard the interests of all States referred to in Article IV of the Antarctic Treaty and apply the principles thereof. Therefore, if a modification or amendment to Article 7 is proposed at a Review Conference referred to in paragraph 2 above, it shall include such a binding legal regime.

   (b) If any such modification or amendment has not entered into force within 3 years of the date of its adoption, any Party may at any time thereafter notify to the Depositary of its withdrawal from this Protocol, and such withdrawal shall take effect 2 years after receipt of the notification by the Depositary.

ARTICLE 26 Notifications by the Depositary

The Depositary shall notify all Contracting Parties to the Antarctic Treaty of the following:

(a) signatures of this Protocol and the deposit of instruments of ratification, acceptance, approval or accession;

(b) the date of entry into force of this Protocol and any additional Annex thereto;

(c) the date of entry into force of any amendment or modification to this Protocol;

(d) the deposit of declarations and notices pursuant to Article 19; and (e) any notification received pursuant to Article 25 (5) (b).

ARTICLE 27 Authentic Texts and Registration with the United Nations

1. This Protocol, done in the English, French, Russian and Spanish languages, each version being equally authentic, shall be deposited in the archives of the Government of the United States of America, which shall transmit duly certified copies thereof to all Contracting Parties to the Antarctic Treaty.

This Protocol shall be registered by the Depositary pursuant to Article 102 of the Charter of the United Nations.

SCHEDULE TO THE PROTOCOL

Arbitration

ARTICLE 1

1. The Arbitral Tribunal shall be constituted and shall function in accordance with the Protocol, including this Schedule.

2. The Secretary referred to in this Schedule is the Secretary General of the Permanent Court of Arbitration.

ARTICLE 2

1. Each Party shall be entitled to designate up to three Arbitrators, at least one of whom shall be designated within three months of the entry into force of the Protocol for that Party. Each Arbitrator shall be experienced in Antarctic affairs, have thorough knowledge of international law and enjoy the highest reputation for fairness, competence and integrity. The names of the persons so designated shall constitute the list of Arbitrators. Each Party shall at all times maintain the name of at least one Arbitrator on the list.

2. Subject to paragraph 3 below, an Arbitrator designated by a Party shall remain on the list for a period of five years and shall be eligible for redesignation by that Party for additional five year periods.

3. A Party which designated an Arbitrator may withdraw the name of that Arbitrator from the list. If an Arbitrator dies or if a Party for any reason withdraws from the list the name of an Arbitrator designated by it, the Party which designated the Arbitrator in question shall notify the Secretary promptly. An Arbitrator whose name is withdrawn from the list shall continue to serve on any Arbitral Tribunal to which that Arbitrator has been appointed until the completion of proceedings before the Arbitral Tribunal.

4. The Secretary shall ensure that an up-to-date list is maintained of the Arbitrators designated pursuant to this Article.

ARTICLE 3

1. The Arbitral Tribunal shall be composed of three Arbitrators who shall be appointed as follows:

   (a) The party to the dispute commencing the proceedings shall appoint one Arbitrator, who may be its national, from the list referred to in Article

   (b) Within 40 days of the receipt of that notification, the other party to the dispute shall appoint the second Arbitrator, who may be its national, from the list referred to in Article 2.

   (c) Within 60 days of the appointment of the second Arbitrator, the parties to the dispute shall appoint by agreement the third Arbitrator from the list referred to in Article 2.

   The third Arbitrator shall not be either a national of a party to the dispute, or a person designated for the list referred to in Article 2 by a party to the dispute, or of the same nationality as either of the first two Arbitrators. The third Arbitrator shall be the Chairperson of the Arbitral Tribunal.

   (d) If the second Arbitrator has not been appointed within the prescribed period, or if the parties to the dispute have not reached agreement within the prescribed period on the appointment of the third Arbitrator, the Arbitrator or Arbitrators shall be appointed, at the request of any party to the dispute and within 30 days of the receipt of such request, by the President of the International Court of Justice from the list referred to in Article 2 and subject to the conditions prescribed in subparagraphs

(b) and (c) above. In performing the functions accorded him or her in this subparagraph, the President of the Court shall consult the parties to the dispute.

(e) If the President of the International Court of Justice is unable to perform the functions accorded him or her in subparagraph (d) above or is a national of a party to the dispute, the functions shall be performed by the Vice-President of the Court, except that if the Vice-President is unable to perform the functions or is a national of a party to the dispute the functions shall be performed by the next most senior member of the Court who is available and is not a national of a party to the dispute.

2. Any vacancy shall be filled in the manner prescribed for the initial appointment.

3. In any dispute involving more than two Parties, those Parties having the same interest shall appoint one Arbitrator by agreement within the period specified in paragraph l (b) above.

ARTICLE 4

The party to the dispute commencing proceedings shall so notify the other party or parties to the dispute and the Secretary in writing. Such notification shall include a statement of the claim and the grounds on which it is based. The notification shall be transmitted by the Secretary to all Parties.

ARTICLE 5

1. Unless the parties to the dispute agree otherwise, arbitration shall take place at The Hague, where the records of the Arbitral Tribunal shall be kept. The Arbitral Tribunal shall adopt its own rules of procedure. Such rules shall ensure that each party to the dispute has a full opportunity to be heard and to present its case and shall also ensure that the proceedings are conducted expeditiously.

2. The Arbitral Tribunal may hear and decide counterclaims arising out of the dispute.

ARTICLE 6

1. The Arbitral Tribunal, where it considers that *prima facie* it has jurisdiction under the Protocol, may:

(a) at the request of any party to a dispute, indicate such provisional measures as it considers necessary to preserve the respective rights of the parties to the dispute;

(b) prescribe any provisional measures which it considers appropriate under the circumstances to prevent serious harm to the Antarctic environment or dependent or associated ecosystems.

2. The parties to the dispute shall comply promptly with any provisional measures prescribed under paragraph 1 (b) above pending an award under Article 10.

3. Notwithstanding the time period in Article 20 of the Protocol, a party to a dispute may at any time, by notification to the other party or parties to the dispute and to the Secretary in accordance with Article 4, request that the Arbitral Tribunal be constituted as a matter of exceptional urgency to indicate or prescribe emergency provisional measures in accordance with this Article. In such case, the Arbitral Tribunal shall be constituted as soon as possible in accordance with Article 3, except that the time periods in Article 3 (1) (b), (c) and (d) shall be reduced to 14 days in each case. The Arbitral Tribunal shall decide upon the request for emergency provisional measures within two months of the appointment of its Chairperson.

4. Following a decision by the Arbitral Tribunal upon a request for emergency provisional measures in accordance with paragraph 3 above, settlement of the dispute shall proceed in accordance with Articles 18, 19 and 20 of the Protocol.

ARTICLE 7

Any Party which believes it has a legal interest, whether general or individual, which may be substantially affected by the award of an Arbitral Tribunal, may, unless the Arbitral Tribunal decides otherwise, intervene in the proceedings.

ARTICLE 8

The parties to the dispute shall facilitate the work of the Arbitral Tribunal and, in particular, in accordance with their law and using all means at their disposal, shall provide it with all relevant documents and information, and enable it, when necessary, to call witnesses or experts and receive their evidence.

ARTICLE 9

If one of the parties to the dispute does not appear before the Arbitral Tribunal or fails to defend its case, any other party to the dispute may request the Arbitral Tribunal to continue the proceedings and make its award.

ARTICLE 10

1. The Arbitral Tribunal shall, on the basis of the provisions of the Protocol and other applicable rules and principles of international law that are not incompatible with such provisions, decide such disputes as are submitted to it.

2. The Arbitral Tribunal may decide, *ex aequo et bono*, a dispute submitted to it, if the parties to the dispute so agree.

ARTICLE 11

1. Before making its award, the Arbitral Tribunal shall satisfy itself that it has competence in respect of the dispute and that the claim or counterclaim is well founded in fact and law.

2. The award shall be accompanied by a statement of reasons for the decision and shall be communicated to the Secretary who shall transmit it to all Parties.

3. The award shall be final and binding on the parties to the dispute and on any Party which intervened in the proceedings and shall be complied with without delay. The Arbitral Tribunal shall interpret the award at the request of a party to the dispute or of any intervening Party.

4. The award shall have no binding force except in respect of that particular case.

5. Unless the Arbitral Tribunal decides otherwise, the expenses of the Arbitral Tribunal, including the remuneration of the Arbitrators, shall be borne by the parties to the dispute in equal shares.

ARTICLE 12

All decisions of the Arbitral Tribunal, including those referred to in Articles 5, 6 and 11, shall be made by a majority of the Arbitrators who may not abstain from voting.

ARTICLE 13

1. This Schedule may be amended or modified by a measure adopted in accordance with Article IX (1) of the Antarctic Treaty. Unless the measure specifies otherwise, the amendment or modification shall be deemed to have been approved, and shall become effective, one year after the close of the Antarctic Treaty Consultative Meeting at which it was adopted, unless one or more of the Antarctic Treaty Consultative Parties notifies the Depositary, within that time period, that it wishes an extension of that period or that it is unable to approve the measure.

2. Any amendment or modification of this Schedule which becomes effective in accordance with paragraph 1 above shall thereafter become effective as to any other Party when notice of approval by it has been received by the Depositary.

ANNEX I TO THE PROTOCOL ON ENVIRONMENTAL PROTECTION TO THE ANTARCTIC TREATY

ENVIRONMENTAL IMPACT ASSESSMENT

ARTICLE 1 PRELIMINARY STAGE

1. The environmental impacts of proposed activities referred to in Article 8 of the Protocol shall, before their commencement, be considered in accordance with appropriate national procedures.

2. If an activity is determined as having less than a minor or transitory impact, the activity may proceed forthwith.

ARTICLE 2 INITIAL ENVIRONMENTAL EVALUATION

1. Unless it has been determined that an activity will have less than a minor or transitory impact, or unless a Comprehensive Environmental Evaluation is being prepared in accordance with Article 3, an Initial Environmental Evaluation shall be prepared. It shall contain sufficient detail to assess whether a proposed activity may have more than a minor or transitory impact and shall include:
   (a) a description of the proposed activity, including its purpose, location, duration and intensity; and
   (b) consideration of alternatives to the proposed activity and any impacts that the activity may have, including consideration of cumulative impacts in the light of existing and known planned activities.

2. If an Initial Environmental Evaluation indicates that a proposed activity is likely to have no more than a minor or transitory impact, the activity may proceed, provided that appropriate procedures, which may include monitoring, are put in place to assess and verify the impact of the activity.

ARTICLE 3 COMPREHENSIVE ENVIRONMENTAL EVALUATION

If an Initial Environmental Evaluation indicates or if it is otherwise determined that a proposed activity is likely to have more than a minor or transitory impact, a Comprehensive Environmental Evaluation shall be prepared.

1. A Comprehensive Environmental Evaluation shall include:
   (a) a description of the proposed activity including its purpose, location, duration and intensity, and possible alternatives to the activity, including the alternative of not proceeding, and the consequences of those alternatives;
   (b) a description of the initial environmental reference state with which predicted changes are to be compared and a prediction of the future environmental reference state in the absence of the proposed activity;
   (c) a description of the methods and data used to forecast the impacts of the proposed activity;
   (d) estimation of the nature, extent, duration, and intensity of the likely direct impacts of the proposed activity;
   (e) consideration of possible indirect or second order impacts of the proposed

activity;

(f) consideration of cumulative impacts of the proposed activity in the light of existing activities and other known planned activities;
(g) identification of measures, including monitoring programmes, that could be taken to minimise or mitigate impacts of the proposed activity and to detect unforeseen impacts and that could provide early warning of any adverse effects of the activity as well as to deal promptly and effectively with accidents;
(h) identification of unavoidable impacts of the proposed activity;
(i) consideration of the effects of the proposed activity on the conduct of scientific research and on other existing uses and values;
(j) an identification of gaps in knowledge and uncertainties encountered in compiling the information required under this paragraph;
(k) a non-technical summary of the information provided under this paragraph; and
(l) the name and address of the person or organization which prepared the Comprehensive Environmental Evaluation and the address to which comments thereon should be directed.

2. The draft Comprehensive Environmental Evaluation shall be made publicly available and shall be circulated to all Parties, which shall also make it publicly available, for comment. A period of 90 days shall be allowed for the receipt of comments.

3. The draft Comprehensive Environmental Evaluation shall be forwarded to the Committee at the same time as it is circulated to the Parties, and at least 120 days before the next Antarctic Treaty Consultative Meeting, for consideration as appropriate.

4. No final decision shall be taken to proceed with the proposed activity in the Antarctic Treaty area unless there has been an opportunity for consideration of the draft Comprehensive Environmental Evaluation by the Antarctic Treaty Consultative Meeting on the advice of the Committee, provided that no decision to proceed with a proposed activity shall be delayed through the operation of this paragraph for longer than 15 months from the date of circulation of the draft Comprehensive Environmental Evaluation.

5. A final Comprehensive Environmental Evaluation shall address and shall include or summarise comments received on the draft Comprehensive Environmental Evaluation. The final Comprehensive Environmental Evaluation, notice of any decisions relating thereto, and any evaluation of the significance of the predicted impacts in relation to the advantages of the proposed activity, shall be circulated to all Parties, which shall also make them publicly available, at least 60 days before the commencement of the proposed activity in the Antarctic Treaty area.

ARTICLE 4 DECISIONS TO BE BASED ON COMPREHENSIVE ENVIRONMENTAL EVALUATIONS

Any decision on whether a proposed activity, to which Article 3 applies, should proceed, and, if so, whether in its original or in a modified form, shall be based on the Comprehensive Environmental Evaluation as well as other relevant considerations.

ARTICLE 5 MONITORING

1. Procedures shall be put in place, including appropriate monitoring of key environmental indicators, to assess and verify the impact of any activity that proceeds following the completion of a Comprehensive Environmental Evaluation.

2. The procedures referred to in paragraph 1 above and in Article 2 (2) shall be designed to provide a regular and verifiable record of the impacts of the activity in order, inter alia, to:

(a) enable assessments to be made of the extent to which such impacts are consistent with the Protocol; and
(b) provide information useful for minimising or mitigating impacts, and, where appropriate, information on the need for suspension, cancellation or modification of the activity.

ARTICLE 6 CIRCULATION OF INFORMATION

1. The following information shall be circulated to the Parties, forwarded to the Committee and made publicly available:

(a) a description of the procedures referred to in Article 1;
(b) an annual list of any Initial Environmental Evaluations prepared in accordance with Article 2 and any decisions taken in consequence thereof;
(c) significant information obtained, and any action taken in consequence thereof, from procedures put in place in accordance with Articles 2 (2) and 5; and (d) information referred to in Article 3 (6).

2. Any Initial Environmental Evaluation prepared in accordance with Article 2 shall be made available on request.

ARTICLE 7 CASES OF EMERGENCY

1. This Annex shall not apply in cases of emergency relating to the safety of human life or of ships, aircraft or equipment and facilities of high value, or the protection of the environment, which require an activity to be undertaken without completion of the procedures set out in this Annex.

2. Notice of activities undertaken in cases of emergency, which would otherwise have required preparation of a Comprehensive Environmental Evaluation, shall be circulated immediately to all Parties and to the Committee and a full explanation of the activities carried out shall be provided within 90 days of those activities.

ARTICLE 8 AMENDMENT OR MODIFICATION

1. This Annex may be amended or modified by a measure adopted in accordance with Article IX (1) of the Antarctic Treaty. Unless the measure specifies otherwise, the amendment or modification shall be deemed to have been approved, and shall become effective, one year after the close of the Antarctic Treaty Consultative Meeting at which it was adopted, unless one or more of the Antarctic Treaty Consultative Parties notifies the Depositary, within that period, that it wishes an extension of that period or that it is unable to approve the measure.

2. Any amendment or modification of this Annex which becomes effective in accordance with paragraph 1 above shall thereafter become effective as to any other Party when notice of approval by it has been received by the Depositary.

ANNEX II TO THE PROTOCOL ON ENVIRONMENTAL PROTECTION TO THE ANTARCTIC TREATY CONSERVATION OF ANTARCTIC FAUNA AND FLORA

ARTICLE 1 DEFINITIONS

For the purposes of this Annex:

(a) "native mammal" means any member of any species belonging to the Class Mammalia, indigenous to the Antarctic Treaty area or occurring there naturally through migrations;

(b) "native bird" means any member, at any stage of its life cycle (including eggs), of any species of the Class Aves indigenous to the Antarctic Treaty area or occurring there naturally through migrations;

(c) "native plant" means any member of any species of terrestrial or freshwater vegetation, including bryophytes, lichens, fungi and algae, at any stage of its life cycle (including seeds, and other propagules), indigenous to the Antarctic Treaty area;

(d) "native invertebrate" means any member of any species of terrestrial or freshwater invertebrate, at any stage of its life cycle, indigenous to the Antarctic Treaty area;

(e) "appropriate authority" means any person or agency authorised by a Party to issue permits under this Annex;

(f) "permit" means a formal permission in writing issued by an appropriate authority;

(g) "take" or "taking" means to kill, injure, capture, handle or molest a native mammal or bird, or to remove or damage such quantities of native plants or invertebrates that their local distribution or abundance would be significantly affected; (h) "harmful interference" means:

(i) flying or landing helicopters or other aircraft in a manner that disturbs concentrations of native birds or seals;

(ii) using vehicles or vessels, including hovercraft and small boats, in a manner that disturbs concentrations of native birds or seals;

(iii) using explosives or firearms in a manner that disturbs concentrations of native birds or seals;

(iv) wilfully disturbing breeding or moulting native birds or concentrations of native birds or seals by persons on foot;

(v) significantly damaging concentrations of native terrestrial plants by landing aircraft, driving vehicles, or walking on them, or by other means; and

(vi) any activity that results in the significant adverse modification of habitats of any species or population of native mammal, bird, plant or invertebrate.

(i) "International Convention for the Regulation of Whaling" means the Convention done at Washington on 2 December 1946.

(j) "Agreement on the Conservation of Albatrosses and Petrels" means the Agreement done at Canberra on 19 June 2001.

ARTICLE 2 CASES OF EMERGENCY

1. This Annex shall not apply in cases of emergency relating to the safety of human life or of ships, aircraft, or equipment and facilities of high value, or the protection of the environment.

2. Notice of activities undertaken in cases of emergency that result in any taking or harmful interference shall be circulated immediately to all Parties and to the Committee.

ARTICLE 3 PROTECTION OF NATIVE FAUNA AND FLORA

1. Taking or harmful interference shall be prohibited, except in accordance with a permit.

2. Such permits shall specify the authorised activity, including when, where and by whom it is to be conducted and shall be issued only in the following circumstances:

(a) to provide specimens for scientific study or scientific information;

(b) to provide specimens for museums, herbaria and botanical gardens, or other educational institutions or uses;

(c) to provide specimens for zoological gardens but, in respect of native mammals or birds, only if such specimens cannot be obtained from existing captive collections elsewhere, or if there is a compelling conservation requirement; and

(d) to provide for unavoidable consequences of scientific activities not otherwise authorised under sub-paragraphs (a), (b) or (c) above, or of the construction and operation of scientific support facilities.

3. The issue of such permits shall be limited so as to ensure that:

(a) no more native mammals, birds, plants or invertebrates are taken than are strictly necessary to meet the purposes set forth in paragraph 2 above;

(b) only small numbers of native mammals or birds are killed, and in no case more are killed from local populations than can, in combination with other permitted takings, normally be replaced by natural reproduction in the following season; and

(c) the diversity of species, as well as the habitats essential to their existence, and the balance of the ecological systems existing within the Antarctic Treaty area are maintained.

4. Any species of native mammals, birds, plants and invertebrates listed in Appendix A to this Annex shall be designated "Specially Protected Species", and shall be accorded special protection by the Parties.

5. Designation of a species as a Specially Protected Species shall be undertaken according to agreed procedures and criteria adopted by the ATCM.

6. The Committee shall review and provide advice on the criteria for proposing native mammals, birds, plants or invertebrates for designation as a Specially Protected Species.

7. Any Party, the Committee, the Scientific Committee on Antarctic Research or the Commission for the Conservation of Antarctic Marine Living Resources may propose a species for designation as a Specially Protected Species by submitting a proposal with justification to the ATCM.

8. A permit shall not be issued to a Specially Protected Species unless the taking:

   (a) is for a compelling scientific purpose; and

   (b) will not jeopardise the survival or recovery of that species or local population;

9. The use of lethal techniques on Specially Protected Species shall only be permitted where there is no suitable alternative technique.

10. Proposals for the designation of a species as a Specially Protected
Species shall be forwarded to the Committee, the Scientific Committee on Antarctic Research and, for native mammals and birds, the Commission for the Conservation of Antarctic Marine Living Resources, and as appropriate, the Meeting of the Parties to the Agreement on the Conservation of Albatrosses and Petrels and other organisations. In formulating its advice to the ATCM on whether a species should be designated as a Specially Protected Species, the Committee shall take into account any comments provided by the Scientific Committee on Antarctic Research, and, for native mammals and birds, the Commission for the Conservation of Antarctic Marine Living Resources, and as appropriate, the Meeting of the Parties to the Agreement on the Conservation of Albatrosses and Petrels and other organisations.

11. All taking of native mammals and birds shall be done in the manner that involves the least degree of pain and suffering practicable.

ARTICLE 4 INTRODUCTION OF NON-NATIVE SPECIES AND DISEASES

1. No species of living organisms not native to the Antarctic Treaty area shall be introduced onto land or ice shelves, or into water, in the Antarctic Treaty area except in accordance with a permit.

2. Dogs shall not be introduced onto land, ice shelves or sea ice.

3. Permits under paragraph 1 above shall:

   (a) be issued to allow the importation only of cultivated plants and their reproductive propagules for controlled use, and species of living organisms for controlled experimental use; and

(b) specify the species numbers and, if appropriate, age and sex of the species to be introduced, along with a rationale, justifying the introduction and precautions to be taken to prevent escape or contact with fauna or flora.

4. Any species for which a permit has been issued in accordance with paragraphs 1 and 3 above shall, prior to expiration of the permit, be removed from the Antarctic Treaty area or be disposed of by incineration or equally effective means that eliminates risk to native fauna or flora. The permit shall specify this obligation.

5. Any species, including progeny, not native to the Antarctic Treaty area that is introduced into that area without a permit that has been issued in accordance with paragraph 1 and 3 above, shall be removed or disposed of whenever feasible, unless the removal or disposal would result in a greater adverse environmental impact. Such removal or disposal may include by incineration or by equally effective means, so as to be rendered sterile, unless it is determined that they pose no risk to native flora or fauna. In addition, all reasonable steps shall be taken to control the consequences of that introduction to avoid harm to native fauna or flora.

6. Nothing in this Article shall apply to the importation of food into the Antarctic Treaty area provided that no live animals are imported for this purpose and all plants and animal parts and products are kept under carefully controlled conditions and disposed of in accordance with Annex III to the Protocol.

7. Each Party shall require that precautions are taken to prevent the accidental introduction of micro-organisms (e.g., viruses, bacteria, yeasts, fungi) not present naturally in the Antarctic Treaty area.

8. No live poultry or other living birds shall be brought into the Antarctic Treaty area. All appropriate efforts shall be made to ensure that poultry or avian products imported into Antarctica are free from contamination by diseases (such as Newcastle's Disease, tuberculosis, and yeast infection) which might be harmful to native flora and fauna. Any poultry or avian products not consumed shall be removed from the Antarctic Treaty area or disposed of by incineration or equivalent means that eliminates the risks of introduction of micro-organisms (e.g. viruses, bacteria, yeasts, fungi) to native flora and fauna.

9. The deliberate introduction of non-sterile soil into the Antarctic Treaty area is prohibited. Parties should, to the maximum extent practicable, ensure that non-sterile soil is not unintentionally imported into the Antarctic Treaty area.

ARTICLE 5 INFORMATION

Each Party shall make publicly available information on prohibited activities and Specially Protected Species to all those persons present in or intending to enter the Antarctic Treaty area with a view to ensuring that such persons understand and observe the provisions of this Annex.

ARTICLE 6 EXCHANGE OF INFORMATION

1. The Parties shall make arrangements for:

(a) collecting and annually exchanging records (including records of permits) and statistics concerning the numbers or quantities of each species of native mammal, bird, plant or invertebrate taken in the Antarctic Treaty area; and

(b) obtaining and exchanging information as to the status of native mammals, birds, plants, and invertebrates in the Antarctic Treaty area, and the extent to which any species or population needs protection.

2. As early as possible, after the end of each austral summer season, but in all cases before 1 October of each year, the Parties shall inform the other Parties as well as the Committee of any step taken pursuant to paragraph 1 above and of the number and nature of permits issued under this Annex in the preceding period of 1 April to 31 March.

ARTICLE 7 RELATIONSHIP WITH OTHER AGREEMENTS OUTSIDE THE ANTARCTIC TREATY SYSTEM

Nothing in this Annex shall derogate from the rights and obligations of Parties under the International Convention for the Regulation of Whaling.

ARTICLE 8 REVIEW

The Parties shall keep under continuing review measures for the conservation of Antarctic fauna and flora, taking into account any recommendations from the Committee.

ARTICLE 9 AMENDMENT OR MODIFICATION

1. This Annex may be amended or modified by a measure adopted in accordance with Article IX (1) of the Antarctic Treaty. Unless the measure specifies otherwise, the amendment or modification shall be deemed to have been approved, and shall become effective, one year after the close of the Antarctic Treaty Consultative Meeting at which it was adopted, unless one or more of the Antarctic Treaty Consultative Parties notifies the Depositary, within that time period, that it wishes an extension of that period or that it is unable to approve the measure.

2. Any amendment or modification of this Annex which becomes effective in accordance with paragraph 1 above shall thereafter become effective as to any other Party when notice of approval by it has been received by the Depositary.

APPENDICES TO THE ANNEX APPENDIX A:

SPECIALLY PROTECTED SPECIES

Ommatophoca rossii, Ross Seal.

ANNEX III TO THE PROTOCOL ON ENVIRONMENTAL PROTECTION TOTHE ANTARCTIC TREATY

WASTE DISPOSAL AND WASTE MANAGEMENT

ARTICLE 1 GENERAL OBLIGATIONS

1. This Annex shall apply to activities undertaken in the Antarctic Treaty area pursuant to scientific research programmes, tourism and all other governmental and nongovernmental activities in the Antarctic Treaty area for which advance notice is required under Article VII (5) of the Antarctic Treaty, including associated logistic support activities.

2. The amount of wastes produced or disposed of in the Antarctic Treaty area shall be reduced as far as practicable so as to minimise impact on the Antarctic environment and to minimise interference with the natural values of Antarctica, with scientific research and with other uses of Antarctica which are consistent with the Antarctic Treaty.

3. Waste storage, disposal and removal from the Antarctic Treaty area, as well as recycling and source reduction, shall be essential considerations in the planning and conduct of activities in the Antarctic Treaty area.

4. Wastes removed from the Antarctic Treaty area shall, to the maximum extent practicable, be returned to the country from which the activities generating the waste were organized or to any other country in which arrangements have been made for the disposal of such wastes in accordance with relevant international agreements.

5. Past and present waste disposal sites on land and abandoned work sites of Antarctic activities shall be cleaned up by the generator of such wastes and the user of such sites. This obligation shall not be interpreted as requiring:

(a) the removal of any structure designated as a historic site or monument; or
(b) the removal of any structure or waste material in circumstances where the removal by any practical option would result in greater adverse environmental impact than leaving the structure or waste material in its existing location.

ARTICLE 2 WASTE DISPOSAL BY REMOVAL FROM THE ANTARCTIC TREATY AREA

1. The following wastes, if generated after entry into force of this Annex, shall be removed from the Antarctic Treaty area by the generator of such wastes:

(a) radio-active materials;
(b) electrical batteries;
(c) fuel, both liquid and solid;
(d) wastes containing harmful levels of heavy metals or acutely toxic or harmful persistent compounds;
(e) poly-vinyl chloride (PVC), polyurethane foam, polystyrene foam, rubber and lubricating oils, treated timbers and other products which contain additives that could produce harmful emissions if incinerated;

(f) all other plastic wastes, except low density polyethylene containers (such as bags for storing wastes), provided that such containers shall be incinerated in accordance with Article 3 (1);
(g) fuel drums; and
(h) other solid, non-combustible wastes;

provided that the obligation to remove drums and solid non-combustible wastes contained in subparagraphs (g) and (h) above shall not apply in circumstances where the removal of such wastes by any practical option would result in greater adverse environmental impact than leaving them in their existing locations.

2. Liquid wastes which are not covered by paragraph 1 above and sewage and domestic liquid wastes, shall, to the maximum extent practicable, be removed from the Antarctic Treaty area by the generator of such wastes.

3. The following wastes shall be removed from the Antarctic Treaty area by the generator of such wastes, unless incinerated, autoclaved or otherwise treated to be made sterile:

(a) residues of carcasses of imported animals;
(b) laboratory culture of micro-organisms and plant pathogens; and (c) introduced avian products.

ARTICLE 3 WASTE DISPOSAL BY INCINERATION

1. Subject to paragraph 2 below, combustible wastes, other than those referred to in Article 2 (1), which are not removed from the Antarctic Treaty area shall be burnt in incinerators which to the maximum extent practicable reduce harmful emissions. Any emission standards and equipment guidelines which may be recommended by, inter alia, the Committee and the Scientific Committee on Antarctic Research shall be taken into account. The solid residue of such incineration shall be removed from the Antarctic Treaty area.

2. All open burning of wastes shall be phased out as soon as practicable, but no later than the end of the 1998/1999 season. Pending the completion of such phase-out, when it is necessary to dispose of wastes by open burning, allowance shall be made for the wind direction and speed and the type of wastes to be burnt to limit particulate deposition and to avoid such deposition over areas of special biological, scientific, historic, aesthetic or wilderness significance including, in particular, areas accorded protection under the Antarctic Treaty.

ARTICLE 4 OTHER WASTE DISPOSAL ON LAND

1. Wastes not removed or disposed of in accordance with Articles 2 and 3 shall not be disposed of onto ice-free areas or into fresh water systems.

2. Sewage, domestic liquid wastes and other liquid wastes not removed from the Antarctic Treaty area in accordance with Article 2, shall, to the maximum extent practicable, not be disposed of onto sea ice, ice shelves or the grounded ice-sheet, provided that such wastes which are generated by stations located inland on ice shelves or on the grounded ice-sheet may be disposed of in deep ice pits where such disposal is the only practicable option. Such pits shall not be located on known ice-flow lines which terminate at ice-free areas or in areas of high ablation.

3. Wastes generated at field camps shall, to the maximum extent practicable, be removed by the generator of such wastes to supporting stations or ships for disposal in accordance with this Annex.

ARTICLE 5 DISPOSAL OF WASTE IN THE SEA

1. Sewage and domestic liquid wastes may be discharged directly into the sea, taking into account the assimilative capacity of the receiving marine environment and provided that:

(a) such discharge is located, wherever practicable, where conditions exist for initial dilution and rapid dispersal; and

(b) large quantities of such wastes (generated in a station where the average weekly occupancy over the austral summer is approximately 30 individuals or more) shall be treated at least by maceration.

2. The by-product of sewage treatment by the Rotary Biological Contacter process or similar processes may be disposed of into the sea provided that such disposal does not adversely affect the local environment, and provided also that any such disposal at sea shall be in accordance with Annex IV to the Protocol.

ARTICLE 6 STORAGE OF WASTE

All wastes to be removed from the Antarctic Treaty area, or otherwise disposed of, shall be stored in such a way as to prevent their dispersal into the environment.

ARTICLE 7 PROHIBITED PRODUCTS

No polychlorinated biphenyls (PCBs), non-sterile soil, polystyrene beads, chips or similar forms of packaging, or pesticides (other than those required for scientific, medical or hygiene purposes) shall be introduced onto land or ice shelves or into water in the Antarctic Treaty area.

ARTICLE 8 WASTE MANAGEMENT PLANNING

1. Each Party which itself conducts activities in the Antarctic Treaty area shall, in respect of those activities, establish a waste disposal classification system as a basis for recording wastes and to facilitate studies aimed at evaluating the environmental impacts of scientific activity and associated logistic support. To that end, wastes produced shall be classified as:

(a) sewage and domestic liquid wastes (Group 1);

(b) other liquid wastes and chemicals, including fuels and lubricants (Group 2);

(c) solids to be combusted (Group 3); (d) other solid wastes (Group 4); and (e) radioactive material (Group 5).

2. In order to reduce further the impact of waste on the Antarctic environment, each such Party shall prepare and annually review and update its waste management plans (including waste reduction, storage and disposal), specifying for each fixed site, for field camps generally, and for each ship (other than small boats

that are part of the operations of fixed sites or of ships and taking into account existing management plans for ships):

(a) programmes for cleaning up existing waste disposal sites and abandoned work sites;

(b) current and planned waste management arrangements, including final disposal;
(c) current and planned arrangements for analysing the environmental effects of waste and waste management; and
(d) other efforts to minimise any environmental effects of wastes and waste management.

3. Each such Party shall, as far as is practicable, also prepare an inventory of locations of past activities (such as traverses, field depots, field bases, crashed aircraft) before the information is lost, so that such locations can be taken into account in planning future scientific programmes (such as snow chemistry, pollutants in lichens or ice core drilling).

ARTICLE 9 CIRCULATION AND REVIEW OF WASTE MANAGEMENT PLANS

1. The waste management plans prepared in accordance with Article 8, reports on their implementation, and the inventories referred to in Article 8 (3), shall be included in the annual exchanges of information in accordance with Articles III and VII of the Antarctic Treaty and related Recommendations under Article IX of the Antarctic Treaty.

2. Each Party shall send copies of its waste management plans, and reports on their implementation and review, to the Committee.

3. The Committee may review waste management plans and reports thereon and may offer comments, including suggestions for minimising impacts and modifications and improvement to the plans, for the consideration of the Parties.

4. The Parties may exchange information and provide advice on, inter alia, available low waste technologies, reconversion of existing installations, special requirements for effluents, and appropriate disposal and discharge methods.

ARTICLE 10 MANAGEMENT PRACTICES

Each Party shall:

(a) designate a waste management official to develop and monitor waste management plans; in the field, this responsibility shall be delegated to an appropriate person at each site;
(b) ensure that members of its expeditions receive training designed to limit the impact of its operations on the Antarctic environment and to inform them of requirements of this Annex; and
(c) discourage the use of poly-vinyl chloride (PVC) products and ensure that its expeditions to the Antarctic Treaty are advised of any PVC products they may introduce into that area in order that these products may be removed subsequently in accordance with this Annex.

ARTICLE 11 REVIEW

This Annex shall be subject to regular review in order to ensure that it is updated to reflect improvement in waste disposal technology and procedures and to ensure thereby maximum protection of the Antarctic environment.

ARTICLE 12 CASES OF EMERGENCY

1. This Annex shall not apply in cases of emergency relating to the safety of human life or of ships, aircraft or equipment and facilities of high value or the protection of the environment.

2. Notice of activities undertaken in cases of emergency shall be circulated immediately to all Parties and to the Committee.

ARTICLE 13 AMENDMENT OR MODIFICATION

1. This Annex may be amended or modified by a measure adopted in accordance with Article IX (1) of the Antarctic Treaty. Unless the measure specifies otherwise, the amendment or modification shall be deemed to have been approved, and shall become effective, one year after the close of the Antarctic Treaty Consultative Meeting at which it was adopted, unless one or more of the Antarctic Treaty Consultative Parties notifies the Depositary, within that time period, that it wishes an extension of that period or that it is unable to approve the amendment.

2. Any amendment or modification of this Annex which becomes effective in accordance with paragraph 1 above shall thereafter become effective as to any other Party when notice of approval by it has been received by the Depositary.

ANNEX IV TO THE PROTOCOL ON ENVIRONMENTAL PROTECTION TO THE ANTARCTIC TREATY

PREVENTION OF MARINE POLLUTION

ARTICLE 1 DEFINITIONS

For the purposes of this Annex:

(a) "discharge" means any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying;

(b) "garbage" means all kinds of victual, domestic and operational waste excluding fresh fish and parts thereof, generated during the normal operation of the ship, except those substances which are covered by Articles 3 and 4;

(c) "MARPOL 73/78" means the International Convention for the Prevention of Pollution from Ships, 1973, as amended by the Protocol of 1978 relating thereto and by any other amendment in force thereafter;

(d) "noxious liquid substance" means any noxious liquid substance as defined in Annex II of MARPOL 73/78;

(e) "oil" means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined oil products (other than petrochemicals which are subject to the provisions of Article 4);

(f) "oily mixture" means a mixture with any oil content; and

(g) "ship" means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms.

ARTICLE 2 APPLICATION

This Annex applies, with respect to each Party, to ships entitled to fly its flag and to any other ship engaged in or supporting its Antarctic operations, while operating in the Antarctic Treaty area.

ARTICLE 3 DISCHARGE OF OIL

1. Any discharge into the sea of oil or oily mixture shall be prohibited, except in cases permitted under Annex I of MARPOL 73/78. While operating in the Antarctic Treaty area, ships shall retain on board all sludge, dirty ballast, tank washing waters and other oily residues and mixtures which may not be discharged into the sea. Ships shall discharge these residues only outside the Antarctic Treaty area, at reception facilities or as otherwise permitted under Annex I of MARPOL 73/78.

2. This Article shall not apply to:

   (a) the discharge into the sea of oil or oily mixture resulting from damage to a ship or its equipment:

      (i) provided that all reasonable precautions have been taken after the occurrence of the damage or discovery of the discharge for the purpose of preventing or minimising the discharge; and

(ii) except if the owner or the Master acted either with intent to cause damage, or recklessly and with the knowledge that damage would probably result; or

(b) the discharge into the sea of substances containing oil which are being used for the purpose of combating specific pollution incidents in order to minimise the damage from pollution.

ARTICLE 4 DISCHARGE OF NOXIOUS LIQUID SUBSTANCES

The discharge into the sea of any noxious liquid substance, and any other chemical or other substances, in quantities or concentrations that are harmful to the marine environment, shall be prohibited.

ARTICLE 5 DISPOSAL OF GARBAGE

1. The disposal into the sea of all plastics, including but not limited to synthetic ropes, synthetic fishing nets, and plastic garbage bags, shall be prohibited.

2. The disposal into the sea of all other garbage, including paper products, rags, glass, metal, bottles, crockery, incineration ash, dunnage, lining and packing materials, shall be prohibited.

3. The disposal into the sea of food wastes may be permitted when they have been passed through a comminuter or grinder, provided that such disposal shall, except in cases permitted under Annex V of MARPOL 73/78, be made as far as practicable from land and ice shelves but in any case not less than 12 nautical miles from the nearest land or ice shelf. Such comminuted or ground food wastes shall be capable of passing through a screen with openings no greater than 25 millimeters.

4. When a substance or material covered by this article is mixed with other such substance or material for discharge or disposal, having different disposal or discharge requirements, the most stringent disposal or discharge requirements shall apply.

5. The provisions of paragraphs 1 and 2 above shall not apply to:

(a) the escape of garbage resulting from damage to a ship or its equipment provided all reasonable precautions have been taken, before and after the occurrence of the damage, for the purpose of preventing or minimising the escape; or

(b) the accidental loss of synthetic fishing nets, provided all reasonable precautions have been taken to prevent such loss.

6. The Parties shall, where appropriate, require the use of garbage record books.

ARTICLE 6 DISCHARGE OF SEWAGE

1. Except where it would unduly impair Antarctic operations:

(a) each Party shall eliminate all discharge into the sea of untreated sewage ("sewage" being defined in Annex IV of MARPOL 73/78) within 12 nautical miles of land or ice shelves;

(b) beyond such distance, sewage stored in a holding tank shall not be discharged instantaneously but at a moderate rate and, where practicable, while the ship is en route at a speed of no less than 4 knots.

This paragraph does not apply to ships certified to carry not more than 10 persons.

2. The Parties shall, where appropriate, require the use of sewage record books.

ARTICLE 7 CASES OF EMERGENCY

1. Articles 3, 4, 5 and 6 of this Annex shall not apply in cases of emergency relating to the safety of a ship and those on board or saving life at sea.

2. Notice of activities undertaken in cases of emergency shall be circulated immediately to all Parties and to the Committee.

ARTICLE 8 EFFECT ON DEPENDENT AND ASSOCIATED ECOSYSTEMS

In implementing the provisions of this Annex, due consideration shall be given to the need to avoid detrimental effects on dependent and associated ecosystems, outside the Antarctic Treaty area.

ARTICLE 9 SHIP RETENTION CAPACITY AND RECEPTION FACILITIES

1. Each Party shall undertake to ensure that all ships entitled to fly its flag and any other ship engaged in or supporting its Antarctic operations, before entering the Antarctic Treaty area, are fitted with a tank or tanks of sufficient capacity on board for the retention of all sludge, dirty ballast, tank washing water and other oily residues and mixtures, and have sufficient capacity on board for the retention of garbage, while operating in the Antarctic Treaty area and have concluded arrangements to discharge such oily residues and garbage at a reception facility after leaving that area. Ships shall also have sufficient capacity on board for the retention of noxious liquid substances.

2. Each Party at whose ports ships depart en route to or arrive from the Antarctic Treaty area undertakes to ensure that as soon as practicable adequate facilities are provided for the reception of all sludge, dirty ballast, tank washing water, other oily residues and mixtures, and garbage from ships, without causing undue delay, and according to the needs of the ships using them.

3. Parties operating ships which depart to or arrive from the Antarctic Treaty area at ports of other Parties shall consult with those Parties with a view to ensuring that the establishment of port reception facilities does not place an inequitable burden on Parties adjacent to the Antarctic Treaty area.

ARTICLE 10 DESIGN, CONSTRUCTION, MANNING AND EQUIPMENT OF SHIPS

In the design, construction, manning and equipment of ships engaged in or supporting Antarctic operations, each Party shall take into account the objectives of this Annex.

ARTICLE 11 SOVEREIGN IMMUNITY

1. This Annex shall not apply to any warship, naval auxiliary or other ship owned or operated by a State and used, for the time being, only on government non-commercial service. However, each Party shall ensure by the adoption of appropriate measures not impairing the operations or operational capabilities of such ships owned or operated by it, that such ships act in a manner consistent, so far as is reasonable and practicable, with this Annex.

2. In applying paragraph 1 above, each Party shall take into account the importance of protecting the Antarctic environment.

3. Each Party shall inform the other Parties of how it implements this provision.

4. The dispute settlement procedure set out in Articles 18 to 20 of the Protocol shall not apply to this Article.

ARTICLE 12 PREVENTIVE MEASURES AND EMERGENCY PREPAREDNESS AND RESPONSE

1. In order to respond more effectively to marine pollution emergencies or the threat thereof in the Antarctic Treaty area, the Parties, in accordance with Article 15 of the Protocol, shall develop contingency plans for marine pollution response in the Antarctic Treaty area, including contingency plans for ships (other than small boats that are part of the operations of fixed sites or of ships) operating in the Antarctic Treaty area, particularly ships carrying oil as cargo, and for oil spills, originating from coastal installations, which enter into the marine environment. To this end they shall:

   (a) co-operate in the formulation and implementation of such plans; and
   (b) draw on the advice of the Committee, the International Maritime Organization and other international organizations.

2. The Parties shall also establish procedures for cooperative response to pollution emergencies and shall take appropriate response actions in accordance with such procedures.

ARTICLE 13 REVIEW

The Parties shall keep under continuous review the provisions of this Annex and other measures to prevent, reduce and respond to pollution of the Antarctic marine environment, including any amendments and new regulations adopted under MARPOL 73/78, with a view to achieving the objectives of this Annex.

ARTICLE 14 RELATIONSHIP WITH MARPOL 73/78

With respect to those Parties which are also Parties to MARPOL 73/78, nothing in this Annex shall derogate from the specific rights and obligations thereunder.

ARTICLE 15 AMENDMENT OR MODIFICATION

1. This Annex may be amended or modified by a measure adopted in accordance with Article IX (1) of the Antarctic Treaty. Unless the measure specifies otherwise, the amendment or modification shall be deemed to have been approved, and shall become effective, one year after the close of the Antarctic Treaty Consultative Meeting at which it was adopted, unless one or more of the Antarctic Treaty Consultative Parties notifies the Depositary, within that time period, that it wishes an extension of that period or that it is unable to approve the measure.

2. Any amendment or modification of this Annex which becomes effective in accordance with paragraph 1 above shall thereafter become effective as to any other Party when notice of approval by it has been received by the Depositary.

ANNEX V TO THE PROTOCOL ON ENVIRONMENTAL PROTECTION TO THE ANTARCTIC TREATY

AREA PROTECTION AND MANAGEMENT

ARTICLE 1 DEFINITIONS

For the purposes of this Annex:

(a) "appropriate authority" means any person or agency authorised by a Party to issue permits under this Annex;
(b) "permit" means a formal permission in writing issued by an appropriate authority;
(c) "Management Plan" means a plan to manage the activities and protect the special value or values in an Antarctic Specially Protected Area or an Antarctic Specially Managed Area.

ARTICLE 2 OBJECTIVES

For the purposes set out in this Annex, any area, including any marine area, may be designated as an Antarctic Specially Protected Area or an Antarctic Specially Managed Area. Activities in those Areas shall be prohibited, restricted or managed in accordance with Management Plans adopted under the provisions of this Annex.

ARTICLE 3 ANTARCTIC SPECIALLY PROTECTED AREAS

1. Any area, including any marine area, may be designated as an Antarctic Specially Protected Area to protect outstanding environmental, scientific, historic, aesthetic or wilderness values, any combination of those values, or ongoing or planned scientific research.

2. Parties shall seek to identify, within a systematic environmental-geographical framework, and to include in the series of Antarctic Specially Protected Areas:

(a) areas kept inviolate from human interference so that future comparisons may be possible with localities that have been affected by human activities;
(b) representative examples of major terrestrial, including glacial and aquatic, ecosystems and marine ecosystems;
(c) areas with important or unusual assemblages of species, including major colonies of breeding native birds or mammals;
(d) the type locality or only known habitat of any species;
(e) areas of particular interest to ongoing or planned scientific research;
(f) examples of outstanding geological, glaciological or geomorphological features;
(g) areas of outstanding aesthetic and wilderness value;

(h) sites or monuments of recognised historic value; and
(i) such other areas as may be appropriate to protect the values set out in paragraph 1 above.

3. Specially Protected Areas and Sites of Special Scientific Interest designated as such by past Antarctic Treaty Consultative Meetings are hereby designated as Antarctic Specially Protected Areas and shall be renamed and renumbered accordingly.

4. Entry into an Antarctic Specially Protected Area shall be prohibited except in accordance with a permit issued under Article 7.

ARTICLE 4 ANTARCTIC SPECIALLY MANAGED AREAS

1. Any area, including any marine area, where activities are being conducted or may in the future be conducted, may be designated as an Antarctic Specially Managed Area to assist in the planning and co-ordination of activities, avoid possible conflicts, improve cooperation between Parties or minimise environmental impacts.

2. Antarctic Specially Managed Areas may include:

(a) areas where activities pose risks of mutual interference or cumulative environmental impacts; and
(b) sites or monuments of recognised historic value.

3. Entry into an Antarctic Specially Managed Area shall not require a permit.

4. Notwithstanding paragraph 3 above, an Antarctic Specially Managed Area may contain one or more Antarctic Specially Protected Areas, entry into which shall be prohibited except in accordance with a permit issued under Article 7.

ARTICLE 5 MANAGEMENT PLANS

1. Any Party, the Committee, the Scientific Committee for Antarctic Research or the Commission for the Conservation of Antarctic Marine Living Resources may propose an area for designation as an Antarctic Specially Protected Area or an Antarctic Specially Managed Area by submitting a proposed Management Plan to the Antarctic Treaty Consultative Meeting.

2. The area proposed for designation shall be of sufficient size to protect the values for which the special protection or management is required.

3. Proposed Management Plans shall include, as appropriate:

(a) a description of the value or values for which special protection or management is required;
(b) a statement of the aims and objectives of the Management Plan for the protection or management of those values;

(c) management activities which are to be undertaken to protect the values for which special protection or management is required; (d) a period of designation, if any; (e) a description of the area, including:

(i) the geographical co-ordinates, boundary markers and natural features that delineate the area;

(ii) access to the area by land, sea or air including marine approaches and anchorages, pedestrian and vehicular routes within the area, and aircraft routes and landing areas;

(iii) the location of structures, including scientific stations, research or refuge facilities, both within the area and near to it; and

(iv) the location in or near the area of other Antarctic Specially Protected Areas or Antarctic Specially Managed Areas designated under this Annex, or other protected areas designated in accordance with measures adopted under other components of the Antarctic Treaty system;

(g) the identification of zones within the area, in which activities are to be prohibited, restricted or managed for the purpose of achieving the aims and objectives referred to in subparagraph (b) above;

(h) maps and photographs that show clearly the boundary of the area in relation to surrounding features and key features within the area;

(i) supporting documentation;

(j) in respect of an area proposed for designation as an Antarctic Specially Protected Area, a clear description of the conditions under which permits may be granted by the appropriate authority regarding:

(i) access to and movement within or over the area;

(ii) activities which are or may be conducted within the area, including restrictions on time and place;

(iii) the installation, modification, or removal of structures;

(iv) the location of field camps;

(v) restrictions on materials and organisms which may be brought into the area;

(vi) the taking of or harmful interference with native flora and fauna;

(vii) the collection or removal of anything not brought into the area by the permit-holder;

(viii) the disposal of waste;

(ix) measures that may be necessary to ensure that the aims and objectives of the Management Plan can continue to be met; and

(x) requirements for reports to be made to the appropriate authority regarding visits to the area;

(k) in respect of an area proposed for designation as an Antarctic Specially Managed Area, a code of conduct regarding:

(i) access to and movement within or over the area;

(ii) activities which are or may be conducted within the area, including restrictions on time and place;

(iii) the installation, modification, or removal of structures;

(iv) the location of field camps;

(v) the taking of or harmful interference with native flora and fauna;

(vi) the collection or removal of anything not brought into the area by the visitor;

(vii) the disposal of waste; and

(viii) any requirements for reports to be made to the appropriate authority regarding visits to the area; and

(l) provisions relating to the circumstances in which Parties should seek to exchange information in advance of activities which they propose to conduct.

ARTICLE 6 DESIGNATION PROCEDURES

1. Proposed Management Plans shall be forwarded to the Committee, the Scientific Committee on Antarctic Research and, as appropriate, to the Commission for the Conservation of Antarctic Marine Living Resources. In formulating its advice to the Antarctic Treaty Consultative Meeting, the Committee shall take into account any comments provided by the Scientific Committee on Antarctic Research and, as appropriate, by the Commission for the Conservation of Antarctic Marine Living Resources. Thereafter Management Plans may be approved by the Antarctic Treaty Consultative Parties by a measure adopted at an Antarctic Treaty Consultative Meeting in accordance with Article IX(1) of the Antarctic Treaty. Unless the measure specifies otherwise, the Plan shall be deemed to have been approved 90 days after the close of the Antarctic Treaty Consultative Meeting at which it was adopted, unless one or more of the Consultative Parties notifies the Depositary, within that time period, that it wishes an extension of that period or is unable to approve the measure.

2. Having regard to the provisions of Articles 4 and 5 of the Protocol, no marine area shall be designated as an Antarctic Specially Protected Area or an Antarctic Specially Managed Area without the prior approval of the Commission for the Conservation of Antarctic Marine Living Resources.

3. Designation of an Antarctic Specially Protected Area or an Antarctic Specially Managed Area shall be for an indefinite period unless the Management Plan provides otherwise. A review of a Management Plan shall be initiated at least every five years. The Plan shall be updated as necessary.

4. Management Plans may be amended or revoked in accordance with paragraph 1 above.

5. Upon approval Management Plans shall be circulated promptly by the Depositary to all Parties. The Depositary shall maintain a record of all currently approved Management Plans.

ARTICLE 7 PERMITS

1. Each Party shall appoint an appropriate authority to issue permits to enter and engage in activities within an Antarctic Specially Protected Area in accordance with the requirements of the Management Plan relating to that Area. The permit shall be accompanied by the relevant sections of the Management Plan and

shall specify the extent and location of the Area, the authorised activities and when, where and by whom the activities are authorised and any other conditions imposed by the Management Plan.

2. In the case of a Specially Protected Area designated as such by past Antarctic Treaty Consultative Meetings which does not have a Management Plan, the appropriate authority may issue a permit for a compelling scientific purpose which cannot be served elsewhere and which will not jeopardise the natural ecological system in that Area.

3. Each Party shall require a permit-holder to carry a copy of the permit while in the Antarctic Specially Protected Area concerned.

ARTICLE 8 HISTORIC SITES AND MONUMENTS

1. Sites or monuments of recognised historic value which have been designated as Antarctic Specially Protected Areas or Antarctic Specially Managed Areas, or which are located within such Areas, shall be listed as Historic Sites and Monuments.

2. Any Party may propose a site or monument of recognised historic value which has not been designated as an Antarctic Specially Protected Area or an Antarctic Specially Managed Area, or which is not located within such an Area, for listing as a Historic Site or Monument. The proposal for listing may be approved by the Antarctic Treaty Consultative Parties by a measure adopted at an Antarctic Treaty Consultative Meeting in accordance with Article IX(1) of the Antarctic Treaty. Unless the measure specifies otherwise, the proposal shall be deemed to have been approved 90 days after the close of the Antarctic Treaty Consultative Meeting at which it was adopted, unless one or more of the Consultative Parties notifies the Depositary, within that time period, that it wishes an extension of that period or is unable to approve the measure.

3. Existing Historic Sites and Monuments which have been listed as such by previous Antarctic Treaty Consultative Meetings shall be included in the list of Historic Sites and Monuments under this Article.

4. Listed Historic Sites and Monuments shall not be damaged, removed or destroyed.

5. The list of Historic Sites and Monuments may be amended in accordance with paragraph 2 above. The Depositary shall maintain a list of current Historic Sites and Monuments.

ARTICLE 9 INFORMATION AND PUBLICITY

1. With a view to ensuring that all persons visiting or proposing to visit Antarctica understand and observe the provisions of this Annex, each Party shall make available information setting forth, in particular:

(a) the location of Antarctic Specially Protected Areas and Antarctic Specially Managed Areas;
(b) listing and maps of those Areas;
(c) the Management Plans, including listings of prohibitions relevant to each Area;
(d) the location of Historic Sites and Monuments and any relevant prohibition or restriction.

2. Each Party shall ensure that the location and, if possible, the limits, of Antarctic Specially Protected Areas, Antarctic Specially Managed Areas and Historic Sites and Monuments are shown on its topographic maps, hydrographic charts and in other relevant publications.

3. Parties shall co-operate to ensure that, where appropriate, the boundaries of Antarctic Specially Protected Areas, Antarctic Specially Managed Areas and Historic Sites and Monuments are suitably marked on the site.

ARTICLE 10 EXCHANGE OF INFORMATION

1. The Parties shall make arrangements for:

   (a) collecting and exchanging records, including records of permits and reports of visits, including inspection visits, to Antarctic Specially Protected Areas and reports of inspection visits to Antarctic Specially Managed Areas;
   (b) obtaining and exchanging information on any significant change or damage to any Antarctic Specially Managed Area, Antarctic Specially Protected Area or Historic Site or Monument; and
   (c) establishing common forms in which records and information shall be submitted by Parties in accordance with paragraph 2 below.

2. Each Party shall inform the other Parties and the Committee before the end of November of each year of the number and nature of permits issued under this Annex in the preceding period of 1st July to 30th June.

3. Each Party conducting, funding or authorising research or other activities in Antarctic Specially Protected Areas or Antarctic Specially Managed Areas shall maintain a record of such activities and in the annual exchange of information in accordance with the Antarctic Treaty shall provide summary descriptions of the activities conducted by persons subject to its jurisdiction in such areas in the preceding year.

4. Each Party shall inform the other Parties and the Committee before the end of November each year of measures it has taken to implement this Annex, including any site inspections and any steps it has taken to address instances of activities in contravention of the provisions of the approved Management Plan for an Antarctic Specially Protected Area or Antarctic Specially Managed Area.

ARTICLE 11 CASES OF EMERGENCY

1. The restrictions laid down and authorised by this Annex shall not apply in cases of emergency involving safety of human life or of ships, aircraft, or equipment and facilities of high value or the protection of the environment.

2. Notice of activities undertaken in cases of emergency shall be circulated immediately to all Parties and to the Committee.

ARTICLE 12 AMENDMENT OR MODIFICATION

1. This Annex may be amended or modified by a measure adopted in accordance with Article IX(1) of the Antarctic Treaty. Unless the measure specifies otherwise, the amendment or modification shall be deemed to have been approved, and shall become effective, one year after the close of the Antarctic Treaty Consultative Meeting at which it was adopted, unless one or more of the Antarctic Treaty Consultative Parties notifies the

Depositary, within that time period, that it wishes an extension of that period or that it is unable to approve the measure.

2. Any amendment or modification of this Annex which becomes effective in accordance with paragraph 1 above shall thereafter become effective as to any other Party when notice of approval by it has been received by the Depositary.

ATCM Recommendations, Measures, Resolutions and Decisions (in chronological order)

Resolution 4 (2023) - ATCM XLV - CEP XXV, Helsinki

Adopted 08/06/2023

URGENT MEASURES TO BE TAKEN WITH RESPECT TO CERTAIN TOURIST AND NON-GOVERNMENTAL ACTIVITIES

The Representatives,

Concerned about the continuing and substantial increase in the numbers of tourists and diversification of tourism and other non-governmental activities in Antarctica;

Acknowledging that the concerns associated with the growth, diversification, monitoring, compliance and governance in relation to Antarctic tourism and other non-governmental activities in Antarctica prompt the Antarctic Treaty Consultative Meeting ("ATCM") to take urgent action;

Acknowledging the desire for National Competent Authorities ("NCA") to improve harmonisation of assessment and standards, and to address issues arising from new activities or those seldom conducted, and potentially risky activities, as expressed in the NCAs discussion forum and reported in IP 91 (2023);

Recalling Resolution 2 (2022), which adopted and updated lists of sites subject to Site Guidelines for Visitors ("Site Guidelines");

Recalling Measure 15 (2009) and the "General Principles of Antarctic Tourism" adopted by Resolution 7 (2009);

Recalling also Resolution 2 (2004) "Guidelines for the Operation of Aircraft near concentrations of birds in Antarctica";

Recommend that their Governments:

1. recommend operators organising or conducting tourist or other non-governmental activities in the Antarctic Treaty area, for which advance notification is required in accordance with Article VII(5) of the Antarctic Treaty, to discontinue except in case of emergencies and for the purpose of enhancing human safety:

a. any off-ship activities in Antarctica from vessels carrying more than 500 passengers to clarify the purpose of Measure 15 (2009);

b. the use of helicopters for recreational purposes in areas with concentrations of wildlife; and

2. engage in further discussions on these and other specific actions in the context of future discussions regarding tourism.

Resolution 2 (2022) - ATCM XLIV - CEP XXIV, Berlin

Adopted 02/06/2022

SITE GUIDELINES FOR VISITORS

The Representatives,

Recalling Resolutions 5 (2005), 2 (2006), 1 (2007), 2 (2008), 4 (2009), 1 (2010), 4 (2011), 4 (2012), 3 (2013), 4 (2014), 2 (2016), 1 (2018), 2 (2019) and 3 (2021) which adopted and updated lists of sites subject to Site Guidelines for Visitors ("Site Guidelines");

Believing that Site Guidelines enhance the provisions set out in the Guidance for those organising and conducting tourism and non-governmental activities in the Antarctic annexed to Recommendation XVIII-1 (1994);

Confirming that the term "visitors" does not include scientists conducting research within such sites, or individuals engaged in official governmental activities;

Noting that Site Guidelines have been developed based on the current levels and types of visits at each specific site, and aware that Site Guidelines would require review if there were any significant changes to the levels or types of visits to a site;

Believing that the Site Guidelines for each site must be reviewed and revised promptly in response to changes in the levels and types of visits, or in response to any demonstrable or likely environmental impacts;

Desiring to keep the list of sites subject to Site Guidelines and the Site Guidelines up to date

Recommend to their Governments that:

1. Wordie House, Winter Island be updated in the list of sites subject to Site Guidelines annexed to this Resolution and that the Site Guidelines for that site, as adopted by the Antarctic Treaty Consultative Meeting ("ATCM"), be added to the Site Guidelines;

2. Torgersen Island, Arthur Harbor be removed from the list of Site Guidelines;

3. the Secretariat of the Antarctic Treaty ("the Secretariat") update its website accordingly;

4. all potential visitors are urged to ensure that they are fully conversant with and adhere to the relevant Site Guidelines; and

5. the Secretariat post the text of Resolution 3 (2021) on its website in such a way that makes clear that it is no longer current.

List of sites subject to Site Guidelines

Site Guidelines	First Adopted	Latest Version
1. Penguin Island (Lat. 62º 06’ S, Long. 57º 54’ W)	2005	2005
2. Barrientos Island - Aitcho Islands (Lat. 62º 24’ S, Long. 59º 47’ W)	2005	2013
3. Cuverville Island (Lat. 64º 41’ S, Long. 62º 38’ W)	2005	2013
4. Jougla Point (Lat. 64º 50’ S, Long. 63º 30’ W)	2005	2013
5. Goudier Island, Port Lockroy (Lat. 64º 49’ S, Long. 63º 29’ W);	2006	2006
6. Hannah Point (Lat. 62º 39’ S, Long. 60º 37’ W)	2006	2013
7. Neko Harbour (Lat. 64º 50’ S, Long. 62º 33’ W)	2006	2013
8. Paulet Island (Lat. 63º 35’ S, Long. 55º 47’ W)	2006	2018
9. Petermann Island (Lat. 65º 10’ S, Long. 64º 10’ W)	2006	2013
10. Pleneau Island (Lat. 65º 06’ S, Long. 64º 04’ W)	2006	2013
11. Turret Point (Lat. 62º 05’ S, Long. 57º 55’ W)	2006	2006
12. Yankee Harbour (Lat. 62º 32’ S, Long. 59º 47’ W)	2006	2019
13. Brown Bluff, Tabarin Peninsula (Lat. 63º 32’ S, Long. 56º 55’ W)	2007	2018
14. Snow Hill Hut (Lat. 64º 21’50’’ S, Long. 56º 59’31’’ W)	2007	2019
15. Shingle Cove, Coronation Island (Lat. 60º 39’ S, Long. 45º 34’ W)	2008	2008
16. Devil Island, Vega Island (Lat. 63º 48’ S, Long. 57º 17’ W)	2008	2018
17. Whalers Bay, Deception Island, South Shetland Islands (Lat. 62º 59’ S, Long. 60º 34’ W)	2008	2018
18. Half Moon Island, South Shetland Islands (Lat. 62º 35’24’’ S, Long. 59º 55’13’’ W)	2008	2019
19. Baily Head, Deception Island, South Shetland Islands (Lat. 62º 58’ S, Long. 60º 30’ W)	2009	2013
20. Telefon Bay, Deception Island, South Shetland Islands (Lat. 62º 55’27’’ S, Long. 60º 39’47’’ W)	2009	2018
21. Cape Royds, Ross Island (Lat. 77º 33’ 11” S, Long. 166º 10’ 7” E)	2009	2021
22. Wordie House, Winter Island, Argentine Islands (Lat. 65º 15’ S, Long. 64º 16’ W)	2009	2022
23. Stonington Island, Marguerite Bay, Antarctic Peninsula (Lat. 68º 11’ S, Long. 67º 00’ W)	2009	2009
24. Horseshoe Island, Antarctic Peninsula (Lat. 67º 49’ S,	2009	2014

Site Guidelines	First Adopted	Latest Version
Long. 67º 18’ W)		
25. Detaille Island, Antarctic Peninsula (Lat. 66º 52’ S, Long. 66º 48’ W)	2009	2009
26. Removed		
27. Danco Island, Errera Channel, Antarctic Peninsula (Lat. 64º 44’ S, Long. 62º 36’ W)	2010	2013
28. Seabee Hook, Cape Hallett, Northern Victoria Land, Ross Sea, Visitor Site A and Visitor Site B (Lat. 72º 19’ S, Long. 170º 13’ E)	2010	2021
29. Damoy Point, Wiencke Island, Antarctic Peninsula (Lat. 64º 49’ S, Long. 63º 31’ W)	2010	2013
30. Taylor Valley Visitor Zone, Southern Victoria Land (Lat. 77° 37.59’ S, Long. 163° 03.42' E)	2011	2011
31. North-east beach of Ardley Island (Lat. 62º 13’ S; Long. 58º 55’ W)	2011	2011
32. Mawson’s Huts and Cape Denison, East Antarctica (Lat. 67º 00’31’’ S; Long. 142º 40’43’’ E)	2011	2014
33. D’Hainaut Island, Mikkelsen Harbour, Trinity Island (Lat. 63° 54’ S, Long. 60° 47’ W)	2012	2012
34. Port Charcot, Booth Island (Lat. 65° 04’S, Long. 64 °02’W)	2012	2012
35. Pendulum Cove, Deception Island, South Shetland Islands (Lat. 62º56’S, Long. 60º36’ W)	2012	2018
36. Orne Harbour, Southern arm of Orne Harbour, Gerlache Strait (Lat. 64º 38’S, Long. 62º 33’W)	2013	2013
37. Orne Islands, Gerlache Strait (Lat. 64º 40’S, Long. 62º 40’W)	2013	2013
38. Point Wild, Elephant Island (Lat. 61° 06’S, Long. 54°52’W)	2016	2016
39. Yalour Islands, Wilhelm Archipelago (Lat. 65° 14’S, 64°10’W)	2016	2016
40. Astrolabe Island (Lat. 63° 17’S, Long. 58° 40’W)	2018	2018
41. Georges Point, Rongé Island (Lat. 64° 40’S, Long. 62° 40’W)	2018	2018
42. Portal Point (Lat. 64° 30’S, Long. 61° 46’W)	2018	2018
43. Cape Evans (Lat. 77° 38’ 12”S, 166° 25’ 15”E)	2021	2021
44. Hut Point (Lat. 77° 50’ 44.7”S 166° 38’ 30.3”E)	2021	2021
45. Cape Adare (Lat. 71° 18’ 27.5”S, 170° 11’ 29”E)	2021	2021

Resolution 3 (2022) - ATCM XLIV - CEP XXIV, Berlin

Adopted 02/06/2022

AIR SAFETY IN ANTARCTICA

The Representatives,

Recalling Resolution 6 (2021) on air safety in Antarctica;

Welcoming the advice provided by the Council of Managers of National Antarctic Programs ("COMNAP") in regard to the review by the Antarctic Treaty Consultative Meeting ("ATCM") of Resolution 6 (2021);

Concerned by the increasing diversification of aviation activities and the potential for increasing numbers of non-governmental aircraft movements;

Understanding the need to ensure that measures for improved air safety apply to all flights in Antarctica*;*

Noting the importance of ensuring effective communications between all actors involved in Antarctic air activities, including air operators, National Competent Authorities and COMNAP, and consistency of information across the various data repositories within the Antarctic Treaty System;

Recognising the importance of safe air operations in the Antarctic and that the principal body of knowledge and experience of Antarctic air operations, and its current challenges, lies with the operators of National Antarctic Programmes;

Acknowledging that any technical criteria must not impair the right of aerial observation granted in Article VII of the Antarctic Treaty;

Desiring to contribute to air safety in Antarctica through updated recommendations;

Recommend to their Governments:

1. for the purpose of ensuring that measures for improved air safety apply to all flights and all aviation-related infrastructure in the Antarctic Treaty area, measures to improve air safety set out in paragraphs 2-10 taking into account the International Civil Aviation Organization ("ICAO") criteria and the specific features of Antarctica as well as existing practices and services;

2. that, for the purpose of the safety of air operations in the Antarctic Treaty area, Parties should exchange, preferably by 1 September and no later than 15 November each year, information about their planned air operations in accordance with the standardised format of the Electronic Information Exchange System ("EIES");

3. that, for the purpose of improving air safety in Antarctica, all operators, governmental and non-governmental, operating aircraft or managing air-related infrastructure, camps or aviation facilities or services in the Antarctic Treaty area should be provided, at the request of their Competent Authority or National Antarctic Programme, with a continuously updated compendium produced by COMNAP, known as the COMNAP Antarctic Flight

Information Manual ("AFIM"), describing ground facilities, aircraft (including helicopters) and aircraft operating procedures and associated communications facilities in the Antarctic Treaty area (out of the use of which questions of liability will not arise) and, therefore, that they should:

(a) facilitate the ongoing revision of AFIM by collective action through COMNAP;

(b) adopt a format in which information provided is kept in a manner that facilitates updating of information;

(c) request their Antarctic operators to provide timely, current and accurate information for the purpose of maintaining the AFIM; and

(d) ensure consistency of information across the various data repositories within the Antarctic Treaty System;

4. that, for the purpose of ensuring mutual awareness of current air operations and exchanging information about them, Parties should designate:

(a) Primary Air Information Stations ("PAIS"), which coordinate their own air information and information from their Secondary Air Information Stations (if any) for the purpose of notifying current air operations to other PAIS. These PAIS should have adequate communication facilities able to transmit information by appropriate and agreed means; and

(b) Secondary Air Information Stations ("SAIS") which comprise stations/bases (including field bases and ships), which provide air information to their parent coordinating PAIS;

5. that, for the purpose of ensuring effective communications between PAIS, Parties and other operators should ensure that their PAIS have adequate facilities for communicating with other PAIS;

6. that, for the purpose of avoiding air incidents in areas beyond the range of very high frequency ("VHF") radio coverage of PAIS and SAIS:

(a) aircraft outside the areas covered by PAIS and SAIS should use a specific radio frequency to apply the Traffic Information Broadcast by Aircraft ("TIBA") procedure, laid down in Annex 11 to the Convention on International Civil Aviation;

(b) transponders in all aircraft must be switched on at all times during flight in the Antarctic Treaty area; and

(c) in addition, operators should strongly consider the installation and use of Automatic Dependent Surveillance – Broadcast ("ADS-B") In and/or Traffic Collision Avoidance System ("TCAS") technology in all aircraft operating in the Antarctic Treaty area;

7. that, so as to ensure compliance with Article VII, paragraph 5 of the Antarctic Treaty and also Recommendation X-8, Part IV, Parties should keep one another informed about non-governmental flights and should request COMNAP to provide access to AFIM to any operator of a non-governmental flight or infrastructure within the Antarctic Treaty area;

8. that, so as to provide for the improved collection from, and for the exchange within Antarctica of meteorological data and information of significance to the safety of, Antarctic air operations, Parties should:

(a) encourage the World Meteorological Organization ("WMO") in its work towards this end;

(b) take steps to improve meteorological services available in Antarctica, specifically to meet aviation requirements; and

(c) take account of the International Antarctic Weather Forecasting Handbook;

9. that, for the purpose of consideration of emergency response that might be required, Parties should consider that any increase in air activity brings with it increased risks that must be managed or mitigated, and in cases of search and rescue ("SAR") or emergency response, it is the National Antarctic Programmes that are often called upon to respond. This should be considered when Parties are made aware of non-governmental applications for air activities that are not in support of science;

10. that, for the purpose of improving air safety in Antarctica, Parties should request that all Antarctic air operators, government and non-governmental alike, ensure that they are aware of safety requirements, have identified alternative landing sites and communicated their intentions in advance directly to the operators of the alternative landing sites, reflecting that many airfields in the Antarctic Treaty area have limited and seasonal capacity and there should be no presumption of capabilities, operations or ability to assist;

11. that, to improve chances of survival in the event of an air accident, the operators of all personned aircraft should ensure that, at least, recommended minimal survival equipment is maintained and carried onboard their aircraft. Such recommended minimal survival equipment is to be based on a risk-based approach that considers type of aircraft, number of persons onboard and proposed specifics of the operations, such as whether the operations are intra-Antarctica or inter-Antarctic. The list of recommended minimal survival equipment shall be maintained through COMNAP and reviewed regularly by all operators; and

12. that Resolution 6 (2021) is no longer current.

Resolution 5 (2022) - ATCM XLIV - CEP XXIV, Berlin

Adopted 02/06/2022

PERMANENT FACILITIES FOR TOURISM AND OTHER NON-GOVERNMENTAL ACTIVITIES IN ANTARCTICA

The Representatives,

Recalling the designation of Antarctica as a natural reserve, devoted to peace and science in Article 2 and the Environmental Principles contained in Article 3 of the Protocol on Environmental Protection to the Antarctic Treaty;

Recalling Resolutions 5 (2007) and 7 (2009);

Conscious of the Antarctic Treaty Consultative Meeting's ("ATCM") consensus that tourism in Antarctica should be undertaken in a safe manner that will not contribute to the long-term degradation of the Antarctic environment and its dependent and associated ecosystems, or the intrinsic natural wilderness and historical values of Antarctica;

Recognising the International Association of Antarctic Tour Operators ("IAATO") Bylaws that tourism will have no more than a minor or transitory impact on the Antarctic environment;

Desiring to take a pragmatic and precautionary approach in order to prevent wilderness degradation in Antarctica;

Desiring to prevent additional strain on search and rescue ("SAR") support and National Antarctic Programmes to respond to safety emergencies;

Emphasising that, given recent plans for such facilities, National Competent Authorities may urgently need advice;

Recommend that their Governments make every effort to prevent, and not authorise, permit or approve, the construction and/or exploitation of any structure or facility exclusively for tourism and other non-governmental activities to be operated in Antarctica over multiple seasons, where its construction, operations or removal is expected to have more than a minor or transitory impact on the Antarctic environment and its dependent and associated ecosystems, or the intrinsic natural wilderness and historical values of Antarctica. Examples include, but are not restricted to, buildings, wharves and jetties, and graded runways on exposed ground.

Resolution 6 (2022) - ATCM XLIV - CEP XXIV, Berlin

Adopted 02/06/2022

REVISED STANDARD POST VISIT SITE REPORT FORM

The Representatives,

Conscious of the provisions of the Antarctic Treaty Consultative Meeting ("ATCM") in relation to the information to be exchanged by Parties and of the obligations to exchange information as contained in the Protocol on Environmental Protection to the Antarctic Treaty ("the Protocol") and its Annexes;

Recalling Resolution 3 (1997), which sets out a standard form for advance notification and post visit reporting on tourism and non-governmental activities;

Noting also Resolution 10 (2021) which recommended the use of a revised standard Post Visit Report Form to exchange information on activities carried out by tourist and non-governmental vessels in Antarctica;

Recalling Decision 7 (2012), which decided that the Parties will use the Electronic Information Exchange System ("EIES") to exchange information in accordance with the Antarctic Treaty and the Protocol and its Annexes and which specified that Parties would continue to work with the Secretariat of the Antarctic Treaty ("the Secretariat") to refine and improve the EIES;

Noting also that Decision 4 (2012) requires Parties to update relevant sections of the EIES regularly throughout the year, in order that such information be made available and accessible to Parties as soon as practicable;

Noting the convenience of obtaining consistent information that would facilitate analysis of the scope, frequency and intensity of tourism and non-governmental activities;

Desiring to ensure that the exchange of information by Parties be conducted in the most efficient and timely manner;

Desiring also that the information to be exchanged by Parties be readily identified;

Recommend that their Governments:

1. amend the standard Post Visit Report Form annexed to Resolution 10 (2021) to incorporate the changes indicated in the Annex to this Resolution; and

2. request the Secretariat to make the amended standard Post Visit Report Form available on its website.

Revised standard Post Visit Report Form

For the purpose of this Resolution, an unusual incident is *"An undesired or unforeseen event deviating from the activity described in the environmental impact assessment, or the failure of planned mitigation measures, resulting in environmental impacts exceeding those predicted in the environmental impact assessment; and/or negative effects on people; and/or damage to materials or assets; and it may also have led to the cancellation or interruption of the assessed activity and/or required the need for external assistance from outside the Operator's company or organization."*

As agreed by ATCM XLIV, items 2, 3 and 4 of section D "Report on Expedition by Expedition Leader" in Part 1 of the PVR form annexed to Resolution 10 (2021) now reads:

> Item 2. Were there any unusual incidents affecting people, environment and/or materials/assets?
>
> Item 3. If there were any unusual events, whether assistance was required or not. And, in case it was, if assistance was required from National programme, tour operator, private expedition, fishing vessel, RCC or other.
>
> Item 4. A summary description of the incident being reported and the consequences, and the data (name/mail/national programme) to which the incident detail report is to be sent.

Decision 5 (2022) - ATCM XLIV - CEP XXIV, Berlin

Adopted 02/06/2022

INFORMATION EXCHANGE REQUIREMENTS

The Representatives,

Noting Articles III (1)(a) and VII (5) of the Antarctic Treaty;

Conscious of the obligations to exchange information as contained in the Protocol on Environmental Protection to the Antarctic Treaty ("the Protocol") and its Annexes;

Conscious of Decisions of the Antarctic Treaty Consultative Meeting ("ATCM") in relation to the information to be exchanged by Parties;

Desiring to ensure that the exchange of information by Parties is conducted in the most efficient and timely manner;

Desiring also that the information to be exchanged by Parties be readily identified to maximise its utility;

Recalling Decision 4 (2012), which decided that the Parties would use the Electronic Information Exchange System ("EIES") to exchange information in accordance with the Antarctic Treaty and the Protocol and its Annexes and which specified that Parties would continue to work with the Secretariat of the Antarctic Treaty ("the Secretariat") to refine and improve the EIES;

Noting that Decision 4 (2012) requires Parties to update relevant sections of the EIES regularly throughout the year, in order that such information be made available and accessible to Parties as soon as practicable;

Decide:

1. that the Annex to this Decision represents a consolidated list of the information agreed to be exchanged by Parties;

2. to request the Secretariat to modify the EIES to reflect the information contained in the Annex to this Decision; and

3. that the Annex to Decision 7 (2021) is no longer current.

Information exchange requirements

1. Pre-season Information
The following information should be submitted as early as possible, preferably by 1 October, and in any event no later than the start of the activities being reported.

1.1 Operational information
1.1.1 National Expeditions

A. Stations
Names of stations (giving region, latitude and longitude), seasonality, operating period (for seasonal), status, maximum population, and medical support available.
Names of refuges (giving region, latitude and longitude), medical facilities, and accommodation capacity. Other major field activities, *eg*, scientific traverse (giving locations).

B. Non-Military Ships
Name of non-military ships, ice strength, country of registry, number of voyages, planned departure dates, areas of operation, ports of departure and arrival to and from Antarctica, and purpose of voyage. Maximum crew, maximum passengers.

C. Non-Military Aircraft
Type of non-military aircraft, planned number of flights, period of flights or planned departure dates for inter-continental flights, purpose. Maximum crew, maximum passengers.

D. Research Rockets
Coordinates of the place of launching, time and date/period, direction of launching, planned maximum altitude, impact area, type and specifications of rockets, purpose and title of research project.

E. Military
- Number of military personnel (officers and enlisted) in expeditions.
- Number and types of armaments.
- Information on military equipment, if any, not included in Section 3.2.D below, including its site name, coordinates (latitude and longitude), type of equipment, and purpose of equipment.
- Ship: Name of military ship, ice strength, number of voyages, planned departure dates, areas of operation, ports of departure and arrival to and from Antarctica, and purpose of voyage. Maximum crew, maximum passengers.
- Aircraft: Type of military aircraft, planned number of flights, period of flights or planned departure dates for inter-continental flights, and purpose. Maximum crew, maximum passengers.

1.1.2 Non-governmental Expeditions[i]
A. Vessel-based Operations

Name of operator, name of vessel, maximum crew, maximum passengers, country of registry of vessel, number of voyages, expedition leader, planned departure dates, ports of departure and arrival to and from Antarctica, areas of operation including the names of proposed visited sites and the planned dates at which these visits will take place, type of activity, whether these visits include landing, (optionally) duration of landing and the number of visitors that participate in each of the specific activities.

B. Land-based Operations

Name of expedition, name of the operator, method of transportation to, from and within Antarctica, type of adventure/activity, location/s of activities and/or routes, dates of expedition, number of personnel involved, contact address, web-site address.

C. Aircraft Activities
Name of operator, type of aircraft, number of flights, period of flights, departure date per flight, departure and arrival location per flight, route per flight, purpose per flight, and number of passengers.

D. Denial of Authorizations
Name of vessel and/or expedition, name of operator, date, reason for denial.

1.2 Visits to Protected Areas
Name and number of protected area, number of people permitted to visit, date/period and purpose.

2. Annual Report
The following information should be submitted as early as possible after the end of the austral summer season, but in all cases before 1 October, with a reporting period of 1 April to 30 March.

2.1. Scientific Information

2.1.1. Forward Plans[ii]
Details of strategic or multi-year science plans or contact point for printed version. List of planned participations in major, international, collaborative science programmes/projects.

2.1.2. Science Activities in Previous Year
List of research projects undertaken in previous year under science discipline (giving location(s), principal investigator, project name or number, discipline and main activity/remarks).

2.2. Operational information

2.2.1. National expeditions
Update of information given under 1.1.1.

2.2.2. Non-governmental expeditions

Update of information given under 1.1.2 plus, for section 1.1.2.A and B: total amount of passengers transported in each journey, total number of crew members on board in each journey and combined activity for section A, B and C. Information on unusual incidents for sections A, B and C, including type of unusual incident occurred (affected people, environment and/or materials/assets), date, place, from whom assistance was received and contact point for more information on the incident (operator or a member of the National Programme or whoever the competent authority considered).

2.3. Permit Information

2.3.1. Visits to Protected Areas
Update of information provided under 1.2.

2.3.2. Taking and harmful interference with flora and fauna
Permit number, permit period, species, location, amount, sex, age and purpose[iii].

2.3.3. Introduction of non-native species
Permit number, permit period, species, location, amount, purpose[iv], removal or disposal.

2.4. Environmental Information

2.4.1. Compliance with the Protocol[v]
Description of measure, date of effect.

2.4.2. Contingency Plans
Title of Contingency Plan(s) for oil spills and other environmental emergencies, copies (PDFs) or contact point for printed versions.

2.4.3. List of IEEs and CEEs[vi]
List of IEEs/CEEs undertaken during year giving proposed activity, (optionally) period/length, location, level of assessment and decision taken.

2.4.4. Monitoring activities report[vii]
Name of activity, location, procedures put in place, significant information obtained, action taken in consequence thereof.

2.4.5. Waste Management Plans
Title, name of site/vessel, copy (PDF) or contact point for printed version. Report on implementation of waste management plans during the year.

2.4.6. Measures taken to implement the provisions of Annex V[viii]
Description of measures.

2.4.7. Procedures relating to EIAs
Description of appropriate National Procedures.

2.4.8. Prevention of marine pollution[ix]
Description of measures.

3. Permanent Information
The following information can be updated at any time.

3.1. Science Facilities

3.1.1 Automatic Recording Stations/Observatories
Site name, coordinates (latitude and longitude), elevation (m), parameters recorded, observation frequency, reference number *(eg,* WMO no.).

3.2 Operational Information
A. Stations
Name of stations (giving region, latitude and longitude), status, seasonality, date established, accommodation and medical facilities.
Names of refuges (giving region, latitude and longitude), medical facilities, and accommodation capacity.

B. Non-Military Ships
Name of non-military ships, country of registry, ice strength, maximum crew, maximum passengers.

C. Non-Military Aircraft
Type of non-military aircraft, maximum crew, maximum passengers.

D. Military
- Number of military personnel (officers and enlisted)
- Number and types of armaments.
- Information on military equipment, if any, not already reported in the EIES, including its site name, coordinate (latitude and longitude), type of equipment, and purpose.
- Ship: Name of military ship, ice strength, maximum crew, maximum passengers.
- Aircraft: Type of military aircraft, maximum crew, maximum passengers.

3.3 Environmental Information

3.3.1 Waste Management Plans
Title of Plan, site/vessel, copy (PDF) or contact point for printed version.

3.3.2 Contingency Plans
Title of Contingency Plan(s) for Oil Spills and other environmental emergencies, copies (PDFs) or contact point for printed versions.

3.3.3 Inventory of Past Activities
Name of station/base/field camp/traverse/crashed aircraft/etc., coordinates (latitude and longitude), period during which activity undertaken, description/purpose of activities undertaken, description of equipment or facilities remaining.

3.3.4 Compliance with the Protocol[x]
Description of measure, date of effect.

3.3.5 Procedures relating to EIAs
Same as 2.4.7.

3.3.6 Prevention of marine pollution
Same as 2.4.8.

3.3.7 Measures taken to implement the provisions of Annex V. Same as 2.4.6.

3.4 Other Information

3.4.1 Relevant National Legislation
Description of law, regulation, administrative action or other measure, date of effect/enacted, giving copy (PDF) or contact point for printed version.

[i] provision of information on Non-governmental expeditions will be allowed for it to be provided as soon as possible after completion of national processes, with the relevant timing description being: 'as soon as possible following completion of national processes, preferably by the pre-season target date of 1 October, and no later than the start of the activity'.

[ii] optional provision of information on Forward plans will be allowed at any time, for example when domestic plans are completed or updated.

[iii] purpose with reference to Article 3 of Annex II to the Protocol.

[iv] purpose with reference to Article 4 of Annex II to the Protocol.

[v] new measures adopted during past year in accordance with Article 13 of the Protocol on Environmental Protection to the Antarctic Treaty including the adoption of laws and regulations, administrative actions and enforcement measures.

[vi] information on IEEs and CEEs is encouraged to be provided 'as soon as domestic processes are concluded, while maintaining the existing deadline for Parties to submit the information'.

[vii] Monitoring activities connected with activities subject to initial and comprehensive environmental evaluations (referred to in Protocol Annex I, Art. 6.1 c).

[viii] Information on measures taken to implement Annex V including site inspections and any steps taken to address instances of activities in contravention of the provisions of ASPA or ASMA management plans.

[ix] Measures to ensure that any warship, naval auxiliary or other ship owned or operated by a State and used, for the time being, only on government non-commercial service acts in a manner consistent, so far as is reasonable and practicable, with the Annex.

[x] Measures adopted in accordance with Article 13 of the Protocol on Environmental Protection to the Antarctic Treaty including the adoption of laws and regulations, administrative actions and enforcement measures.

Resolution 4 (2021) - ATCM XLIII - CEP XXIII, Paris

Adopted 24/06/2021

GENERAL GUIDELINES AND SITE GUIDELINES CHECKLIST FOR VISITORS TO THE ANTARCTIC

The Representatives,

Recalling Recommendation XVIII-1(1994), which annexed the Guidance for those organising and conducting tourism and non-governmental activities in the Antarctic and Resolution 3 (2011), which annexed General Guidelines for Visitors to the Antarctic ("General Guidelines");

Acknowledging that the General Guidelines must be reviewed and revised as further information becomes available;

Recalling Resolutions 5 (2005), 2 (2006), 1 (2007), 2 (2008), 4 (2009), 1 (2010), 4 (2011), 4 (2012), 3 (2013), 4 (2014), 2 (2016), 1 (2018), 2 (2019) and 3 (2021), which adopted and updated lists of sites subject to Site Guidelines for Visitors ("Site Guidelines");

Recalling Resolution 3 (2019), which adopted the Site Guidelines for Visitors Checklist ("the Checklist");

Affirming the value of providing general environmental advice to visitors to complement site-specific information;

Noting the desirability of providing contemporary advice to visitors to Antarctica to guide them in minimising their impacts at all sites;

Wishing to strengthen the existing guidance for visitors to Antarctica and to establish coherence between the General Guidelines and Site Guidelines;

Recommend that their Governments:

1. endorse the revised General Guidelines annexed to this Resolution (Annex 1);

2. urge all those intending to visit sites in Antarctica to ensure that they are fully conversant with and adhere to the advice in the General Guidelines;

3. request the Secretariat to place the General Guidelines on its website;

4. note that Resolution 3 (2011) is no longer current and request the Secretariat of the Antarctic Treaty ("the Secretariat") to post the text of Resolution 3 (2011) on its website in such a way that makes clear that it is no longer current;

5. endorse the updated Checklist annexed to this Resolution (Annex 2) and encourage those involved in the

preparation or review of Site Guidelines to comply with it; and

6. request the Secretariat to place the updated Checklist on its website and indicate that Resolution 3 (2019) is no longer current.

General Guidelines for Visitors to the Antarctic

The General Guidelines apply to all visitors and all activities in the Antarctic Treaty area[1]. All visits to Antarctica should be conducted in accordance with the Antarctic Treaty, its Protocol on Environmental Protection, and relevant Measures, Decisions and Resolutions adopted at Antarctic Treaty Consultative Meetings (ATCMs). All activities must be subject to an Environmental Impact Assessment and must have prior approval/permission or meet all the requirements of the relevant National Competent Authority.

These Guidelines provide general guidance for visiting any location, with the aim of ensuringthat visits do not have adverse impacts on the Antarctic environment, including wildlife and ecosystems, or on its scientific, wilderness and aesthetic values. ATCM Site Guidelines for Visitors provide additional site-specific advice for some locations. Guidelines concerning particular risks such as aircraft use, or avoiding the introduction of non-native species may also apply.

Consult these Guidelines before you visit Antarctica and plan how to minimise your impact. If you are part of a guided visitor group, abide by these guidelines, pay attention to your guides,and follow their instructions. If you are the organiser of your own visit or the visit of a group and respective activities, you are responsible for abiding by these guidelines. You arealso responsible for identifying the features of the sites you visit that may be vulnerable to visitor impacts, and for complying with any specific requirements related to protected areas,Historic Sites and Monuments, activities or risks. Specific requirements can be included within ATCM Site Guidelines, Antarctic Specially Protected Area (ASPA) and Antarctic Specially Managed Area (ASMA) management plans, or station visit guidelines.

PROTECT ANTARCTIC WILDLIFE

WILDLIFE

- The taking of, or harmful interference with, Antarctic wildlife is prohibited.
- When in the vicinity of wildlife – either on land or at sea, move or manoeuvre slowly and carefully and keep noise to a minimum.
- Maintain an appropriate distance from wildlife to avoid disturbance. Whilein many cases a greater distance may be necessary, in general keepat least 5m from wildlife on land. Abide by any guidance on distances in species- or site-specific guidelines.
- Always give animals the right of way and do not block their access routesbetween the sea and land, nesting places or other destinations.
- Animals may alter their behaviour if disturbed. Observe wildlife behaviour.If wildlife changes its behaviour (standing when it was sitting, moving its head around alerted, start vocalising when it was silent, etc.) stop moving,or slowly increase your distance.

[1] It is acknowledged that exceptions to the application of elements of these guidelines may be made for scientific and official governmental activities if the realization of these activities so require and if prior approval has been given by the National Competent Authority and the activity meets all requirements of the relevant national authority.

	● Stay outside the margins of a colony and observe from a safe distance. Animals are particularly sensitive to disturbance when they are breeding (including nesting) or moulting. ● Every situation is different. Consider the topography and the individual circumstances of the site, as these may have an impact on the vulnerability of wildlife to disturbance. ● Watch your steps for eggs, chicks or nest materials of skuas, penguins orpetrels. ● Unmanned aerial vehicles must not be used in the vicinity of wildlife. ● Do not feed wildlife or leave food or scraps lying around.
VEGETATION	● Vegetation, including mosses and lichens, is fragile and very slow growing.Do not walk, drive or land on any moss beds or lichen coveredrocks, in order to avoid damage. ● When travelling on foot, stay on established tracks whenever possible to minimise disturbance or damage to the soil and vegetated surfaces. Where a track does not exist, choose your route carefully, taking the mostdirect route while avoiding vegetation, fragile terrain, scree slopes, and wildlife.
INTRODUCTIO NOF NON-NATIVE SPECIES AND PATHOGENS	● Do not introduce any plants or animals into the Antarctic. ● In order to prevent the introduction of non-native species and disease, carefully wash boots and clean all equipment including clothes, bags, tripods, tents and walking sticks before bringing them to Antarctica. Payparticular attention to boot treads, velcro fastenings and pockets which could contain soil or seeds. Vehicles and aircraft should also be cleaned. ● In order to prevent the transfer of non-native species and disease between locations in Antarctica ensure all clothing, boots and equipmentare cleaned thoroughly before moving between sites and regions.

RESPECT PROTECTED AREAS AND STRUCTURES

ANTARCTIC SPECIALLY MANAGED AREAS (ASMAs)AND ANTARCTIC SPECIALLY PROTECTED AREAS (ASPAs)	● Activities in ASPAs and ASMAs must comply with the provisions of therelevant Management Plan and abide by any restrictions regarding theconduct of activities in these areas. ● A permit from a National Competent Authority is required for entry into any ASPA. Carry the permit and obey any permit conditions at all times while visiting an ASPA. ● Check the locations and boundaries of ASPAs and ASMAs in advance and refer to the provisions of their Management Plans (all can be found atheAntarctic Treaty Secretariat website (www.ats.aq)).

HISTORIC SITESAND MONUMENTS (HSMs) AND OTHER STRUCTUR ES	● Some historic huts have been designated as ASPAs and require a permittovisit. Visits must follow the provisions laid out in the respective management plan. ● Historic huts and structures can, in some cases, be visited for touristic, recreational and educational purposes. Visitors should not use them forotherpurposes except in emergency circumstances.

	• Do not damage, remove, destroy or change any historic site, monument, or artefact, or other building or emergency refuge (whether occupied or unoccupied). • Consult relevant ATCM Site Guidelines for Visitors for specific rules concerning historic sites, monuments, items or buildings and other structures in the vicinity. • Before entering any historic structure, clean your boots of snow and grit and remove snow and water from clothes, as these can cause damage to structures or artefacts. • Take care not to tread on any artefacts which may be obscured bysediments or snow when moving around historic sites. • If you come across an item that may be of historic value that authorities may not be aware of, do not touch or disturb it. Notify your expedition leader or NCAs. • A list of the formally designated HSMs can be found at the ATS website.

RESPECT SCIENTIFIC RESEARCH

- Some Antarctic stations may accept visitors where prior arrangements havebeenmade. Obtain permission before visiting Antarctic stations.
- Reconfirm scheduled visits well in advance, or according to guidance provided by the manager of a station before arriving.
- In addition to these general guidelines, comply with any site-specific rulesorvisitor guidelines in place when visiting Antarctic stations.
- Do not interfere with or remove scientific equipment or markers, and donot disturb experimental study sites, field camps or stored supplies.

KEEP ANTARCTICA PRISTINE – LEAVE NO TRACE OF YOUR VISIT

WASTE	• Do not deposit any litter or garbage on land nor discard it into the sea. • No smoking except in designated areas at stations or camps, to avoid litterand risk of fire to structures. Collect ash and litter for disposal outside Antarctica. • Ensure that wastes are managed in accordance with Annexes III (wastedisposal) and IV (marine pollution) of the Protocol on Environmental Protection to the Antarctic Treaty. • Ensure that all belongings, equipment and waste are secured at all timesinsuch a way as to prevent dispersal into the environment through high winds or wildlife foraging.

WILDERNESS VALUES	● Do not disturb or pollute lakes, streams, rivers or other water bodies (*eg*,by walking, washing yourself or your equipment, throwing stones, etc.). ● Do not paint or engrave names or other graffiti on any man-made or natural surface in Antarctica. ● Do not take souvenirs, whether man-made, biological or geological items, ● including feathers, bones, eggs, vegetation, soil, rocks, meteorites and fossils. ● Place tents and equipment on snow or at previously used campsites,where possible.

BE SAFE

SAFETY PRECAUTIONS/ PREPARATIONS

- Be prepared for severe and changeable weather. Ensure that your equipment and clothing meet Antarctic standards. Remember that the Antarctic environment is inhospitable, unpredictable and potentially dangerous.
- Know your capabilities, the dangers posed by the Antarctic environment,and act accordingly. Plan activities with safety in mind at all times.
- Keep a larger safety distance from potentially dangerous or territorial wildlife like fur seals, both on land and at sea. Keep at least 15-25 m awaywhere practicable.
- Be careful where you walk as seals can lie camouflaged on and amongrocks. Keep a safety distance from sea ice edge and be cautious whenstepping over cracks in the sea ice.
- Skuas are very territorial birds and will attack anyone approaching their nests by plummeting down on intruders. If this happens, retreat away fromthe point when the attack started.
- Any wildlife, even penguins, can cause serious harm. Do not underestimaterisks.
- If you are travelling in a group, act on the guidance and instructions of your leaders. Do not stray from your group as survival in Antarctica can be a matter of minutes (especially in case of acute hypothermia).
- Do not walk onto glaciers or large snow fields without proper equipmentand experience. There is a real danger of falling into hidden crevasses.
- Be vigilant in the vicinity of calving glaciers. Breaking pieces of ice cangenerate dangerous waves.
- Pay special attention when climbing rocks and/or boulders, as melting permafrost with changing temperatures lead to an increased risk of avalanches.
- Do not expect a rescue service. Self-sufficiency is increased and risks reduced by sound planning, quality equipment and trained personnel.
- Enter emergency refuges only in case of an actual emergency. If you use equipment or food from a refuge, inform the nearest research station or the National Competent Authority that has approved/permitted the visitors activity in Antarctica once the emergency is over.
- Respect any smoking restrictions. Use of combustion style lanterns and naked flames in or around historic structures is strictly discouraged. Takegreat care to safeguard against the danger of fire. This is a real hazard in the dry environment of Antarctica.

LANDING AND TRANSPORT REQUIREMENTS **TRANSPORT**	• Do not use aircraft, vessels, small boats, hovercraft or other means of transport in ways that disturb wildlife, either at sea or on land. • Avoid flying over concentrations of birds and mammals. Follow the advice in Resolution 2 (2004) *Guidelines for the operation of aircraft nearconcentrations of birds in Antarctica*. • Fuelling of aircraft (fixed and rotary wing) needs to be done in a way that minimises spillage and uses suitable spill containment equipment. • Refilling of fuel tanks for small boats should take place in a way that ensures any spills can be contained, for example onboard a vessel. • Check small boats are free of any soil, plants or animals prior to the commencement of any ship-to-shore operations. • Small boats must at all times regulate their course and speed so as to minimise disturbance to wildlife and to avoid any collisions with wildlife.
SHIPS[2]	• Only one ship may visit a site at any one time. • Vessels with more than 500 passengers shall not make landings inAntarctica.
LANDING OF PASSENGERSFROM VESSELS	• A maximum of 100 passengers may be ashore from a vessel at any onetime, unless site specific guidance requires fewer passengers. • During landings from vessels, maintain a 1:20 guide to passenger ratioatall sites, unless site specific advice requires more guides.

[2] A ship is defined as a vessel which carries more than 12 passengers.

Site Guidelines for Visitors Checklist

Prior considerations

Site Guidelines should be kept as specific as possible, containing only relevant information and a behavioral code of conduct concerning only thesite itself. It should be ensured that the Site Guideline contains a reference to the General Guidelines for Visitors tothe Antarctic and that the Site Guideline is coherent with the General Guidelines.

For existing sites, reviewers should examine the existing guidelines prior to visiting the site and identify site-specific aspects that should be examined prior to the site visit. The information to compile may include:

- Level of visits during the last five years and identified trends of growth, decrease, stability. (IAATO data on visitor numbers, and anyinformation held by national programmes/governments as appropriate).
- Report of incidents/accidents during the last five years (any information held by national programmes/governments as appropriate).
- Type of visitor activities that have been carried out in the area (guided walk, small boat cruising, kayak, etc.)

For new sites, reviewers should compile information on the site ahead of a visit. The information to compile may include (in addition to the above):

- Information about the environmental values present in the area (information held by national programmes/governments as appropriate: scientific papers, travel guides, etc.).

Questions		Reviewers Comments
Latitude/Longitude Position Include GPS coordinates specifying the place whereit was referenced(ex: xx°xx´xx´´ S, xx°xx´xx´´W – landing area or HSM point, etc.)		
Key Features What are the key features of the site? Why wouldsomeone wish to visitthe site? Try to stick to twoor three features.		
Topography and geology A physical description of the site. Background material can be used to describe the wider site butreviewers should note thespecific nature of the site.	Overview of site	
	Description of landingbeach(es)	
	Description of the sitegeology	

Questions		Reviewers Comments
Wildlife List all fauna identified. Where possible, identify whether species arebreeding there. Use commonand scientific names.		
Vegetation List all flora present at the site. Use commonnames.		
Historical/Cultural/ Scientific activities List of all human presence with specific location and details of condition.	Any HSM should be noted with specific reference to condition.	
	Historical and archaeological remains that aren't HSMs.	
	National Programme activity, *ie*,recluse or stores.	
	Scientific equipment present at site, incl. what it is and who it belongs to,if known.	
Visitor Impact Is there any obvious evidence of visitor impact? Forexample damage/graffiti to Historic sites; erosion caused by paths; abandoned waste; marks left on geology.		

Questions		Reviewers Comments
'Visitor Pressure' descriptions Where on the site are there likely to be visitorpressure impacts? This could be a path or landing zone too close to fauna or flora; path impacts; non- permanent installationsimpacts; use of UAVs impacts; or dangerous areas	Risks to the Environment	
	Risk to visitor safety	
Landing area (withGPS coordinates) Safe, appropriate. Is it accessible?	Approach, are there rocks/shoals?	
	Is there a heavy concentration of wildlifeon the beach?	
	Is there an appropriateroute from the landingbeach to the primary visitor area?	
Restricted zones	Are any areas inappropriate for visitorsto enter?	
	What is the rationale forthis exclusion?	
	What is the exact areaand how can it be identified? GPS data.	
	Are any ASPAs/ASMAs located nearby? (Are the boundaries easily identifiable?)	

Questions		Reviewers Comments
Seasonality Are any seasonal factors likely to affect visits to thesite? (*ie*, wildlifebreeding season, snow accumulation in early season)		
Visitor Numbers What does the suggested visitor number limit mean for the number of ships (and ship capacity) visiting per day?	Does the size of the sitelimit visitor numbers?	
	Does the concentration and/or spreadof wildlifelimit visitor numbers?	
	Do geological considerations limit visitor numbers?	
	Would visitors disruptscientific activities?	
	Would the number of visitors per day impactan HSM?	
	What would a reasonable number of visitors to the site be per day?	
Distances from flora and fauna Should additional restrictions (beyond the standard5 metres) beimposed?		

Questions	Reviewers Comments
Proposed walking routes Are there specific routes that should be taken or avoided across thesite? Free roaming and guidedareas.	
Behaviour ashore Are there any site-specific issues that should benoted in site guidelines? Are there any cautionary notes to highlight? Considerations should include the protection of visitors, *ie*, healthand safety concerns as well asprotection of the site and its flora/fauna.	
Site Map The majority of information mentioned in the guidelines should be included in the map, includingGPS data of the landing area. For existing sites, reviewers should assess the accuracy of the existingmap. For example, are restricted areas and wildlife areas accurately marked? Do additional details need to be added? Isall relevant detail insite guidelines included in the map? Is it consistent with other more recent site guideline maps?	
Photographic evidence Illustrated photo-maps should be used to assist inon-site interpretationof the provisions of the SiteGuidelines. For existing sites, appropriate, up-to-date photos ofthe site should betaken and where appropriate added to the guidelines. New photos should not replace old photos if the older versions provide a better representation of the site.	

Site-specific review for existing sites

Reviewers should examine the existing guidelines prior to visiting the site and identify site-specific questions that should be examined.

Questions	Reviewers Comments

Decision 6 (2021) - ATCM XLIII - CEP XXIII, Paris

Adopted 24/06/2021

MANUAL OF REGULATIONS AND GUIDELINES RELEVANT TO TOURISM AND NON-GOVERNMENTAL ACTIVITIES IN THE ANTARCTIC TREATY AREA

The Representatives,

Considering the issues relating to tourism activities and compliance with current regulations;

Desiring to ensure that non-governmental activities in Antarctica be carried out in full compliance with the Antarctic Treaty and its Protocol on Environmental Protection;

Desiring to improve the efficiency of the Antarctic Treaty System and compliance with its legal framework;

Recalling Decision 6 (2019), through which it was agreed to create the Manual of Regulations and Guidelines Relevant to Tourism and Non-Governmental Activities in the Antarctic Treaty area ("the Manual");

Decide:

to make available the two versions of the Manual and the Tourist Leaflet annexed to this Decision on the Secretariat of the Antarctic Treaty ("the Secretariat") website, in its most appropriate section, so that they can be downloaded; and consistent with Decision 6 (2019), the two versions of the Manual and the Tourist Leaflet will be simultaneously updated by the Secretariat upon request from the Antarctic Treaty Consultative Meeting ("ATCM").

Resolution 5 (2019) - ATCM XLII - CEP XXII, Prague

Adopted 11/07/2019

REDUCING PLASTIC POLLUTION IN ANTARCTICA AND THE SOUTHERN OCEAN

The Representatives,

Noting the increasing level of both macro-plastic (>5 mm) and micro-plastic (<5 mm) found in the Antarctic Treaty area;

Aware of the current lack of plastics monitoring data to inform decision-making;

Conscious of their responsibility to protect the Antarctic environment and dependent and associated ecosystems;

Acknowledging that the majority of plastic found in Antarctica originates from outside of Antarctica;

Nevertheless wishing to minimise plastic pollution in Antarctica;

Recalling Articles 1 and 6 of Annex III and Article 5 of Annex IV to the Protocol on Environmental Protection to the Antarctic Treaty;

Recommend that their Governments:

1. encourage all persons under their jurisdiction organising or conducting tourist or other non-governmental activities in the Antarctic Treaty area and National Antarctic Programmes to eliminate personal care products containing micro-plastic beads in the Antarctic Treaty area;
2. identify and exchange information with other Parties on methods that should be implemented to reduce micro-plastic release from wastewater systems;
3. support greater monitoring of plastic pollution in Antarctica using developing standards and comparative methodologies, particularly near areas of human activity;
4. invite the Scientific Committee on Antarctic Research ("SCAR") to report as new information emerges that quantifies plastic pollution and details the risks to Antarctic species and communities; and
5. consider the issue of micro-plastic release in connection with any possible future revisions of Annexes III and IV to the Protocol on Environmental Protection to the Antarctic Treaty.

Decision 6 (2019) - ATCM XLII - CEP XXII, Prague

Adopted 11/07/2019

MANUAL OF REGULATIONS AND GUIDELINES RELEVANT TO TOURISM AND NON-GOVERNMENTAL ACTIVITIES IN ANTARCTICA

The Representatives,

Noting the yearly increase in tourist numbers in the Antarctic Treaty area;

Desiring to ensure that non-governmental activities in Antarctica are carried out in full compliance with the Antarctic Treaty and its Protocol on Environmental Protection;

Desiring to improve the efficiency of the Antarctic Treaty system and compliance with its legal framework;

Taking into consideration the outcomes of the Rotterdam workshop on Antarctic tourism, especially the Chair's Report and the Information Paper submitted to Antarctic Treaty Consultative Meeting ("ATCM") XLII;

Conscious of the relevance of a compilation of provisions on non-governmental activities in the Antarctic;

Decide:

1. to create the Manual of Regulations and Guidelines Relevant to Tourism and Non-Governmental Activities in the Antarctic Treaty area ("the Manual");

2. to task the Secretariat of the Antarctic Treaty ("the Secretariat") with compiling, producing and making the Manual available to the Parties;

3. to request the Secretariat to open an informal forum, convened by France, on its website allowing exchanges with the Parties, in order to enable them to guide and assist the elaboration of the Manual;

4. that Observers and Experts participating in the ATCM, especially the International Association of Antarctica Tour Operators ("IAATO"), will be encouraged to provide input;

5. that the Manual will be a digital document, accessible via the Secretariat's website; and

6. that the Secretariat will produce updated versions of the Manual.

Indicative list of texts that could be included in the Manual

The Antarctic Treaty and the Madrid Protocol, particularly:

- Article 1 of the Antarctic Treaty;
- Excerpts from the Madrid Protocol: Articles 1, 2, 3 and 8;
- Annexes I and II to the Madrid Protocol;
- Excerpts from Annex III to the Madrid Protocol: Articles 1 to 7 and Article 12; -
- Excerpts from Annex IV to the Madrid Protocol: Articles 1 to 10.

- All Measures, Recommendations and Decisions adopted by the ATCM relating to tourism and nongovernmental activities.
- All relevant guidance provided by the ATCM and CEP.
- All site guidelines for visitors.
- References to legal instruments adopted outside the ATCM framework:
  - International Maritime Organization Polar Code;[1]
  - The MARPOL Convention;
  - The SOLAS Convention.

Resolution 4 (2018) - ATCM XLI - CEP XXI, Buenos Aires

Adopted 18/05/2018

ENVIRONMENTAL GUIDELINES FOR OPERATION OF REMOTELY PILOTED AIRCRAFT SYSTEMS (RPAS) IN ANTARCTICA

The Representatives,

Recalling Article 3 of the Protocol on Environmental Protection to the Antarctic Treaty ("the Protocol"), which requires that activities in the Antarctic Treaty area shall be planned and conducted so as to limit adverse impacts on the Antarctic environment and dependent and associated ecosystems;

Recognising that increasing use of Remotely Piloted Aircraft Systems ("RPAS") is being made in the Antarctic Treaty area and that the technology offers many benefits, including for science and operations, and also has the potential to reduce environmental impacts in some circumstances;

Recognising also that RPAS have the potential to cause environmental impacts, and that there is benefit to adopting best practice environmental guidelines for RPAS based on the precautionary principle in order to help minimize those impacts and to assist users in meeting their obligations under the Protocol;

Welcoming the development through broad consultation amongst members and the science community, including with the Scientific Committee on Antarctic Research ("SCAR") and the Council of Managers of National Antarctic Programs ("COMNAP"), of the Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica ("Environmental Guidelines for operation of RPAS") that Parties can apply and use, as appropriate;

Recommend that their Governments:
1. endorse the non-mandatory Environmental Guidelines for operation of RPAS, annexed to this Resolution, as representing current environmental best practice for planning and undertaking RPAS activities, as appropriate, in Antarctica;
2. consider when appropriate the Environmental Guidelines for operation of RPAS during the environmental impact assessment process for RPAS activities within Antarctica;
3. encourage all those authorised to use RPAS to plan and undertake RPAS activites to abide, to the best of their ability by the Environmental Guidelines for operation of RPAS;
4. encourage SCAR and the scientific community to develop research on the environmental impacts of RPAS in order to reduce current uncertainties; and
5. encourage the Committee for Environmental Protection to continue to develop these guidelines as both the technology and scientific understanding of the potential impacts of RPAS are advanced.

Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS)[14] in Antarctica (v 1.1)[2].

Introduction

Deployment of Remotely Piloted Aircraft Systems[2] (RPAS) can, in some circumstances, reduce or avoid environmental impacts that might otherwise occur. Their use may also be safer and require less logistical support than other means of deployment for the same purpose.

These Environmental Guidelines for operation of RPAS in Antarctica aim to assist implementation of Environmental Impact Assessment (EIA) requirements and aid decision-making for use of RPAS through provision of guidance based on current best available knowledge.

System failures and/or RPA loss in Antarctica may release waste into the environment. The short and longterm impacts of RPAS, including of noise and visual intrusion on Antarctic wildlife, are presently not well understood, and there remain uncertainties about the extent to which RPAS have the potential to cause environmental impacts. As such, there is a recommendation to proceed with a precautionary approach to use of RPAS in Antarctica at the same time as seeking to maximise the many potential scientific, logistic and other benefits of RPAS technology.

It is recognised that in some cases it may be desirable deliberately to operate close to fauna or flora to meet specific scientific or other objectives that have been assessed in the EIA or permitting process. Scientific understanding of the impacts of RPAS on Antarctic wildlife is currently not well developed, with limited knowledge of physiological or long-term demographic effects. Species vary widely in the extent to which they appear to be affected by RPAS operations, and this may also vary by many other factors such as breeding stage, local conditions, etc. Behavioural displays, or their lack, are not necessarily clear indicators of the level of disturbance occurring to wildlife. RPAS operations over or near wildlife should be sufficiently justified taking into account potential for disturbance through the EIA or permitting process.

[14] A Remotely Piloted Aircraft System (RPAS) is defined by the International Civil Aviation Authority (ICAO) (2015) as "A remotely piloted aircraft, its associated remote pilot station(s), the required command and control links and any other components as specified in the type design". A Remotely Piloted Aircraft (RPA) is "An unmanned aircraft which is piloted from a remote pilot station". RPAS are one class of Unmanned Aerial System (UAS), and they are often referred to as Unmanned Aerial Vehicles (UAVs), Unmanned Aircraft Systems (UAS) or 'drones'. In these guidelines RPAS is used for all types of remotely piloted drone systems and RPA is used to refer specifically to the aircraft itself. [2] These guidelines are intended primarily for application to RPAS of small to medium size (≤25 kg in weight). While many of the principles and guidelines also apply to use of large RPAS (>25 kg in weight), these operations may present additional potential risks in need of specific management procedures that should be addressed in project-specific EIAs. [3] As required by Art. 8 of the Madrid Protocol.

Guidelines to address aspects of RPAS in Antarctica are available from the Council of Managers of National Antarctic Programs (COMNAP), and a number of competent authorities have also prepared practical manuals for RPAS use within national programmes. RPAS users are referred to these guidelines for essential additional information, particularly related to operational and safety aspects (see Appendix 1).

Pre-deployment Planning and Environmental Impact Assessment (EIA)

1. Requirements of the Madrid Protocol and its Annexes

1.1 Any proposed activities undertaken in the Antarctic Treaty area shall be subject to the procedures set out in Annex I of the Madrid Protocol[3] for prior assessment of the impacts of those activities on the Antarctic environment.

1.2 Flying or landing an aircraft in a manner that disturbs concentrations of birds and seals is prohibited in Antarctica, except in accordance with a permit issued by an appropriate authority under Annex II to the Madrid Protocol15.

1.3 Removal of wastes from Antarctica, including electrical batteries, fuels, plastics, etc. is required by Annex III[16], which should be considered in contingency plans for lost or damaged RPAS as part of the Environmental Impact Assessment (EIA).

1.4 A permit issued by an appropriate national authority is required to enter an Antarctic Specially Protected Area (ASPA)[6], and special requirements to operate RPAS may apply within an ASPA or an Antarctic Specially Managed Area (ASMA): any planned RPAS operation within ASPAs or ASMAs, including any overflight of these areas, must be in accordance with the respective ASPA or ASMA Management Plan.

2. General considerations

2.1 When planning RPAS use in Antarctica, the current approved versions of the documents listed in Appendix 1, which include, *inter alia*, recommendations, guidelines, Codes of Conduct and manuals prepared by the Antarctic Treaty Parties, SCAR and COMNAP and also recent published scientific papers such as those listed in Appendix 2 may be helpful additional considerations to these guidelines.

2.2 Consider the relative environmental advantages and disadvantages of RPAS and other alternatives, and consider the environmental characteristics of the RPAS and the values present at the proposed location(s) of operation, weighing up both the benefits and environmental impacts of RPAS use.

2.3 Undertake detailed pre-flight planning, including thoroughly assessing the particularities of the operational site in advance of deployment, to ensure an appropriate understanding of its topography, weather and any hazards that may impact upon an environmentally sound operation. Where possible, carry out simulated flights using software tools.

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[15] As required by Art. 3 Annex II to the Protocol. This permit can only be granted under certain conditions.

[16] As required by Art. 2 Annex III to the Protocol. [6]

As required by Annex V to the Protocol.

2.4 Map out flight plans, prepare contingency plans for incidents or malfunctions, including alternative landing sites and plans for RPA retrieval should there be a crash.

2.5 Assess the particularities and dynamics of the values that could be affected at the site, including the species of fauna and flora present, their numbers and/or extent, and where they are located to assess their concentrations, as part of the environmental impact assessment process and mission planning. Where appropriate, adjust flight plans, including the timing of the mission to avoid sensitive breeding periods (including for all species that may be present in addition to any study species), so that potential disturbance is minimised.

2.6 Identify any specially protected sites (eg, ASPAs, ASMAs, Historic Sites and Monuments (HSMs) and any special zones within these areas), or sites subject to Antarctic Treaty Visitor Site Guidelines, in the vicinity of planned RPAS operations and ensure any overflight restrictions specified in their management plans or site guidelines are followed.

2.7 Consider options and contingencies carefully in the EIA before planning to operate in and over potentially environmentally sensitive areas (*eg*, wildlife colony, or extensive vegetation cover that could be impacted by trampling), or where retrieval of a lost RPA would be difficult or impossible, while recognising that such areas may also be of particular interest for RPAS surveys.

2.8 If you plan to operate RPAS from boats or ships, be aware of elevated risks of collisions with flying birds that often follow ships.

2.9 Where multiple RPAS operations are anticipated to occur in the same area or repeatedly over time, consider in the EIA the potential for cumulative environmental impacts.

3 . RPAS Characteristics

3.1 Carefully select the type of RPAS and sensors that will be most appropriate for fulfilling the objectives of planned air operations and where possible use Best Available Technology to minimise environmental impacts. Carry out test flights outside Antarctica to verify your choice (*eg*, testing sensor capabilities at different flight altitudes, and where practicable selecting sensors or lenses that allow greater separation distances from wildlife).

3.2 Consider selecting RPA models with the lowest practicable noise levels, and models with nonthreatening shapes, sizes and/or colours, for example that do not closely resemble aerial predators likely to be present at the site of operation to minimise stress on prey species and/or attacks by territorial species.

3.3 Ensure the RPAS is well-maintained and operates reliably before deployment to reduce risk of failure and loss. The use of RPAS equipped with a Return To Home (RTH) feature is recommended. Ensure sufficient power or fuel to accomplish missions. For electric RPAS closely monitor battery capacity and performance, which varies with conditions. For combustion RPAS, check there are no fuel leaks, that fuel caps are secure, use best practice when handling fuel and refuelling and ensure that fuel spillage counter-measures are in place.

3.4 To reduce the risk of non-native species introductions, ensure that the RPAS and all associated equipment and carrying cases are clean and free of soil, vegetation, seeds, propagules or invertebrates

prior to shipment to Antarctica. To reduce the risk of species transfer within Antarctica, carefully clean RPAS and associated equipment after use and prior to use at another site.

4. Operator Characteristics

4.1 RPAS pilots should be well-trained and experienced before undertaking operations on-site in Antarctica.

4.2 Before operating in Antarctica, RPAS test flights should be undertaken in a variety of conditions by the pilot that will be operating in Antarctica with the specific type, model and payload of RPAS that will be deployed.

4.3 RPAS operations should comprise a pilot and, as appropriate, at least one observer. Pilots should have good knowledge of the environmental requirements as listed in Section 1, and all aspects of the planned site of operations before deployment to the field, including site sensitivities and potential hazards.

On-site and In-flight Operations

5. General considerations

5.1 Pilots and any designated observers should operate within Visual Line Of Sight (VLOS) with the RPA at all times, unless the operation is approved by a competent authority to operate "Beyond Visual Line Of Sight (BVLOS)".

5.2 Pilots and any designated observers should be vigilant during operations and maintain good communications with each other throughout operations, watching for wildlife moving into the area of operations.

5.3 Complete flight operations with number and duration of flights as practicable, while still achieving mission objectives.

6. Operations over or near wildlife

6.1 Select RPAS launch/landing site(s) carefully, considering topography and other factors (*eg*, prevailing wind direction) that may influence selection of the optimal distance from wildlife. Where practicable, consider locating RPAS launch/landing sites out of sight (bearing in mind any requirements to operate within VLOS) and downwind from concentrations of wildlife, and as far away from wildlife as possible.

6.2 Consider the noise level emitted by the RPA during launch and flight to inform decisions about the location of launch/landing site and flight altitude, taking into account the influence of wind conditions on noise at ground level.

6.3 Where practicable, consider attaining flight altitude while avoiding unnecessary overflight of wildlife.

6.4 Where practicable, consider operating RPAS at times of the day or year when the risk of disturbance to species present is minimised.

6.5 During VLOS operations, pilots and any designated observers should be aware of and monitor the proximity and behaviour of predators that could attack animals or their young within the area of RPAS

operations, or attack the RPA to present significant risk of collision. Should proximity of predators be observed and if their behaviour is observed to exceed levels of disturbance deemed acceptable in approvals for the activity, RPAS operations should be modified or ceased.

6.6 To the extent practicable, consider avoiding unnecessary or sudden RPA manoeuvres over wildlife, or flying RPA directly at or from above wildlife, and if possible fly in a grid flight pattern while still achieving mission objectives.

6.7 Fly as high as practicable and not lower than necessary when operating near or over wildlife. Where operation of RPA near wildlife is necessary, exercise minimum wildlife disturbance flight practices, maintaining a precautionary distance from wildlife at all times during flight which ensures that no visible disturbance occurs. Wildlife reactions to RPA vary extensively, for example depending on the species, their breeding status, the flight altitude and whether flight approaches are either horizontal or vertical. Where multiple species are present, follow the most precautionary approach and if wildlife disturbance is observed at any separation distance, a greater distance should be maintained.

6.8 Pilots and any designated observers should operate with special care near cliffs where birds may be nesting, and where practicable maintain the horizontal separation distance. During VLOS operations, pilots and any designated observers should watch for, and inform each other of, signs of wildlife disturbance. They should be mindful that outward behavioural displays may not be a good indicator of the actual level of stress being experienced by wildlife, which should also be taken into account in the EIA and planning phase. Should wildlife disturbance be observed to exceed levels deemed acceptable in approvals for the activity, pilots should adopt a precautionary approach by considering increasing RPA distances from animals if safe to do so, and considering ceasing operations if disturbance persists.

6.9 When BVLOS operations over or near wildlife concentrations are planned, consider the practicality of placing an observer nearby to note potential behavioural changes and inform the pilot.

7 . Operations over terrestrial & freshwater ecosystems

7.1 Pilots and observers should take care to minimise disturbance to sensitive geological or geomorphological features (*eg*, geothermal environments, fragile surface features such as crusts or sedimentary deposits), soils, rivers, lakes and vegetation in the area of RPAS operations, and conduct their activities, including walking over the site, so as to avoid sensitive sites to the maximum extent practicable.

7.2 Should it be necessary to make an unplanned landing and/or retrieve an RPA from an unfamiliar area, the pilot and/or observer should be especially careful to minimise disturbance to site features that may be sensitive, such as wildlife, vegetation or soils.

8. Human considerations

8.1 To the extent practicable, avoid operating RPAS over Historic Sites or Monuments (HSMs) to minimise the risk of RPA loss at these sites. Should retrieval of a failed RPA within an HSM be necessary, notify the appropriate authority and receive advice before undertaking any action.

8.2 RPAS operators should be aware that many people value Antarctica for its remoteness, isolation and aesthetic and wilderness values. Respect the rights of others to experience and appreciate these values,

and where practicable adjust flight operations (*eg*, timing, duration, distance) to avoid or minimise intrusion.

Post-flight Actions and Reporting

9. Actions

9.1 In the event of an unplanned forced landing or crash, and mindful of the obligations for removal of waste from Antarctica in accordance with the Madrid Protocol (see Item 1.3), retrieve the RPA if:

- It is safe to do so;
- There is a risk that human life, wildlife or important environmental values are endangered, in which case notify the competent authority and as appropriate emergency procedures should be taken to neutralise the risk;
- The environmental impact of removal is not likely to be greater than that of leaving the RPA *in situ*;
- The RPA does not lie within an ASPA for which you do not have a Permit for entry, unless the RPA poses a significant threat to the values of the ASPA in which case notify the competent authority and as appropriate emergency procedures should be taken to neutralise the risk.

9.2 If a lost RPA cannot be retrieved, notify the competent authority, providing details of the last known position (GPS coordinates) and the potential for any environmental impacts.

10. Reporting and updating these Guidelines

10.1 Observe and record animal reactions before, during and after RPAS flights, preferably by a dedicated observer rather than the pilot who should be principally focused on RPA systems and control.

10.2 Post-activity reporting should be completed in accordance with the EIA and/or permitting associated with the activity. Consider including details of any environmental impacts and consider how such impacts may be avoided in the future. Where practicable, consider using a standard format to report this information (*eg*, see forms provided in the COMNAP RPAS Operator's Handbook), and consider making the information accessible in order to improve RPAS environmental best practices in the future.

10.3 RPAS operators are encouraged to carry out further research into the environmental impacts of RPAS to help minimise uncertainties, undertake regular reviews of the research, and publish observations in the literature to help refine and improve these Best Practice Environmental Guidelines for the operation of RPAS in Antarctica.

Appendix 1: Selected technical documents relevant to environmental guidelines for Remotely Piloted Aircraft Systems (RPAS) in Antarctica

Antarctic Treaty Parties, Resolution 2 (2004) Guidelines for the Operation of Aircraft Near Concentrations of Birds in Antarctica.

Antarctic Treaty Parties, Committee for Environmental Protection Non-Native Species Manual (Version 2017).

COMNAP (Council of Managers of National Antarctic Programs) 2017. Antarctic Remotely Piloted Aircraft Systems (RPAS) Operator's Handbook. Version 7, 27 November 2017.

IAATO (International Association of Antarctica Tour Operators) 2016. IAATO Policies on the use of Unmanned Aerial Vehicles (UAVs) in Antarctica: update for the 2016/17 season. Information Paper 120, XXXVIII ATCM held in Santiago, Chile, 23 May – 01 Jun 2016.

ICAO (International Civil Aviation Organisation) 2015. *Manual on Remotely Piloted Aircraft Systems (RPAS)* First Edition. International Civil Aviation Organization Document 10019. Montréal, Canada.

SCAR Code of Conduct for Terrestrial Scientific Field Research in Antarctica (2009).

SCAR Code of Conduct for Activity within Terrestrial Geothermal Environments in Antarctica (2016).

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Resolution 6 (2017) - ATCM XL - CEP XX, Beijing

Adopted 01/06/2017

GUIDELINES ON CONTINGENCY PLANNING, INSURANCE AND OTHER MATTERS FOR TOURIST AND OTHER NON-GOVERNMENTAL ACTIVITIES IN THE ANTARCTIC TREATY AREA

The Representatives,

Welcoming the entry into force of the International Code for Ships Operating in Polar Waters (Polar Code);

Remaining concerned at the potential impacts, including the imposition of additional costs, that tourist or other non-governmental activities may have on national programmes, and the risk to the safety of those involved in search and rescue operations;

Desiring to ensure that tourist or other non-governmental activities undertaken in Antarctica are carried out in a safe and self-sufficient manner;

Desiring further to ensure that the risks associated with tourist or other non-governmental activities are fully identified in advance, and minimised;

Recalling the "Procedures to be Followed by Organisers and Operators", as set out in the Guidance for Visitors to the Antarctic, and the Guidance for Those Organising and Conducting Tourism and Non-governmental Activities in the Antarctic annexed to Recommendation XVIII-1;

Noting Measure 4 (2004) Insurance and Contingency Planning for Tourism and Non-governmental Activities in the Antarctic Treaty Area, and desiring to take certain steps before it enters into effect to promote its objectives in addition to recommending further guidelines to be followed by those organising or conducting activities without the supervision or support in the field of another operator or a national programme;

Recommend that:

1. Parties should require those under their jurisdiction organising or conducting tourist or other non-governmental activities in the Antarctic Treaty area, for which advance notification is required in accordance with paragraph 5 of Article VII of the Antarctic Treaty, to follow the Guidelines annexed to this Resolution; and

2. the Secretariat of the Antarctic Treaty post the text of Resolution 4 (2004) Guidelines on Contingency Planning, Insurance and Other Matters for Tourist and Other Non-governmental Activities in the Antarctic Treaty Area on its website in a way that makes clear that it is no longer current.

Guidelines on Contingency Planning, Insurance and Other Matters for Tourist and Other Non-Governmental Activities in the Antarctic Treaty Area

1. Those organising or conducting tourist or other non-governmental activities in the Antarctic Treaty area should ensure:

    a. that appropriate contingency plans and sufficient arrangements for health and safety, search and rescue ("SAR"), and medical care and evacuation have been drawn-up and are in place prior to the start of the activity. Such plans and arrangements should not be reliant on support from other operators or national programmes without their express written agreement; and

    b. that adequate insurance or other arrangements are in place to cover any costs associated with SAR and medical care and evacuation.

2. Competent authorities may specify the format in which they would prefer to receive information pertaining to paragraph 1a of these guidelines and the equivalent requirement in Measure 4 (2004).
3. Where a competent authority so decides, a ship-based operator may provide a copy of the Polar Water Operational Manual required under the International Code for Ships Operating in Polar Waters (Polar Code), or relevant parts thereof, as part of demonstrating compliance with the maritime components of the requirements referred to in paragraph 2.

4. The following guidelines should also be observed in particular by those organising or conducting activities without the supervision or support in the field of another operator or a national programme:

    a. participants have sufficient and demonstrable experience appropriate for the proposed activity operating in polar, or equivalent, environments. Such experience may include survival training in cold or remote areas, flying, sailing or operating other vehicles in conditions and over distances similar to those being proposed in the activity;

    b. all equipment, including clothing, communication, navigational, emergency and logistic equipment is in sound working order, with sufficient backup spares and suitable for effective operation under Antarctic conditions;

    c. all participants are proficient in the use of such equipment;

    d. all participants are medically, physically and psychologically fit to undertake the activity in Antarctica;

    e. adequate first-aid equipment is available during the activity and that at least one participant is proficient in advanced first-aid.

Resolution 1 (2016) - ATCM XXXIX - CEP XIX, Santiago

Adopted 01/06/2016

REVISED GUIDELINES FOR ENVIRONMENTAL IMPACT ASSESSMENT IN ANTARCTICA

The Representatives,

Recalling the requirements under Article 8 of the Protocol on Environmental Protection to the Antarctic Treaty ("the Protocol") and its Annex I regarding environmental impact assessments for proposed activities in the Antarctic Treaty area;

Recognising that Parties should already have in place national procedures for implementation of the Protocol in accordance with Article 1 of Annex I thereof;

Noting that under Resolution 1 (1999) the Antarctic Treaty Consultative Meeting ("ATCM") adopted Guidelines for Environmental Impact Assessment in Antarctica ("Guidelines");

Noting also that under Resolution 4 (2005) the ATCM adopted revised Guidelines for Environmental Impact Assessment in Antarctica;

Noting that the Committee for Environmental Protection has endorsed revised Guidelines;

Desiring to update the Guidelines to reflect current best practice in the revised environmental impact assessment of proposed activities in Antarctica;

Recommend that:

1. the Guidelines for Environmental Impact Assessment in Antarctica annexed to this Resolution replace the Guidelines annexed to Resolution 4 (2005); and

2. the Secretariat of the Antarctic Treaty post the text of Resolution 4 (2005) on its website in a way that makes clear that it is no longer current.

Guidelines for Environmental Impact Assessment in Antarctica

1. Introduction

Article 3 of the Protocol on Environmental Protection to the Antarctic Treaty (the Protocol) establishes a number of environmental principles which can be considered a guide to environmental protection in Antarctica and its dependent and associated ecosystems. It states that "the protection of the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research, in particular research essential to understanding the global environment, shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area."

To give effect to the above over-arching principle, Article 3.2(c) requires that 'activities in the Antarctic Treaty area shall be planned and conducted on the basis of information sufficient to allow prior assessments of, and informed judgements about, their possible impacts on the Antarctic environment and dependent and associated ecosystems and on the value of Antarctica for the conduct of scientific research'. In addition, it states that 'such judgements shall take account of:

i) the scope of the activity, including its area, duration and intensity;

ii) the cumulative impacts of the activity, both by itself and in combination with other activities in the Antarctic Treaty Area;

iii) whether the activity will detrimentally affect any other activity in the Antarctic Treaty Area; iv) whether technology and procedures are available to provide for environmentally safe operations; v) whether there exists the capacity to monitor key environmental parameters and ecosystem components so as to identify and provide early warning of any adverse effects of the activity and to provide for such modification of operating procedures as may be necessary in the light of the results of monitoring or increased knowledge of the Antarctic environment and dependent and associated ecosystems; and

vi) whether there exists the capacity to respond promptly and effectively to accidents, particularly those with potential environmental effects'.

Article 8 of the Protocol introduces the term *Environmental Impact Assessment* and provides three categories of environmental impacts (*less than a minor or transitory impact*, *a minor or transitory impact* and *more than a minor or transitory impact*), according to their significance. The Article also requires that activities proposed to be undertaken in Antarctica shall be subject to the prior assessment procedures set out in Annex I to the Protocol.

Annex I provides a more comprehensive explanation of the different environmental impact categories and establishes a set of basic principles to conduct an EIA for planned activities in Antarctica.

In addition, it sets up a preliminary stage for assessing the environmental impact of Antarctic activities, which is intended to determine if an impact produced by a certain activity is less than minor or transitory or not. Such determination must be accomplished through the appropriate national procedures.

According to the results of the preliminary stage, or subsequent evaluations if required, the activity can either:

- proceed (if the predicted impacts of the activity are likely to be less than minor or transitory); or
- be preceded by an Initial Environmental Evaluation (IEE), if predicted impacts are likely to be no more than minor or transitory; or
- be preceded by a Comprehensive Environmental Evaluation (CEE), if the predicted impacts are to be more than minor or transitory.

Although the key to decide whether an activity shall be preceded by an IEE or a CEE is the concept of *"minor or transitory impact"*, no agreement on this term has so far been reached. The difficulty with defining *"minor or transitory impact"* appears to be due to the dependence of a number of variables associated with each activity and each environmental context. Therefore the interpretation of this term will need to be made on a case by case site specific basis. As a consequence, this document does not focus on seeking a clear definition of *"minor or transitory impact"*, but rather is an attempt to provide basic elements for the development of the EIA process.

Article 8 and Annex I of the Protocol set out the requirements for Environmental Impact Assessments (EIAs) for proposed activities in Antarctica. These Guidelines to EIA in Antarctica do not amend, modify or interpret the requirements set out in Article 8 and Annex I of the Protocol, or the requirements of national legislation which may include procedures and guidelines for the preparation of EIAs in Antarctica. These Guidelines have been produced to assist those preparing EIAs for proposed activities in Antarctica.

2. Objectives

The general objective of these guidelines is to achieve transparency and effectiveness in assessing environmental impacts during the planning stages of possible activities in Antarctica, as well as consistency of approach in fulfilling the obligations of the Protocol.

Specifically, the guidelines aim to:

- assist proponents of activities who may have little experience of EIA in Antarctica;
- assist in determining the proper level of EIA document (according to the Protocol) to be prepared;
- facilitate co-operation and co-ordination in EIA for joint activities;
- facilitate comparison of EIAs for similar activities and/or environmental conditions;
- provide advice to both government and non-government operators;
- where appropriate, assist proponents to give consideration to the possible implications of climate change for proposed activities and their associated environmental impacts;

- where appropriate, assist proponents to give consideration to the possible risks of introduction or dissemination of non-native species associated with proposed activities; • assist in the consideration of cumulative impacts relevant to the proposal; and
- initiate a process of continuous improvement of EIA.

3. The EIA Process

The EIA is a process having the ultimate objective of providing decision makers with an indication of the likely environmental consequences of a proposed activity (Figure 1).

The *process* of predicting the environmental impacts of an activity and assessing their significance is the same regardless of the apparent magnitude of the activity. Some activities require no more than a cursory examination to determine impacts, although it must be remembered that the level of assessment is relative to the significance of the environmental impacts, not to the scale or complexity of the activity. The process of preparing the EIA will result in an improved understanding of the likely environmental impacts. Thus, the picture that emerges with respect to the impacts of the activity will determine how much further the EIA process needs to be taken, and how complex it should be.

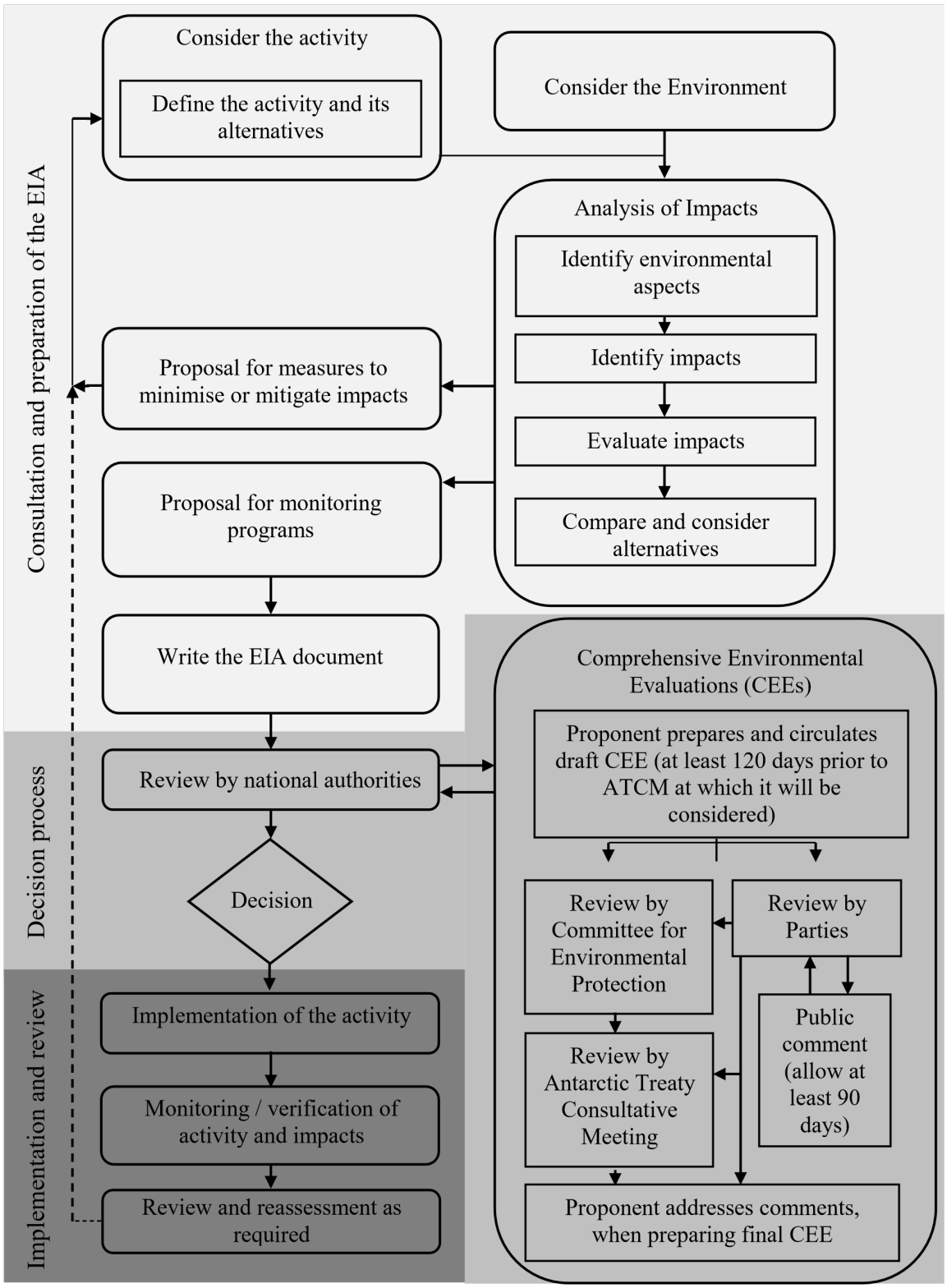

Figure 1: Steps of the EIA process for Antarctic activities

Those persons responsible for an Environmental Impact Assessment Process need to ensure that they consult as widely as is reasonably necessary and possible in order that the best available information and professional advice contribute to the outcome. A number of different participants may be involved throughout this process, ranging from those who are involved in the details of nearly all parts of the process (e.g. environmental officer, proponent of the activity) to those who are the technical experts who provide input in particular subjects of the process (e.g. researchers, logistic personnel, others with experience at the location or in a particular activity).

In addition, previous EIAs undertaken for proposed activities in Antarctica may represent a valuable source of information. Resolution 1(2005) recommends that Parties report annually to the Secretariat of the Antarctic Treaty on IEEs and CEEs prepared by or submitted to them (e.g. a short description of the development or activity; the type of environmental impact assessment undertaken (IEE or CEE); the location (name, latitude, and longitude) of the activity; the organisation responsible for the EIA; and any decision taken following consideration of the Environmental Impact Assessment). These details, including an electronic copy of the EIA document where possible, are available from the EIA Database on the ATS website. The Antarctic Master Directory can also represent a helpful source of metadata.

Comprehensive Environmental Evaluations (CEEs)

Under Annex I, a draft CEE must be prepared if the Party proposing an activity, or to which a proposal has been submitted, determines that an activity that is likely to have more than a minor or transitory impact. This determination will be made in accordance with appropriate national procedures, and with reference to the provisions and objectives of the Protocol.

The draft CEE shall be made publicly available and shall be circulated to all Parties, which shall also make it publicly available, for comment (Figure 1). A period of 90 days shall be allowed for the receipt of comments. It shall be forwarded to the CEP at the same time as it is circulated to the Parties, and at least 120 days before the next ATCM, for consideration as appropriate.

In accordance with the *Procedures for intersessional CEP consideration of draft CEEs*, the CEP Chair will establish an open-ended intersessional contact group (ICG) to consider the draft CEE, and will consult with CEP Members to identify a suitable convener and to agree the terms of reference. The ICG will report to the next CEP meeting, which will discuss the draft CEE and provide advice to the ATCM.

Article 3.5 of Annex I states that no final decision shall be taken to proceed with the proposed activity in the Antarctic Treaty area unless there has been an opportunity for consideration of the draft CEE by the ATCM on the advice of the CEP, provided that no decision to proceed with a proposed activity shall be delayed for longer than fifteen months from the day of circulation of the draft CEE.

A final CEE shall address and shall include or summarise comments received on the draft CEE. The final CEE, notice of any decision relating thereto, and any evaluation of the significance of the predicted impacts in relation to the advantages of the proposed activity, shall be circulated to all Parties, which shall also make them publicly available, at least 60 days before the commencement of the proposed activity in the Antarctic Treaty area.

3.1. Considering the activity

3.1.1. Defining the activity

An activity is an event or process resulting from (or associated with) the presence of humans in the Antarctic, and/or which may lead to the presence of humans in Antarctica. An activity may consist of several *actions*, e.g. an ice drilling *activity* may require *actions* such as the transport of equipment, establishment of a field camp, power generation for drilling, fuel management, drilling operation, waste management, etc. An activity should be analysed by considering all actions involved over every phase of the activity (e.g. construction, operational and decommissioning phases).

The activity and the individual actions should be defined through a planning process which considers the physical, technical and economic and other elements of the proposed project and its alternatives. Consultation with relevant experts to identify all these elements is an important part of this initial scoping process. It is important to accurately define all elements of the activity which could interact with the environment and result in impacts. The rest of the EIA process relies on this initial description, which should occur during the planning process.

The following elements of the proposed activity and its alternatives should be clearly identified:

- the purpose of and the need for the activity. The rationale for a proposed activity is an important component of any EIA and, where appropriate, should consider how the activity will contribute to advancing the objectives of the Antarctic Treaty and Protocol. In particular, where the activity is expected to result in benefits to the environment or science, this should be highlighted. Where appropriate, a description of proposed scientific activities could usefully include reference to broader national or international strategic science plans;
- the principal characteristics of the activity that might cause impact on the environment. For instance: design characteristics; construction requirements (types of material, technologies, energy, size of any installation, personnel, temporary constructions, etc.); transportation requirements (types, numbers and frequency of use of vehicles, fuel types); type and quantity of wastes generated through different phases of the activity and their final disposition (with reference to Annex III of the Protocol); dismantling of temporary constructions; decommissioning the activity if necessary; as well as those aspects that will result from the operational phase of the activity;
- the relationship of the proposed activity to relevant previous, current or reasonably foreseeable activities. In this respect, and where appropriate, the EIA should clearly explain the anticipated outcomes of the proposed activity, taking into account similar activities carried out in the area (e.g. how the proposed science or science support facilities will complement activities at existing nearby facilities, or how an activity proposed for educational purposes will promote the value and importance of Antarctica);
- a description of the activity's location and geographical area, including means of access and associated infrastructure. This should include a description of any characteristics that will have a bearing on the full geographic extent of the activity's impacts, including physical, visible and audible elements. Using maps will ease the evaluation process and, therefore, will be useful in the EIA documentation;
- timing of the activity (including range of calendar dates for construction time, as well as overall duration, periods of operation of the activity and decommissioning. This may be important with respect to wildlife breeding cycles, for example); and

- location of the activity with regard to areas with special management requirements (ASPA, ASMA, HSM, CCAMLR CEMP sites, proposed ASPAs and/or ASMAs, etc.) Such information is readily available in the Antarctic Protected Areas Database maintained by the Antarctic Treaty Secretariat.

To ensure the EIA presents an accurate and comprehensive description of the activity, and potentially significant environmental aspects are addressed, particular attention should be given to:

- taking a holistic approach to defining the scope of the activity. Careful consideration is required to determine the full scope of the activity so that the impacts can be properly assessed. This is necessary to avoid preparing a number of separate EIAs on actions which indicate an apparent low impact, when in fact, taken in its entirety, the activity actually has potential for impacts of much greater significance. For example, a proposal to construct a new station should also discuss in detail the associated logistics, major scientific infrastructure, and ancillary facilities beyond the main station building (e.g. roads, helipads / airstrips, communication facilities etc.). This is particularly common where a number of activities take place at the same site either spatially and/or temporally. Where activities are to be undertaken at sites which are visited repeatedly by one or more operators the cumulative effects of past, current, and reasonably foreseeable activities should be taken into consideration;
- considering, and to the extent possible providing details of, the decommissioning phase, including the duration, costs and probable impacts. From an environmental perspective, and consistent with Annex III to the Protocol, the complete removal of infrastructure is preferable, although it is recognised there may be situations where this is not possible or may result in greater adverse environmental impacts. The EIA should describe whether any items will be left in place following decommissioning and, if so, clearly explain why they will not be removed. It should also be noted that, depending on the circumstances (e.g. elapsed time, changes in the activity/use of the installation, changes in the environment) a new EIA may need to be prepared at the time for decommissioning activities; and
- describing in detail activities relevant to the possible transfer of non-native species into and between locations in Antarctica (e.g. transport of vehicles / equipment / supplies / personnel). In this respect, the transport of equipment and heavy machinery from locations with a similar climate, such as the Arctic region or sub-Antarctic islands, may be of particular relevance.

In identifying spatial and temporal boundaries for the EIA proponents should identify other activities occurring in the region within the EIA framework.

When defining an Antarctic activity, experience gained in similar projects undertaken within and outside the Antarctic Treaty area (e.g. the Arctic region or sub-Antarctic islands) may be an additional and valuable source of information.

Once the activity is defined, any subsequent changes to the activity must be clearly identified and addressed according to when they occur in the EIA process (e.g. if the change occurs once the EIA document is completed, then an amendment to the EIA or a rewrite of the document may be necessary depending on how significant the change is). In every case it is important that the change and its implications (in terms of impacts) is assessed in the same manner as other impacts previously identified in the EIA process (Figure 1).

3.1.2 Alternatives to the activity

Both the proposed activity and possible alternatives should be examined in concert so that a decision maker can more easily compare the potential impacts on the Antarctic environment and dependent and associated ecosystems; in accordance with Article 3 of the Protocol, this should include consideration of impacts on the

intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area of the conduct of scientific research. Examples of alternatives for consideration include:

- use of different locations or sites for the activity. Overall impacts can be minimised by selecting a location that will avoid adverse interactions between the activity and the environment (e.g. away from wildlife colonies, vegetated areas, locations of scientific projects, pristine sites important for microbiology, historic sites). For similar reasons, consideration should be given to the alternative of undertaking the activity in a location that has already been modified as a result of previous human activity;
- alternative arrangements for use of a proposed location, including the layout of facilities. For example, a multi-story building might minimise the area disturbed by footings. However, the visibility of structures should also be considered;
- opportunities for international cooperation on facilities, research and logistics. Where appropriate, there can be scientific and cost benefits, as well as environmental benefits, from cooperative arrangements with other nations, such as the shared use of existing research stations or other infrastructure, joining existing or planned scientific programs, or making arrangements to utilise established shipping, air and ground transport;
- use of different technologies, in order to reduce the outputs (or the intensity of the outputs) of the activity. For example, the use of renewable energy sources, energy efficient equipment, and building management systems that will help minimise atmospheric emissions, waste water treatment plants that may allow the re-use of treated water, the use of unmanned aerial vehicles (UAVs) that may minimise direct human impact in fragile environments, or alternative survey equipment that may minimise underwater noise;
- use of pre-existing facilities. For example, this may involve sharing or expanding operational facilities, including international collaboration, or the re-opening, rehabilitation and re-use of abandoned or temporarily closed facilities;
- alternatives that may avoid / minimise the cost and effort of decommissioning, as well as environmental impacts. If possible, the EIA should consider a combination of alternatives identified above, including location, layouts, international cooperation or technologies; and
- different timing for the activity (e.g. to avoid vehicle access during the breeding season of native birds or mammals, or during times of year when temporarily snow/ice-free ground may be susceptible to vehicle traffic).

The alternative of not proceeding with the proposed activity (i.e. the “no-action” alternative) should always be included in any analysis of environmental impacts of the proposed activity.

The EIA should describe the factors / criteria considered when assessing alternatives (e.g. environmental impact, logistical considerations, safety considerations, cost), and clearly explain the rationale and process for assessing and identifying the preferred option.

3.2. Considering the environment

A thorough understanding of the pre-activity state of the environment is an essential basis for predicting and evaluating impacts, and for identifying relevant and effective mitigation measures. If it is proposed that the activity will take place in multiple locations, consideration should be given to all locations in question.

Consideration of the environment requires the characterisation of all relevant physical, biological, chemical and anthropic values or resources in a given area, where and when an activity is proposed. Relevant means all those elements of the environment that the proposed activity might influence or which might influence the activity, including dependent and associated ecosystems.

Such information should be quantitative (e.g. heavy metal concentration on organisms or on river flows, a bird population size) where available and appropriate. The recording of metadata (i.e. important information about a dataset, such as where, when and how such data were collected) can be valuable for future comparisons, including monitoring and verification of predicted impacts. In many cases qualitative descriptions may have to be used, such as when describing the aesthetic value of a landscape. Maps, publications, research results and researchers are different sources of information to be identified and taken into account.

Consideration of the existing environment should include, where appropriate:

- recognition of the special status accorded to Antarctica by the ATS, including its status as a natural reserve devoted to peace and science;
- the physical and biological features that could be affected directly or indirectly, including:
    - the physical characteristics, such as topography, bathymetry, geology, geomorphology, soils, hydrology, meteorology, glaciology;
    - the biota. For example inventories of terrestrial, freshwater and marine plant and animal species, populations and communities, other important features such as the presence of breeding grounds, and microbial communities and habitats); and
    - any dependent populations. For example. bird nesting areas related to feeding areas;
- an assessment, to the extent possible, of the pre-activity wilderness state of the location of the proposed activity. While the Antarctic Treaty Parties have not agreed a definition for the term wilderness, it is generally understood to represent a measure of the relative absence of evidence of, or impacts from, human activity;
- an assessment of the value of the location as an area for the conduct of scientific research;
- natural variations in environmental conditions that could occur on a diurnal, seasonal, annual and/or interannual timescale;
- information about the spatial and temporal variability of the environmental sensitivity. For example, differences in impacts when an area is snow covered, or covered by sea ice, compared to when it is not;
- identification and consideration of any particular vulnerabilities associated with the locations where the activity will take place, or any dependent or associated ecosystems, including any unique characteristics and vulnerabilities of the biogeographic region. It may be useful to have reference to the Antarctic Conservation Biogeographic Regions and the Environmental Domains Analysis of Antarctica);
- current trends in natural processes such as population growth or spread of particular species, geological or hydrological phenomena;
- the reliability of the data (e.g. anecdotal, historical, scientific, etc.);
- elements of the environment which have been changed, or may be changing as the result of other current or previous activities;

- special values of the area (if previously identified). This may include, but is not necessarily limited to, the presence of ASPAs, ASMAs or HSMs – see the Antarctic Protected Areas Database;
- the existence of areas potentially subject to indirect and cumulative impacts;
- the influence that the activity may exert on dependent and associated ecosystems;
- existing activities being carried out in the area or at the site, or planned to be carried out at the site, particularly scientific activities, given their intrinsic importance as a value to be protected in Antarctica; and
- specific parameters against which predicted changes are to be monitored.

A thorough consideration of the environment before starting the activity (baseline information) is essential to ensure a valid prediction of impacts and to define monitoring parameters, if required. If such baseline information is not available, field research may be necessary to obtain reliable data about the state of the environment before beginning the activity. Remotely sensed data, such as satellite or aerial imagery, can also be a useful source of information. An example checklist to help guide the process of obtaining and recording baseline information is presented at Appendix 1. The Resources section at the end of this document provides direction to a range of sources of information that may also be of use when considering the environment.

As far as possible, consideration should be given to anticipated / potential environmental consequences of climate changes in the location of the proposed activity, and over the timeframe of the proposed activity, including the decommissioning phase where relevant. For this purpose, relevant sources of general information would include, but would not be limited to, SCAR's 2009 Antarctic Climate Change and Environment report, and subsequent regular updates produced by SCAR. Proponents should also investigate sources of information that can give insight into observed or anticipated climate-related changes at the particular location in question.

It is also important to clearly identify gaps in knowledge and uncertainties encountered in compiling the information. The EIA should consider the extent to which any limitations in the understanding of the environment will affect the accuracy and relevance of the impact assessment and, where appropriate, indicate the means by which any gaps and uncertainties will be addressed (e.g. by further site surveys, field research, remote sensing etc.).

When an operator plans an activity which will be undertaken at several sites, each one of those sites should be described according to the methodology above.

3.3. Analysis of Impacts

3.3.1. Identification of environmental aspects

Understanding the ways in which a proposed activity can interact with the environment (i.e. its environmental *aspects*) is an important step in identifying and addressing the potential environmental impacts.

An environmental aspect may involve an output or addition to the environment (e.g. emission of pollutants / noise / light, human presence, transfer of native or non-native species, direct contact with wildlife / vegetation, leak or spill of hazardous substances etc.) or a removal from the environment (e.g. use of lake water, collection of moss samples, removal of rocks). Identifying environmental aspects involves determining the type of interaction (e.g. emission, discharge, extraction) and which component or components of the environment may be involved in interactions with the activity (e.g. discharge of waste water to the ocean / discharge of waste water into ice, or emission of noise to air / emission of noise to water).

A single activity may involve several component parts or *actions*, each of which may have several associated environmental aspects (see Figure 2). For example, the overall activity of constructing and operating a research station may involve the use of vehicles, which may interact with the environment by directly compacting soil, emitting atmospheric emissions, emitting noise, etc.). Constructing and operating a research station may also involve other actions, such as the management of waste and the management of fuel, each of which may interact with the environment. Similarly, different activities or actions may have similar environmental aspects. For example in an ice drilling activity the aspect 'atmospheric emissions' may be associated with the use of vehicles, use of the drilling rig itself or power generation. In turn, each environmental aspect may potentially result in one or more environmental impact (see Section 3.3.2).

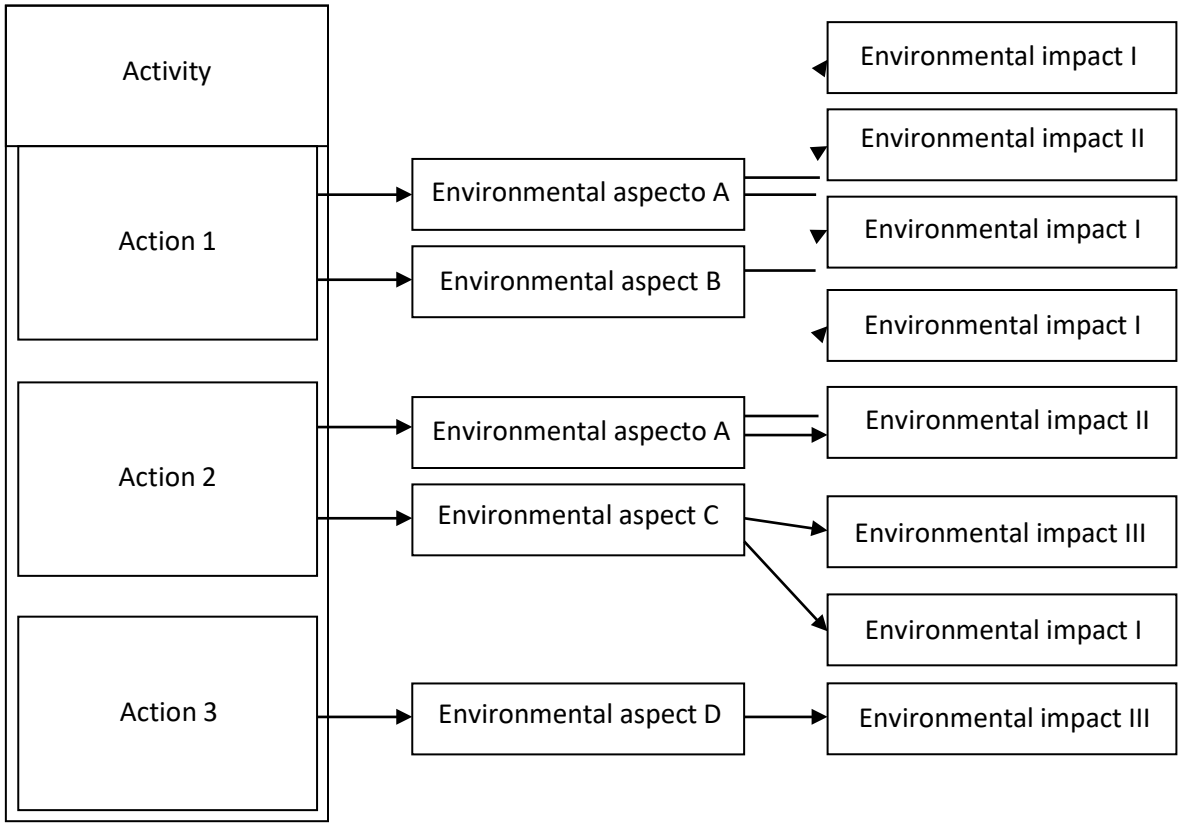

Figure 2: Conceptual model for the process of identifying environmental aspects and impacts

The identification of aspects should include not only normal operating conditions but should also consider, to the extent possible, abnormal conditions (e.g. such as start-up or shut-down) and emergency situations.

Systematising actions and aspects in a matrix format may be helpful in this process. As an example, the table below identifies some environmental aspects that may arise from some of the various actions associated with the construction of a new research station; this draws on an earlier example presented in *"Monitoring of Environmental Impacts from Science and Operations in Antarctica" (SCAR/COMNAP, 1996)*, and is not intended to be representative of all actions and aspects of all potential activities in Antarctica.

	POTENTIAL ENVIRONMENTAL ASPECTS									
ACTIONS	**Air emissions (incl. Dust)**	**Presence**	**Wastes**	**Noise**	**Fuel spills**	**Mechanical action on land**	**Mechanical action in water**	**Heat**	**Light**	**Transfer of species**
Vehicles										
- Land	**X**	**X**	**-**	**X**	**X**	**X**	**-**	**X**	**X**	**X**
- Aircraft	**X**	**X**	**-**	**X**	**X**	**X**	**-**	**-**	**-**	**X**
- Watercraft	**X**	**X**	**-**	**X**	**X**	**-**	**X**	**-**	**-**	**X**
Power generation	**X**	**-**	**-**	**X**	**X**	**-**	**-**	**X**	**-**	**-**
Construction of buildings	**X**	**X**	**X**	**X**	**X**	**X**	**-**	**-**		
Fuel storage	**-**	**X**	**-**	**-**	**X**	**-**	**-**	**-**		**-**
Waste treatment	**X**	**-**	**X**	**X**	**-**	**-**	**-**	**-**	**-**	**X**

Aspects may vary across different alternatives, because some alternatives may involve a particular type of interaction with the environment while others do not. An appropriate way to avoid impacts arising is to modify the proposed activity so that the potential interaction with the environment (the environmental aspect) does not occur. For example, recycling waste water for use on station may avoid discharges to the marine environment and, in turn, avoid impacts to near shore marine species and habitats.

The geographical spread of an aspect has to be accurately estimated in order to determine to what extent the environment may be impacted.

3.3.2. Impact identification

In the context of environmental impact assessment, an environmental **impact** (synonym: **effect**) is a change in environmental values or resources that is attributable to a human activity. It is the consequence of an interaction between an activity and the environment, not the interaction itself. Impact may also be defined as the result of the interaction between an activity and an environmental value or resource. For example, the environmental aspect of 'trampling' may result in the impact of 'reduced plant cover'.

Identifying potential impacts means determining which component(s) of the environment are susceptible to be affected by an activity or action. An activity will not result in an impact to an environmental value or resource if there is no process of interaction, or 'exposure'. Following the example in the previous section, wastewater management will not result in impacts to the

near shore marine species or habitats environment if all wastewater is recycled for use on station, because there is no interaction between the activity and the near shore marine environment.

Overlaying spatial information (e.g. use of a geographic information system, or GIS) can be a valuable tool to assist in this determination. For example, an activity that has the environmental aspect 'discharge of hazardous liquids' might result in impacts on freshwater invertebrates if the activity is undertaken in location where lakes are present, but not if the activity is undertaken at a location remote from any lakes.

Correct identification of the intensity of exposure of an activity is a crucial step in making a reliable prediction of impacts. Some elements contributing to that identification are:

- Temporal variation. The interactions between an activity and an environmental value or resource may change with the timing of the activity, because of climate cycles, breeding patterns etc. For example, noise generated by an activity might cause wildlife disturbance if the activity is undertaken during the breeding season, but not if the activity is undertaken when no wildlife are present.
- Cause-effect relationships between the activity and environmental values or resources must be determined, especially in cases where the relationships are indirect, where the activity has numerous types of interactions with a value or resource, or where a single type of interaction occurs repeatedly.

It should also be noted that a single environmental aspect might have several related environmental impacts (Figure 2). For example, discharge of untreated wastewater to the marine environment might result in impacts on benthic communities, seals and water quality. Appendix 2 presents an illustrative list of aspects and potential impacts of Antarctic activities. It is not intended to be comprehensive, or prescriptive, but may be a useful reference when planning an activity.

The identification of environmental impacts consists of the characterisation of all changes in environmental values or resources resulting from the activity. Only when the impact is identified can an evaluation be made of its **significance**.

The identification of impacts should consider whether the impacts might change over the planned duration or the proposed activity. For example, the environmental impacts of a long-term activity may vary over time due to interaction with environmental responses to climate changes, or due to changes to the activity to respond or adapt to climate changes.

An impact may be identified by its nature, spatial extent, intensity, duration, reversibility and lag time.

***Nature**: type of change imposed on the environment due to the activity (e.g. contamination, erosion, mortality).*

***Spatial extent**: area or volume where changes are likely to be detectable.*

***Intensity**: a measure of the amount of change imposed on the environment due to the activity.(it can be measured, or estimated, through, e.g. number of species or individuals effected, concentration of a given pollutant in a waterbody, rates of erosion, rates of mortality, etc.).*

***Duration**: period of time during which changes in the environment are likely to occur.*

***Reversibility / resilience**: possibility of the system to return to its initial environmental conditions once an impact is produced.*

***Lag time**: time span between the moment an environmental interaction takes place and the moment impacts occur.*

In addition, a proper impact identification should also identify direct, indirect and cumulative impacts, as well as unavoidable impacts.

A ***direct impact*** is a change in environmental values or resources that results from direct cause-effect consequences of interaction between the exposed environment and an activity or action (e.g. decrease of a limpet population due to an oil spill, or a decrease of a freshwater invertebrate population due to lake water removal).

An ***indirect impact*** is a change in environmental values or resources that results from interactions between the environment and other impacts - direct or indirect - (e.g. alteration in seagull population due to a decrease in limpet population which, in turn, was caused by an oil spill).

A ***cumulative impact*** is the combined impact of past, present, and reasonably foreseeable activities.

These activities may occur over time and space and can be additive or interactive/synergistic (e.g. decrease of limpet population due to the combined effect of oil discharges by base and ship operations). See also the section below on 'Considering Cumulative Impacts'.

An ***unavoidable impact*** is an impact for which no further mitigation is possible. For example, it may be possible to reduce the area from which proposed new infrastructure will be visible, but it is unavoidable that the infrastructure will be visible over some area.

3.3.3. Consideration of cumulative impacts

The environmental aspects and impacts of a proposed activity should be considered together with those of past, present, and reasonably foreseeable future. Therefore, potential for additive, synergistic or antagonistic interactions (thus resulting in possible significant environmental impacts) has to be considered. As noted in Section 3.3.2, the identification of impacts may also need to consider the effects of climate changes, particularly for long-term activities.

Cumulative impacts can often be one of the hardest impact categories to adequately identify in the EIA process. When attempting to identify cumulative impacts it is important to consider both spatial and temporal aspects and to identify other activities which have occurred, are occurring, or could occur at the same site or within the same area. When considering spatial aspects, thought should be given to the distribution of that environment type across the wider Antarctic environment, particularly when that environment type might be unique to certain locations or limited in geographical extent (e.g. geothermal sites or unique geological formations). It is also important to identify and consider the activities or actions of other proponents that can contribute to cumulative effects. In some instances, the potential cumulative impacts of activities by multiple operators might best be considered through the joint preparation of an EIA.

The accurate assessment of actual or predicted cumulative impacts is still an emerging field. However, several methods exist to identify impacts such as: overlay maps, checklists, matrices, etc. The choice of the methodology will depend on the character of the activity and the environment that is likely to be affected. Recognition should be given to relevant scientific data, where this exists, and to the results of monitoring programs. Spatial data relating to other past, ongoing or future activities, where available, is particularly relevant. Such data might be available from databases, such as the EIA Database, or accessible through direct consultation with relevant other operators.

In summary, important questions when considering the potential cumulative impacts of a proposed activity include:

- What activities have been undertaken, are currently being undertaken or are likely to be undertaken at the area of the proposed activity?
- Is there a temporal or spatial overlap (or a combination) with other activities in the area that might result in particular impacts?
- What are the likely pathways or processes of accumulation for the assessed impacts of the proposed activity?
- What effects may result from the proposed activity that may contribute to cumulative impacts?
- What are the likely cumulative impacts that could occur in the area?

3.3.4. Impact Evaluation

The purpose of impact evaluation is to assign relative significance to predicted impacts associated with an activity (and the various identified alternatives).

***Significance**: It is a value judgment about the severity and importance of a change in a given environment or environmental value or resource.*

According to the Protocol and Annex I, impacts shall be evaluated by taking into account three levels of significance:

- less than a minor or transitory impact;
- no more than a minor or transitory impact; or
- more than a minor or transitory impact.

The interpretation of these terms should be made on a case by case site specific basis. However it may be useful to consider how similar impacts have been judged in earlier EIAs at similar sites and/or for similar types of activities (as noted above, details of previous IEEs and CEEs are readily accessible from the EIA Database).

An inherent consideration to judging significance is that it may have a rather subjective component and this fact should be acknowledged. Where an impact has the possibility of being significant, several experts should be consulted to achieve an informed and broadly-agreed judgment. This is particularly important either if there is a reliance on incomplete data or if there are gaps in the knowledge.

Judging significance should not be based solely on direct impacts, but must also take account of possible indirect and cumulative impacts. This evaluation should determine the magnitude and significance of cumulative effects.

The significance of the unavoidable impacts (those impacts for which no further mitigation is possible) represents an important consideration for the decision maker in deciding whether, on balance, an activity is justified.

Some problems can arise when evaluating impacts, due to misunderstanding or overlooking some aspects of the process of evaluating impacts. These can include for example:

- confusing duration of the impact with duration of the activity;
- confusing environmental aspects (i.e. interactions between an activity and the environment) of activities with impacts (i.e. the changes to the environment that result from those interactions); and
- limiting the analysis to direct impacts, without consideration of indirect and cumulative impacts.
- To enable independent verification / assessment of the evaluation, the EIA document should clearly describe the methods and criteria used to assess the significance of predicted impacts.

3.4. Comparison of impacts

When the project has been assessed with respect to environmental impacts it is necessary to summarise and aggregate the significant impacts for the various alternatives in a form suitable for communication to the decision makers. From such an aggregation of information a comparison among alternatives can be easily made.

3.5. Measures to minimise or mitigate impacts

The EIA process should consider measures to decrease, avoid, or eliminate any of the components of an impact on the environment, or on the conduct of scientific research and on other existing uses and values. This can be considered a process of feedback, and should occur throughout the EIA process, not simply as a final step. Such measures include mitigation and remediation actions.

Mitigation is the use of practice, procedure or technology to minimise or to prevent impacts associated with proposed activities. The modification of any component of the activity (and hence the consideration of the environmental aspects and impacts) as well as the establishment of supervision procedures represent effective ways of mitigation.

Mitigation measures will vary according to the activity and the characteristics of the environment, and may include, for example:

- selecting an appropriate location (e.g. avoiding environmentally sensitive sites, where possible) and identifying sub-areas within the location that may require additional protection or management;
- developing on site control procedures (e.g. arrangements for fuel storage and handling, use of renewable energy systems and other means of minimising atmospheric emissions, water supply, appropriate methods for waste disposal and management, approaches to minimising noise and light emissions);

- applying appropriate methods to prevent the transfer of species to, or between locations within, Antarctica (e.g. with reference to the guidelines and resources presented in the CEP Non-Native Species Manual);
- establishing the best time for the activity (e.g. to avoid the breeding season of penguins);
- taking steps to limit the spatial and temporal extent of impacts (e.g. utilising temporary rather than permanent infrastructure, locating facilities in already modified locations, minimising the spread of individual items of infrastructure, or considering the setting of infrastructure in the landscape to minimise visibility);
- providing environmental education and training to personnel, or contractors, involved in the activity;
- measures to prevent, and where necessary respond to, emergencies that may cause environmental impacts (e.g. oil spills, fires); and
- ensuring adequate on site supervision of the activity by senior project staff or environmental specialists.

Remediation consists of the steps taken after impacts have occurred to promote, as much as possible, the return of the environment to its original condition.

The final version of the activity to be assessed should describe both planned mitigation and remediation measures. Impact avoidance, as a form of mitigation, may contribute to minimising monitoring, reducing remediation costs and generally contribute also to maintaining the existing state of the environment.

When considering mitigation and remediation measures, the following issues should be addressed:

- making a clear distinction between mitigation and remediation measures;
- clearly defining the state of the environment that is being aimed for through such measures;
- considering that new, unforeseen impacts may appear as a result of inadequate implementation of proposed mitigation measures;
- recognising that mitigation and remediation measures may also need to take into account the cumulative impacts of past, present and reasonably foreseeable activities;
- considering the extent to which decommissioning efforts could return the site to its pre-activity environmental state;
- noting that the environment may not always be capable of returning to its original condition, even when remediation actions are implemented; and
- considering that a given corrective measure may interact antagonistically or synergistically with other corrective measures.

Where the EIA refers to separate documents (e.g. waste management plans, oil spill contingency plans etc.) a link to such documents should be provided, where possible, or sufficient information should be included in the EIA to allow an assessment of the likely effectiveness of the planned arrangements.

The Resources section at the end of this document identifies several sources of guidance and information, including guidelines endorsed by the CEP, which may be of assistance in identifying mitigation and remediation measures.

3.6. Monitoring

Monitoring consists of standardised measurements or observations of key parameters (outputs/removals and environmental variables) over time, their statistical evaluation and reporting on the state of the environment in order to define quality and trends. For the EIA process, monitoring should be oriented towards confirming the accuracy of predictions about environmental impacts of the activity (e.g. impacts arising from planned waste discharges, noise generation or atmospheric emissions), including cumulative impacts, and to detect unforeseen impacts or impacts more significant than expected. Given this, it may be useful to set environmental thresholds or standards for an activity that monitoring results are assessed against. If these thresholds are exceeded, then a review or re-analysis would be required of assumptions made regarding the environmental impacts or of management systems related to the activity.

Monitoring may also include any other procedures that can be used to assess and verify the predicted impacts of the activity. Where measurement of specific parameters is not necessary or appropriate, assessment and verification procedures could include maintaining a log of the activity that actually occurred, and of changes in the nature of the activity where they were significantly different from those described in the EIA. This information can be useful for further minimising or mitigating impacts, and, where appropriate, for modifying, suspending or even cancelling all or part of the activity.

Monitoring is about precise measurement of a few target species, processes, or other indicators, carefully selected on the basis of scientifically sound predetermined criteria. Where a number of proponents are conducting activities at the same sites they should give consideration to establishing joint regional monitoring programs.

The process of selecting key indicators should be accomplished during the activity's planning stage, once environmental aspects have been identified, the environment has been considered and associated impacts have been assessed (including impacts on dependent and associated ecosystems, where relevant), while monitoring environmental parameters generally should start before the commencement of the activity if adequate baseline information is not available.

Monitoring should be designed, wherever possible, to accommodate and account for climate-related changes during the period of the activity. This will be of particular relevance for activities with a lengthy duration, and activities occurring in locations known or expected to be subject to rapid change.

Where the EIA identifies the potential for the proposed activity to result in the introduction of nonnative species, monitoring arrangements should seek to verify the effectiveness of planned preventive measures.

Planning or undertaking monitoring activities may be hindered by a number of situations including, for example:

- leaving the planning of monitoring programs until the activity is in progress;

- monitoring activities can be costly, especially for multi-year projects and activities;
- some assumptions about the environmental impacts of an activity cannot be tested;
- failure to follow through with monitoring;
- failure to adequately scope the monitoring program, so that it does not encompass all elements of the environment that may be impacted or does not cover a broad enough geographic area; and
- failure to distinguish between natural and human-induced variability in environmental parameters.

Guidance for designing monitoring programs relevant to the environmental characteristics of Antarctica can be found in:

- COMNAP Practical Guidelines for Developing and Designing Environmental Monitoring Programmes in Antarctica
- COMNAP-SCAR Antarctic Environmental Monitoring Handbook
- CEP Clean-Up Manual
- CEP Non-Native Species Manual

4. Writing the EIA Document

The outcome of an EIA is a formal document, which presents all the relevant information about the EIA process. The EIA document represents a fundamental link between the EIA process and decision makers seeing that conclusions stemming from the EIA process will assist decision makers to consider the environmental aspects of the proposed activity.

Four bodies of information arise from an EIA process: *methodology, data, results* and *conclusions* derived from them. Since *results* and *conclusions* are of particular interest for decision makers, these chapters should be written in an accessible language, avoiding very technical terms. The use of graphical information, such as maps, tables and graphs, is an effective way of improving communication.

The size and level of detail in the document will depend on the significance of the environmental impacts that have been identified throughout the EIA process. Thus, Annex I to the Protocol establishes two formats to document it: Initial Environmental Evaluation (IEE) and Comprehensive Environmental Evaluation (CEE), for which the Protocol requires the presentation of different volumes of information (Annex I, Articles 2 and 3).

Unless it has been determined that an activity will have less than a minor or transitory impact or it has already been determined that a Comprehensive Environmental Evaluation is needed, an Initial

Environmental Evaluation (IEE) shall be prepared. If the EIA process indicates that a proposed activity is likely to have more than a minor or transitory impact a Comprehensive Environmental Evaluation must be prepared.

According to Annex I requirements a draft CEE shall be prepared first, which shall be circulated to all Parties as well as to CEP for comments. Once comments and suggestions have been incorporated, a final CEE is circulated to all Parties.

The following table summarises the steps to be considered throughout the EIA process (which are explained in Section 3 of the present guidelines). It also lists the requirements stemming from Annex I that should be included in an EIA document. In the case of IEE, some of the marked items are not specifically mentioned in Annex I, Article 2. However, their inclusion in the IEE document is often useful to communicate the results of the process in a transparent manner. These items were distinguished in the table with an X.

EIA Contents and Annex I Requirements	IEE	CEE
Cover sheet		***X***
Index	***X***	***X***
Preparers and advisors	***X***	√
Non-technical summary	***X***	√
Description of the proposed activity, including its purpose, location, duration and intensity	√	√
Description of the possible alternatives to the proposed activity	√	√
• **Alternative of not proceeding with the activity**	***X***	√
Description of the initial environmental reference state and prediction of the environmental state in absence of the proposed activity	***X***	√
Description of methods and data used to forecast the impacts of the proposed activity	***X***	√
Estimation of nature, extent, duration and intensity of direct impacts	√	√
Consideration of possible indirect or second order impacts	***X***	√
Consideration of cumulative impacts	√	√
Identification of unavoidable impacts	***X***	√
Effects of the activity on scientific research and other uses or values	***X***	√
Mitigation measures	***X***	√
• **Monitoring programs**	***X***	√
Identification of gaps in the knowledge	***X***	√
Conclusions	***X***	***X***
References	***X***	***X***
Glossary		***X***

√ Required by annex I. X Often useful.

The following text focuses briefly on how the items listed above should be referred to in the text of any EIA. Further technical information is already described in previous chapters.

Description of the purpose and need for the proposed activity (see also Section 3.1)

This section should include a brief description of the proposed activity and an explanation of the intent of the activity, including any benefits that will arise (e.g. environmental protection, scientific understanding, education). It should include sufficient detail to make it clear why the activity is being proposed including the need for the activity to proceed (e.g. reference to national or international strategic science plans). It should also provide details on the process by which the scope of the activity was defined. This will help ensure that the full scope of the activity has been included so that impacts can be properly assessed. If a formal process was used to accomplish this (a formal meeting or solicitation of input from the public or other groups), that process and its results should be discussed here.

Description of the proposed activity and possible alternatives and the consequences of those alternatives (See also Sections 3.1.1 and 3.1.2)

This section should include a detailed description of the proposed activity as well as reasonable alternatives. The first alternative to be described would be the proposed activity. The description should be as comprehensive and detailed as possible (see section 3.1).

It may be useful to provide a comparison of alternatives in this section. For instance, for a new research station, alternatives might include differences in the size of the station and the number of persons that could be accommodated. These differences would mean different quantities of materials required, fuels consumed and emissions or wastes generated. Tables showing appropriate comparisons can be very helpful to the reader of the document.

Alternative of not proceeding with the activity (see also Section 3.1.2)

The alternative of not proceeding with the proposed activity (i.e. the “no-action” alternative) should be described to highlight the pros and cons of not conducting the activity. Although the Protocol only requires its inclusion in CEEs, it is useful to also include the “no-action” alternative in the text of IEEs in order to better justify the need for proceeding with the activity.

Description of the initial environmental reference state and prediction of the environmental state in absence of the activity (see also Section 3.2)

Such a description should not be limited to a characterisation of the relevant physical, biological, chemical and anthropic elements of the environment, but should also take into account the existence and behaviour of dynamic trends and processes in order to predict the state of the environment in absence of the activity. For example, modelling tools may assist with considering climate related changes to the environment with, and in the absence of, the proposed activity (e.g. future projections of wildlife, flora and ice retreat/increase). A proper description of the initial environmental reference state provides elements against which changes are to be compared.

Description of methods and data used to forecast the impacts (see also Section 3.3)

The purpose of this section is to explain and, if necessary, defend the design of the assessment and then provide enough detail that a further evaluator can understand and reproduce the procedure. Careful writing of the methodology is critically important because it determines that results can be reproducible and/or comparable.

Estimation of nature, extent, duration and intensity of impacts (including consideration of possible indirect and cumulative impacts) (see also Sections 3.3.2 and 3.3.3)

This section should include a clear description of identified environmental aspects and impacts. It must clearly establish the significance assigned to each impact and the justification for such assignment. In addition, and to summarise this section, the inclusion of a table showing the environmental impacts on each environmental component can be very helpful.

Special attention must be paid to the consideration of possible indirect and cumulative impacts, since cause-effect relationship determining the existence of such impacts usually exhibit a higher degree of complexity.

Monitoring programs (see also Section 3.6)

When necessary, this section should clearly define monitoring objectives, set testable hypotheses, choose key parameters to be monitored, assess data collection methods, design statistical sampling program, and decide on frequency and timing of data collection/recording. Implementation of such monitoring programs is a further step that may begin after the planning of the activity has been completed, even though the activity has not actually been initiated.

Mitigation and remediation measures (see also Section 3.5)

An important purpose of the EIA process is to take steps to avoid or minimise likely impacts through the application of mitigation and remediation measures. For this reason, a description of planned mitigation measures (commensurate with the nature of the activity and the level of EIA) is a fundamental part of the EIA document. Since such measures usually aim to correct some aspects of the activity, communication of these measures must be concrete, pointing out the proposed actions and their timing, as well as the benefits associated to each individual measure.

Identification of unavoidable impacts (see also Section 3.3.2)

Recognition of the existence of unavoidable impacts should be included within any impact analysis. Consideration of such impacts is of great importance given that the occurrence of unavoidable impacts may affect the decision on whether to proceed with the proposed activity.

Effects of the activity on scientific research and other uses or values (see also Section 3.3)

Taking into account that the Protocol designates Antarctica as an area devoted to peace and science, the effects of the proposed activity on ongoing scientific research, or on the potential of a site to future scientific research (e.g. as a scientific reference site), must be a

fundamental consideration when the impact analysis is carried out. Where appropriate, it is also important to consider the effects of the proposed activity on other existing uses and values.

Identification of gaps in the knowledge (see also Section 3.2)

Existing bodies of knowledge (i.e. empirical, theoretical, or anecdotal data and information) are used to support the assessment process. Nonetheless, these bodies of knowledge may be incomplete or may be surrounded by varying degrees of uncertainty. It is critical to identify explicitly in the assessment where such incompleteness or uncertainty exists; and how this has been factored into the assessment process.

This disclosure can be useful in assessment by clearly identifying where more knowledge is needed. Where relevant, plans to address gaps and uncertainties should also be described.

Conclusions

Although not an explicit requirement of Annex I, an EIA should briefly describe the conclusion of the EIA process, reflecting the language of Article 8 and Annex I of the Protocol (e.g. is the proposed activity assessed as likely to have: less than a minor or transitory impact; no more than a minor or transitory impact; or more than a minor or transitory impact). The conclusion should also include a clear statement of why the proposed activity, with the likely environmental impacts, should proceed.

Preparers and advisers

This section provides a list of those experts who were consulted in preparing the assessment, their areas of expertise, and appropriate contact information. It should also list the persons who were responsible for the actual preparation of the document. This information is useful to reviewers and decision makers to ensure that the appropriate expertise was brought to bear on the analyses needed to assess the type and degree of impact from the proposed activity. It is also useful information for future assessments on similar activities or issues.

References

This section should list any references used in preparing the evaluation. They may include research or other scientific papers used in the analysis of impacts or monitoring data used to establish baseline conditions in the area where the activity is proposed. They may also include other environmental assessments of similar activities at other or similar locations.

Index

As an EIA document may be fairly large, an index is a very helpful aid to the reader.

Glossary

This section provides a list of terms and definitions as well as abbreviations that are helpful to the reader, especially if the terms are not commonly understood.

Cover Sheet

A CEE should contain a title page or cover sheet that lists the name and address of the person or organization who prepared the CEE and the address to which comments should be sent (for the draft document only).

Non-Technical Summary

A CEE must contain a non-technical summary of the contents of the document. This summary should be written in an accessible language and include pertinent information on the purpose and need for the proposed activity, the issues and alternatives considered, the existing environment, and the impacts associated with each alternative. A non-technical summary might also be useful for an IEE.

Finally, in either case (IEE or CEE) a number of considerations about writing the EIA document should be taken into account, such as:

- avoidance of including irrelevant descriptive information;
- documenting all relevant steps of the process;
- clearly describing the impact identification methodology;
- clearly distinguishing between results (identification of impacts, mitigation measures, etc.) and final value judgement of significance; and
- properly connecting results and conclusions.

5. EIA feedback processes

It is important to recognise that the EIA process does not stop once the EIA document has been approved and the activity commences. There remains a need to verify the predicted impacts of the activity and assess the effectiveness of mitigation measures, including to consider whether it is necessary to make any changes to the activity or prepare a new EIA. There are three principal components of the feedback process that should be considered during the undertaking of the activity in question and upon its completion. These relate to: monitoring; changes to the activity, and review.

5.1. *Monitoring*

As recorded in Section 3.6 above and in Figure 1, monitoring of key parameters will often be required and is an important part of the EIA process so as to: verify the scale of predicted impacts; provide early warning of any un-predicted impacts; and assess the effectiveness of mitigation measures.

Such monitoring effort should form part of the EIA feedback process. Information that is gathered through monitoring can be assessed against the planned mitigation measures and the activity adjusted accordingly to maintain the actual impacts within the accepted or approved constraints.

This approach is consistent with the provisions of Article 3 of the Protocol, which provides for monitoring "*so as to identify and provide early warning of any adverse effects of the activity and to provide for such modification of operating procedures as may be necessary in the light*

of the results of monitoring" (Article 3(c)(v)), and that "*regular and effective monitoring shall take place to allow assessment of the impacts of ongoing activities, including the verification of predicted impacts*" (Article 3(d)).

If information obtained from the monitoring programme identifies a significant departure from the predicted impacts, either in their nature/type or scale, or significant un-predicted impacts are observed, a review of the EIA may be required, and additional mitigation measures may need to be identified.

5.2. *Changes to the activity*

As noted in Section 3.1.1 above, changes to the activity may also require a reconsideration or review of the EIA. This is consistent with Article 8(3) of the Protocol which provides that "*the assessment procedures set out in Annex I shall apply to any change in an activity whether the change arises from an increase or decrease in the intensity of an existing activity, from the addition of an activity, the decommissioning of a facility, or otherwise"*.

Changes to an activity that may require an amendment to an EIA, or a new EIA, might include, for example:

- changes to the timing and duration of an activity;
- changes to the methods and materials to be used;
- changes in the size of a facility;
- changes in the primary use of a facility;
- the establishment of nearby facilities or protected areas;
- a noticeable increase or decrease in the population of a facility from one year to the next or over a few years;
- an expansion of surface area of a facility or activity;
- an increase or decrease in the number of buildings, or the replacement of buildings;
- increasing intensity or diversity of tourism or national Antarctic programme activities at particular sites; and
- projects that did not go to plan and encountered significant delays.

It is important therefore that the implications of any such changes are reassessed to identify changes to the predicted impacts and the mitigation measures that need to be applied. If significant changes to an activity are proposed, the EIA process may need to be repeated in full.

In situations where monitoring suggests that an EIA review is required, and when a significant change occurs to an activity, which may also prompt a review of the EIA or a new EIA, it will be important to consult with other stakeholders and interested parties. Such stakeholders might include, for example:

- the proponents of the project or activity who will need to consider: the environmental impacts associated with the operational and financial implications of adjusting the programme; and the need to accommodate additional mitigation measures that might arise from the EIA review;

- the relevant national authority who will need to be consulted on the extent to which an EIA needs to be amended or reviewed and the process to be followed; and
- third parties, including other national Antarctic programmes with interests in the activity, or who may be affected by changes to the activity, and independent reviewers seconded to provide an assessment of the activity against the EIA (see below).

In many cases the need to review or modify an EIA will need to be communicated to all those with an interest in the activity and its regulation.

5.3. *Review*

There is significant benefit in considering a review of the EIA process at an appropriate point, for example on completion of the activity in question. A review process will provide an opportunity to assess the effectiveness of the EIA process, and identify where opportunities for improvement might be made for future EIAs.

Such reviews might be based on the EIA process described in these guidelines and consider each part in turn to determine what went well and what improvements might be made when undertaking future EIA processes.

For activities assessed at the level of a CEE the Antarctic Treaty Parties have encouraged such reviews to be undertaken. By means of Resolution 2 (1997), the ATCM has encouraged Parties to:

1. Include in their procedures for assessing the environmental impacts of their activities in Antarctica, provision for review of the activities undertaken following the completion of a CEE.
2. Adopt the following process for CEE follow-up:
   (a) Review activities carried out following completion of CEE, including analysis of whether the activities were conducted as proposed, whether applicable mitigation measures were implemented, and whether the impacts of the activity were as predicted in the assessment;
   (b) Record any changes to the activities described in the CEE, the reasons for the changes, and the environmental consequences of those changes; and
   (c) Report to the Parties on the outcomes of (a) and (b) above.

6. Definition of terms in the EIA process

Action: any step taken as a part of an activity.

Activity: an event or process resulting from (or associated with) the presence of humans in the

Antarctic, and/or which may lead to the presence of humans in Antarctica. (adapted from *SCAR/COMNAP Monitoring Workshop*).

Aspect: any element of an activity or action that can interact with the environment (i.e. through an output or addition to the environment, or through a removal from the environment).

Comprehensive Environmental Evaluation (CEE): an environmental impact document required for proposed activities that may have more than a minor or transitory impact on the Antarctic environment (from *Protocol, Annex I, Article 3*).

Cumulative Impact: the combined impact of past, present, and reasonably foreseeable activities. These activities may occur over time and space and can be additive or interactive/synergistic (adapted from *IUCN Cumulative Impacts Workshop)*. These activities may involve visits by multiple operators or repeated visits to the same site by the same operator.

Direct Impact: a change in environmental components that results from direct cause-effect consequences of interaction between the exposed environment and an activity or action.

Environmental Impact Assessment (EIA): a process for identifying, predicting, evaluating and mitigating the biophysical, social and other relevant impacts of proposed activities prior to major decisions and commitments being made. (adapted from *Guidelines for Environmental Impact Assessment (EIA) in the Arctic*).

Exposure: the process of interaction between an output/input and an environmental value or resource. (adapted from *SCAR/COMNAP Monitoring Workshop*).

Impact: a change in the values or resources attributable to a human activity. It is the consequence (e.g. reduced plant cover) of an agent of change, not the agent itself (e.g. increase of trampling). Synonym: effect. (from *SCAR/COMNAP Monitoring Workshop*).

Indirect Impact: a change in environmental components that results from interactions between the environment and other impacts (direct or indirect). (From *Guidelines EIA in the Arctic.)*

Initial Environmental Evaluation (IEE): an environmental impact document required for proposed activities that may have no more than a minor or transitory impact on the Antarctic environment (from *Protocol, Annex I, Article 2*).

Mitigation: the use of practice, procedure or technology to minimise or to prevent impacts associated with proposed activities. (*COMNAP Practical Guidelines.)*

Monitoring: consists of standardised measurements or observations of key parameters (outputs and environmental variables) over time, their statistical evaluation and reporting on the state of the environment in order to define quality and trends (adapted from *SCAR/COMNAP Monitoring Workshop*).

Operator: individuals or organisations undertaking activities to or within Antarctica from which impacts arise.

Output: a physical change (e.g. movement of sediments by vehicle passage, noise) or an entity (e.g. emissions, an introduced species) imposed on or released to the environment as the result of an *action* or an *activity*. (*SCAR/COMNAP Monitoring Workshop.*)

Preliminary Stage (PS): a process that considers the level of environmental impacts of proposed activities -before their commencement- referred to in Article 8 of the Protocol, in accordance with appropriate national procedures (from *Protocol, Annex I, Article 1*) .

Proponent: an individual or a national program advocating the activity and responsible for the preparation of the EIA document.

Remediation: consists of the steps taken after impacts have occurred to promote, as much as possible, the return of the environment to its original condition.

Unavoidable Impact: an impact for which no further mitigation is possible.

7. References

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8. Acronyms

ASMA: Antarctic Specially Managed Area

ASPA: Antarctic Specially Protected Area

ATCM: Antarctic Treaty Consultative Meeting

ATCP: Antarctic Treaty Consultative Party

ATS: Antarctic Treaty System

CCAMLR: Commission for the Conservation of Antarctic Marine Living Resources

CEE: Comprehensive Environmental Evaluation

CEMP: CCAMLR Ecosystem Monitoring Program

CEP: Committee for Environmental Protection

COMNAP: Council of Managers of National Antarctic Programmes

EIA: Environmental Impact Assessment

GIS: Geographical Information System

HSM: Historic Sites and Monuments

IEE: Initial Environmental Evaluation

IUCN: International Union for the Conservation of Nature (World Conservation Union)

SCAR: Scientific Committee of Antarctic Research

9. Resources

It is not practical to refer to all guidelines and resources that may be of relevance to the EIA process, and proponents should identify and draw on sources of information that are relevant to the proposed activity in question. The following list provides direction to guidance materials that may be of general relevance. While the list was accurate at the time of preparation of the EIA Guidelines, it also would be important to check for additional or updated materials. In addition, there is an extensive academic literature on EIA, including in the Antarctic context.

- Website of the Antarctic Treaty Secretariat: the Antarctic Treaty Secretariat maintains a comprehensive website that contains a variety of information that may be useful for persons involved in an EIA process, including:
    - Antarctic Protected Areas Database: contains the texts of the management plans for Antarctic Specially Protected Areas and Antarctic Specially Managed Areas, their legal status, location in the Antarctic continent and a brief summary of the purpose of designation. The database also contains information related to the list and location of Historic Sites and Monuments in Antarctica.
    - Antarctic Treaty database: contains the text of all Recommendations, Measures, Decisions and Resolutions and other measures adopted by the ATCM together with their attachments and information on their legal status.
    - EIA Database: contains details of IEEs and CEE undertaken in accordance with Annex I of the Protocol, where possible including an electronic version of the EIA document.
    - Electronic Information Exchange System: allows parties to fulfil the Antarctic Treaty exchange of information requirements and acts as a central repository for this information.
    - CEP Handbook: a compilation of key references, for use by CEP representatives when attending meetings or undertaking CEP-related work. It contains the Antarctic Treaty System instruments that guide the Committee's work, copies of procedures and approved guidelines that explain how the CEP conducts its business, other documents the CEP has produced or endorsed to help Treaty Parties protect the Antarctic environment, plus links to other useful references
    - CEP Clean-Up Manual[17]: provides guidance, including key guiding principles and links to practical guidelines and resources, that operators can apply and use, as appropriate to assist with addressing the requirements of the Protocol, in particular Annex III.
    - CEP Non-Native Species Manual[18]: provides guidance to Antarctic Treaty Parties in order to conserve Antarctic biodiversity and intrinsic values by preventing the unintended introduction to the Antarctic region of species not native to that region, and the movement of species within Antarctica from one biogeographic zone to any other. Includes key guiding principles and links to recommended practical guidelines and resources that operators can apply and use, as

[17] Resolution 2 (2013)

[18] Resolution 6 (2011)

appropriate, to assist with meeting their responsibilities under Annex II to the Protocol.

- General Guidelines for Visitors to the Antarctic[19]: provide general advice for visiting any location, with the aim of ensuring visits do not have adverse impacts on the Antarctic environment, or on its scientific and aesthetic values.
- Guidance for Visitors to the Antarctic[20]: intended to ensure that all visitors are aware of, and are therefore able to comply with, the Treaty and the Protocol.
- Site Guidelines for Visitors: the guidelines aim to provide specific instructions on the conduct of activities at the most frequently visited Antarctic sites. This includes practical guidance for tour operators and guides on how they should conduct visits in those sites, taking into account their environmental values and sensitivities.

- Scientific Committee on Antarctic Research (SCAR) data and products: for the benefit of SCAR scientists and the wider community, SCAR provides several products that support the work of SCAR scientists but are also made widely available to others. SCAR promotes free and unrestricted access to Antarctic data and information by promoting open and accessible archiving practices. SCAR aims to be a portal to data repositories of Antarctic scientific data and information.
- Council of Managers of National Antarctic Programs (COMNAP) publications: contains links to operational guidelines developed by COMNAP's Expert Groups and Networks with the aim of assisting National Programs implementing common procedures and practices to enhance operational effectiveness and safety, as well as manual and handbooks that provide National Programs and others with guidance in specialist fields of activity.
- International Association of Antarctica Tour Operators (IAATO) guidelines and resources: contains links to information and guidance materials relevant to tourism and non-governmental activities.
- Antarctic Environments Portal: provides an important link between Antarctic science and Antarctic policy. All scientific information available through the Portal is based on published, peer-reviewed science and has been through a rigorous editorial review process.

Appendices

Appendix 1. Example checklist for collecting and recording of baseline information about the state of the environment in the location of a proposed activity

(Modified from the CEP Clean-Up Manual, Annex 1: Checklist for Preliminary Site Assessment)

[19] Resolution 3 (2011) *Note from the editor: This resolution is no longer current. It has been replaced by Resolution 4 (2021). The link has been updated and directs you to the latest resolution.*

[20] Recommendation XVIII-1 (1994)

ASSESSMENT AND REPORTING INFORMATION			
Title of Report/Assessment			
Date of Report		Prepared by:	Contact details:
Date of site visit (if applicable)		Assessor(s):	Contact details:

GENERAL CHARACTERISTICS OF SITE				
Place name				
Intended site use (e.g. building, storage area, wastewater disposal, road, location of vehicle use etc.)				
Location (coordinates of point)				
Location (coordinates of bounding polygon)	North:	South:	East:	West:
Nearest Operational Antarctic Station		Distance from Station:		Accessibility:
General Description of Site				
Human health and safety considerations				
Site Type (seasonally ice- free				

land, lake, permanent snow/ice, marine)	
Sea ice (if applicable)	
Glaciology (if applicable)	
Geomorphology (slope, aspect, landscape features etc.)	
Geology (rock type, rock fracturing etc.)	
Regolith (depth and type of soil/sediment if present, depth to permafrost etc.)	
Protected area status (list ASMAs and ASPAs in the vicinity)	
Biogeographic region (after Terauds et al. 2012)	
Fauna/flora present	

FLORA AND FAUNA INVENTORY				
Type	**Species**	**Location**	**Timing of presence (i.e., constant, seasonal, etc.)**	**Other information**
Breeding birds				
Breeding mammals				

Transient birds				
Transient mammals				
Coastal species				
Marine species				
Flora				

MICROBIAL COMMUNITIES INVENTORY			
Location	**Date**	**Species recorded**	**Other information**

CLIMATE AND WEATHER	
Indicator	**Data**
Weather patterns	
Temperature data (seasonal average, min/max)	
Snowfall/precipitation data (frequency, total accumulation)	
Cloud cover (%)	
Wind (average speed, min/max, direction)	
Other relevant	

information	

HUMAN ACTIVITIES				
Type	**Number of persons involved**	**Duration**	**Frequency**	**Other details**
Research				
Tourism				
Other				

HISTORY OF SITE USE AND CONTAMINATION EVENTS	
History of Site Use and Activities	
Information Sources (Station/Voyage Leader Reports, people interviewed, photographs etc.)	
Contamination History (operational activities and events, such as spills and spill responses if applicable – see CEP Clean-Up Manual for detailed guidance on site assessment for contaminated sites)	

VALUES/RECEPTORS POTENTIALLY OR ACTUALLY IMPACTED BY ACTIVITY			
Values/Receptor	**Site-Specific Information on Values/Receptors and** **Exposure Pathways (include estimates of distance from contaminants)**	**Actual or Potential Impacts?**	**Cumulative or one-time?**

Fauna and flora			
Scientific			
Historic			
Aesthetic			
Wilderness			
Geological and geomorphological			
Other environments (atmospheric, terrestrial (including glacial)			
Marine environment (if applicable)			
Protected areas			
Other values/receptors (such as station water supply)			

PREDICTION OF FUTURE ENVIRONMENTAL STATUS IF ACTIVITY DOES NOT PROCEED	
Site Aspect	**Prediction**
Flora	
Fauna	
Terrestrial environment	
Marine environment	

Appendix 2. Aspects and potential impacts of Antarctic activities

(Modified from ATCM XXXV/IP23 CEP Tourism Study. Tourism and Non-Governmental Activities in the Antarctic: Environmental Aspects and Impacts, Table 2. Aspects and potential impacts of Antarctic tourism. Note: this table presents examples for illustrative purposes only, and is not intended to be an exhaustive list.)

Environmental aspect	Potential impact
1. Presence The presence of people and human-made objects in the Antarctic.	Modification of, or risk to, the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research.
2. Atmospheric emissions Discharge of emissions to the atmosphere (including greenhouse gases and particulates) from engines, generators and incinerators, signalling or marking devices.	Pollution of marine, terrestrial, freshwater and atmospheric environments.
3. Anchoring Interaction with the seafloor or coastal mooring sites from deploying and retrieving anchors and anchor chains.	Disturbance and damage of benthic marine species, communities and habitats.
4. Light emission Discharge / escape of light from windows and other sources during dark hours.	Injury or death of seabirds striking vessels (see interaction with wildlife).
5. Generation of noise Sound arising from activities in water, on land or in the air from the operation of vessels, small boats, aircraft, equipment or from individuals or groups of people.	Disturbance to wildlife.
6. Release of waste Release or loss of any garbage, sewage, chemicals, noxious substances, pollutants, equipment or presence of toxic coatings (e.g. antifouling on hulls).	Pollution of marine, terrestrial and freshwater environments. Introduction of pathogens. Toxicity and other chronic impacts at the species, habitat and ecosystem level.
7. Release of fuel, oil or oily mixtures Leak or spill of oil or oily wastes to the environment, including the subsequent movement of such substances.	Pollution of marine, terrestrial and freshwater environments. Toxicity and other chronic impacts at the species, habitat and ecosystem level.

Environmental aspect	Potential impact
8. Interaction with water and ice Disturbance to the water column, by vessel movement or propulsion. Altered wave action. Direct breaking of sea ice with a vessel.	Mixing of the water column resulting in sediment disturbance or ecosystem disruptions. Coastal erosion from wave action. Enhanced breakout of sea ice.
9. Interaction with ice-free ground Direct or indirect contact with land by foot traffic, vehicles, camp equipment, etc.	Physical changes to the landscape (e.g. erosion, tracks) Physical changes to watercourses. Alien species introductions. Modification in the distribution, abundance or biodiversity of species or populations of species of fauna and flora. Altered ecosystem performance.
10. Interaction with wildlife Direct or indirect contact with, or approach to, wildlife.	Changes to wildlife behaviour, physiology and breeding success. Increased risk to endangered or threatened species or populations of such species.
11. Interaction with vegetation Direct or indirect contact with vegetation or controls on vegetation abundance (e.g. altered water availability).	Physical damage to flora. Modification in the distribution, abundance or productivity of species or populations of species of flora. Increased risk to endangered or threatened species or populations of such species.
12. Interaction with historic sites Direct or indirect contact with historic sites, monuments or artefacts and taking of artefacts.	Detrimental changes to the historic values of the areas or items of historic significance. Enhanced deterioration of or damage to historic sites and monuments through physical contact.
13. Interaction with scientific stations or scientific research Direct or indirect contact with science equipment, monitoring or research sites and with station activities.	Degradation of scientific values. Interruption of station activity. Interruption of, or interference with experimentation.

14. Transfer of non-native species or propagules (via ballast water, vessel hulls, anchors, clothing, footwear, non-sterile soil) Unintended introduction to the Antarctic region of species not native to that region, and the movement of species within Antarctica from one biogeographic zone to any other.	Alien species introduced. Modification in the distribution, abundance or biodiversity of species or populations of species of fauna and flora. Altered ecosystem performance. Increased risk to endangered or threatened species or populations of such species.

Resolution 4 (2016) - ATCM XXXIX - CEP XIX, Santiago

Adopted 01/06/2016

NON-NATIVE SPECIES MANUAL

The Representatives,
Conscious that the increasing introduction of non-native species to the Antarctic region, including the movement of species between locations in the region, is presenting a serious risk to biodiversity and to the intrinsic values of Antarctica;

Recognising the enhanced potential for non-native species introduction and establishment with a changing Antarctic climate;

Recalling that the overall objective for Parties' actions to address risks posed by non-native species is to protect Antarctic biodiversity and intrinsic values by preventing the unintended introduction to the Antarctic region of species not native to that region, and the movement of species within Antarctica from one biogeographic zone to any other;

Noting that under Resolution 6 (2011) the Antarctic Treaty Consultative Meeting ("ATCM") agreed to disseminate and encourage, as appropriate, the use of the Non-native Species Manual ("the Manual") developed by the Committee for Environmental Protection ("CEP");

Welcoming the revision of the Manual by the CEP, as well as the CEP's advice that it will continue to refine and develop the Manual to reflect improvements in the understanding of the risks posed by non-native species and best practice measures for prevention, surveillance and response;

Recommend that their Governments:

1. encourage the dissemination of the Manual, annexed to this Resolution, and its use by those organising, conducting and participating in Antarctic activities;

2. encourage the CEP to continue to develop the Manual with the input of the Scientific Committee on Antarctic Research ("SCAR") and the Council of Managers of National Antarctic Programs ("COMNAP") on scientific and practical matters, respectively; and

3. request the Secretariat to post the Manual on its website.

Committee for Environmental

Protection (CEP)

NON-NATIVE SPECIES MANUAL

EDITION 2016

ATCM XXXIX Final Report

Committee for Environmental Protection (CEP)

Non-native Species Manual. – 2nd ed. – Buenos Aires: Secretariat for the Antarctic Treaty, 2016.

XX p.

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Environmental Protection. 2. International Law. 3. Antarctic Treaty system

DDC XXX.X

The first edition of this manual was adopted by the Antarctic Treaty Consultative Meeting through Resolution 6 (2011). The manual was compiled and prepared by an Intersessional Contact Group (ICG) of the Committee for Environmental Protection (CEP) between 2009 and 2011. The second edition of the manual was developed by an ICG of the CEP between 2015 and 2016.

Content

1. Introduction

a) Objective

The overall objective for Parties' actions to address risks posed by non-native species is:

> To protect Antarctic biodiversity and intrinsic values by preventing the unintended introduction to the Antarctic region of species not native to that region, and the movement of species within Antarctica from one biogeographic zone to any other.

Preventing unintended introductions is an ambitious goal, consistent with the principles of the Protocol on Environmental Protection to the Antarctic Treaty (1991). In practice, measures should be put in place to minimise the risk of impacts from non-native species in the Antarctic, taking all possible steps towards prevention.

b) Purpose and background

The purpose of this manual is to provide guidance to Antarctic Treaty Parties in order to meet the objective (above), i.e. minimise the risk of accidental or unintentional introduction of nonnative species and respond effectively, should an introduction occur. This manual includes key guiding principles and links to recommended practical guidelines and resources that operators can apply and use, as appropriate, to assist with meeting their responsibilities under Annex II to the Protocol. The guidelines are recommendatory, not all guidelines will apply to all operations, and it is a 'living' document that will be updated and added to as new work, research and best practice develops to support further guidance. These measures are recommended as appropriate to assist Parties' efforts to prevent such accidental or unintended introductions or manage established non-native species and they should not be considered as mandatory.

This manual is focused on the unintended or accidental introduction of non-native species. The introduction of non-native species under permit (in accordance with Article 4 of Annex II to the Protocol) is not included within the scope of this work. However, guidelines for response to unintentional introductions can be applied to responding to any dispersal of species intentionally introduced under permits.

Due to a substantial amount of scientific research on non-native species within Antarctica in recent years (see References and supporting information) there is an improved understanding

of the risks related to non-native species introductions although additional information will be of benefit. Further studies on impacts on Antarctic ecosystems, and research to underpin effective rapid response are also needed. Another objective of this manual is to support and encourage further work to fill the gaps in our knowledge. Parties, in applying their environmental assessment and authorisation processes, should consider methods to ensure proponents of Antarctic activities are aware of this manual and associated resources, and that they implement prevention practices to minimise the risk of introduction of non-native species.

c) Context[1]

[1] This section was written with the contribution of several scientists involved in the IPY "Aliens in Antarctica" project (D. Bergstrom, S. Chown, P. Convey, Y. Frenot, N. Gremmen, A. Huiskes, K. A. Hughes, S. Imura, M. Lebouvier, J. Lee, F. Steenhuisen, M.Tsujimoto, B. van de Vijver and J. Whinam) and adapted according to the ICG Members' comments.

Biological invasions are amongst the most significant threats to biodiversity worldwide, threatening species survival and being responsible for major changes to ecosystem structure and functioning. Despite Antarctica's isolation and harsh climatic conditions, invasions are now recognised as a serious risk to the region: the ice-free areas of Antarctica and the surrounding sub-Antarctic Islands support a large proportion of the world's seabird species, and their terrestrial biotas, though species-poor, include a high proportion of endemic and well-adapted taxa. Species richness in the Southern Ocean is higher than in the Antarctic terrestrial environment, and there is a high level of endemism. With rapid climate change occurring in some parts of Antarctica, increased numbers of introductions and enhanced success of colonisation by non-native species are likely, with consequent increases in impacts on ecosystems, as is already visible in the sub-Antarctic islands. In addition to introduction of species from outside Antarctica, cross-contamination between ice-free areas including isolated nunataks, or between different marine areas, also threatens the biological and genetic diversity of the biogeographic regions and the risk must be addressed. Further development of human activity in these regions (including science, logistics, tourism, fisheries and recreation) will increase the risk of unintentional introductions of organisms, which have a suite of life history traits that benefit them during transport, establishment and expansion phases of invasion, and are likely to be favored by warming conditions and potentially other effects of climate change. Reducing the risk of the transfer of species between sites in Antarctica has been a recent focus of work to manage non-native species risks. In 2012 CEP XV endorsed 15 distinct Antarctic Conservation Biogeographic Regions. The delineation of these biologically distinct regions supports the management of non-native species risks associated with moving between regions within Antarctica.

The vast majority of global non-native species do not become invasive, but those that do are one of the main threats to global diversity. Sequentially, the prevention of an introduction of a non-native species is the key. If prevention fails, then early detection and rapid response to remove the species becomes very important. It is easier to fight invasiveness if the discovery of the non-native species is made early. In addition, the presence of non-native species that are only "transient" or "persistent" but not yet "invasive" is also highly undesirable in terms of protecting the environmental and scientific values of Antarctica, especially as such species may become invasive. The current environmental changes that occur in Antarctica, as in other parts of the world, may result in alteration of the local biodiversity during the next decades or

centuries. It is the responsibility of the Parties and others active in the region to minimise the chance of humans being a direct vector for change through introduction of non-native species and/or spread of diseases in the terrestrial and marine ecosystems of the Antarctic Treaty area.

The 2010 Antarctic Treaty Meeting of Experts on Implications of Climate Change for Antarctic Management emphasised the importance of actions towards reducing the risk and impact of non-native species to Antarctic ecosystems. The meeting:

- Acknowledged that the greatest effort should be placed on preventing the introduction of non-native species, and on minimising the risk of human assisted introductions through national programmes and tourism activities. It stressed the importance of ensuring comprehensive implementation of new measures to address this risk (Para. 111, Co-chair's report).
- Recommended that the CEP 'consider using established methods of identifying a) Antarctic environments at high risk from establishment by non-natives and b) nonnative species that present a high risk of establishment in Antarctica' (Recommendation 22).
- Recommended that Parties be encouraged to comprehensively and consistently implement management measures to respond to the environmental implications of climate change, particularly measures to avoid introduction and translocation of nonnative species, and to report on their effectiveness (Recommendation 23).

In 2015, the CEP agreed the Climate Change Response Work Programme (CCRWP) that seeks to advance these and other environment-related ATME recommendations (Resolution 4 (2015)). The CCRWP describes the issues facing the CEP as a result of the changing Antarctic climate, the actions/tasks required to address these issues, their prioritisation, and suggestions as to how, when, and by whom, the actions are best delivered. One of the climate-related issues identified is the enhanced potential for non-native species introduction and establishment. The CCRWP recommends that CEP Members continue to develop the CEP Nonnative Species Manual, ensuring climate change impacts are included, specifically in the development of surveillance approaches, a response strategy, and the inclusion of non-native species in the EIA guidelines (see also the Annex to this manual).

The CEP 5-year Work Plan is a 'living' document that is updated annually with the work priorities of the Committee. Non-native species issues are identified in the work plan as a top priority for the CEP's attention and the work plan and may guide further work on this topic.

The Environments Portal (www.environments.aq) is a source of peer-reviewed Antarctic environmental information and includes topic summaries on non-native species (e.g. Newman et al., 2014; Hughes and Frenot, 2015).

d) Glossary

Terminology for non-native and invasive species has not been standardised internationally and some of the terms below are defined in the specific context of Antarctica:

Biogeographic region: a region of Antarctica that is biologically distinct from other regions. Non-native species risks to biodiversity and intrinsic values may arise if (1) native Antarctic species are moved by human activities between biogeographic regions, or (2) non-native

species established in one Antarctic biogeographic region are distributed to other regions by human or natural mechanisms.

Containment: Application of management measures to prevent spread of a non-native species.

Control: Use of practical methods to contain and/or reduce the viability of a non-native species.

Endemic: native species restricted to a specified region or locality in Antarctica.

Eradication: The permanent elimination of a non-native species.

Introduction/introduced: direct or indirect movement by human agency, of an organism outside its natural range. This term may be applied to intercontinental or intracontinental movement of species.

Invasive/invasion: non-native species that are extending their range in the colonised Antarctic region, displacing native species and causing significant harm to biological diversity or ecosystem functioning.

Non-native/alien species: an organism occurring outside its natural past or present range and dispersal potential, whose presence and dispersal in any biogeographic region of the Antarctic Treaty area is due to unintentional human action.

Persistent/established: non-native species that have survived, established and reproduced for many years in a restricted locality in Antarctica, but which have not expanded their range from a specific location.

Transient: non-native species that have survived in small populations for a short period in Antarctica, but which have either died out naturally or have been removed by human intervention.

2. Key guiding principles

In order to provide greater focus on the environmental risk related to the unintentional introduction of non-native species in Antarctica and to guide Parties' actions in accordance with the overall objective, 11 key guiding principles have been developed. They are categorised according to the three major components of a non-native species management framework: prevention, monitoring and response. Many of the key guiding principles are equally applicable to the prevention of introduction and spread of pathogens that may cause diseases in Antarctic wildlife.

Prevention

Prevention is the most effective means of minimising the risks associated with the introduction of non-native species and their impacts, and is the responsibility of all who travel to Antarctica.

1. Raising awareness at multiple levels for different audiences is a critical component of management. All people travelling to the Antarctic should take appropriate steps to prevent the introduction of non-native species.
2. The risk of non-native species introductions should be identified and addressed in the planning of all activities, including through the environmental impact assessment (EIA) process under Article 8 and Annex I to the Protocol.

3. In the absence of sound scientific baseline data, a precautionary approach should be applied to minimise the risk of human-mediated introduction of non-native species, as well as the risk of inter-regional and local transfer of propagules to pristine regions.
4. Preventive measures are most likely to be implemented and effective if they are:
    - focused on addressing activities and areas of highest risk;
    - developed to suit the particular circumstances of the activity or area in question, and at the appropriate scale;
    - technically and logistically simple;
    - easily applicable;
    - cost effective and not exceedingly time consuming.
5. Prevention should focus on pre-departure measures within the logistics and supply chain:
    - at the point of origin outside Antarctica (e.g., cargo, personal gear, packages),
    - at gateways to Antarctica (ports, airports),
    - on means of transport (vessels, aircraft),
    - at Antarctic stations and field camps that are departure points for activities within the continent.
6. Particularly close attention should be given to ensuring the cleanliness of items previously used in cold climates (e.g., Arctic, sub-Antarctic, mountainous areas), which may be a means for transporting species with 'pre-adaptations' that may aid establishment in the Antarctic environment.

Monitoring

Monitoring can be passive observation (i.e., waiting for non-native species to appear) or targeted (i.e., an active programme of identifying potential non-native species). Having good baseline data on native fauna and flora is important to support monitoring of non-native species.

7. Regular/periodic monitoring, with a frequency appropriate to potential risk, of high-risk sites (e.g., including, but not restricted to the area around research stations) should be encouraged.
8. Preventive measures should be periodically reviewed and revised.
9. Information and best practice related to non-native species should be exchanged between Parties and other stakeholders.

Response

The key factor will be to respond quickly and to assess the feasibility and desirability of eradicating non-native species. If eradication is not a feasible or desirable option then control and/or containment measures need to be considered.

10. To be effective, responses to introductions should be undertaken as a priority, to prevent an increase in the species' distribution range and to make eradication simpler, cost effective and more likely to succeed.

11. Efficacy of control or eradication programmes must be regularly assessed, including follow-up surveys.

3. Guidelines and resources to support prevention of the introduction of non-native species

Including the transfer of species between sites in the Antarctic and the detection of and response to established non-native species

In line with the objective for Parties' actions to address risks posed by non-native species and the key guiding principles (Sections 1 and 2), the following voluntary guidelines and resources have been developed that operators can apply and use, as appropriate, to assist with meeting their responsibilities under Annex II to the Protocol.

Prevention

1. The environmental impact assessment process is a key component in the prevention of non-native species introductions and their further dispersal.

Guidelines

Guidelines for Environmental Impact Assessment in Antarctica

http://www.ats.aq/documents/ATCM39/att/atcm39_att013_rev1_e.doc

2. Prevention is the most effective means of minimizing the risks associated with the introduction of non-native species.

Guidelines:

The following list provides general guidance on preventing non-native species introductions to Antarctica, with more specific information detailed later:

- Unless new, ensure clothing supplied for use in Antarctica is cleaned using normal laundry procedures prior to sending to Antarctica. Pre-worn footwear should be cleaned thoroughly before arrival in Antarctica or between sites in Antarctica.
- Consider equipping research stations with the means to clean and maintain clothing and equipment that is to be used in the field, particularly in distinct or multiple locations.
- Check cargo to ensure it is clean of visible contamination (soil, mud, vegetation, propagules) before loading on board the aircraft or vessels.
- Clean vehicles in order to prevent transfer of non-native species into and around the Antarctic.
- Confirm vessels as being rodent-free before departure to the Antarctic.

- Pack, store and load cargo in an area with a clean, sealed surface (e.g., bitumen or concrete that is free from weedy plants, soil, rodents and remote from waste ground). These areas should be cleaned and inspected regularly.
- Containers, including ISO containers and boxes/crates, should not be moved from one Antarctic site to another, unless they are cleaned before arrival at the new location.
- Ensure intercontinental aircraft are checked and treated as necessary, where applicable, to ensure they are insect-free before departure to the Antarctic.
- Foods and food wastes are strictly managed to prevent them entering the environment (e.g. secured from wildlife and removed from the Antarctic or incinerated).

At CEP XV, the Committee recognised the relevance of the Antarctic Conservation Biogeographic Regions (ACBRs) to its work to address non-native species risks, particularly the risk of transfer of species between biologically distinct locations in Antarctica. Descriptions of the Antarctic Conservation Biogeographic Regions can be found at: http://www.ats.aq/documents/recatt/Att500_e.pdf. The Antarctic Environments Portal Map shows in detail the extent of the Antarctic Conservation Biogeographic Regions and is available from: https://environments.aq/map/

Procedures for vehicle cleaning to prevent transfer of non-native species into and around Antarctica (ATCM XXXIII – WP 08).

http://www.ats.aq/documents/ATCM33/wp/ATCM33_wp008_e.doc

Guidelines to minimise the risks of non-native species and disease associated with Antarctic hydroponics facilities (ATCM XXXV – WP 25 rev.1)

http://www.ats.aq/documents/ATCM35/wp/ATCM35_wp025_rev1_e.doc

http://www.ats.aq/documents/ATCM35/att/ATCM35_att103_e.doc

Resources:

Checklists for supply chain managers of National Antarctic Programmes for the reduction in risk of transfer of non-native species (COMNAP, SCAR 2010)
https://www.comnap.aq/Shared%20Documents/nnschecklists.pdf

SCAR's environmental code of conduct for terrestrial scientific field research in Antarctica

(ATCM XXXII - IP 04)

http://www.ats.aq/documents/ATCM32/ip/ATCM32_ip004_e.doc

SCAR's code of conduct for activities within terrestrial geothermal environments in Antarctica

Resolution 3 (2016)

http://www.ats.aq/documents/ATCM39/att/atcm39_att018_e.doc

SCAR's code of conduct for the exploration and research of subglacial aquatic environments

(ATCM XXXIV- IP 33)

http://www.ats.aq/documents/ATCM34/ip/ATCM34_ip033_e.doc

Raising awareness of non-native species introductions: Workshop results and checklists for supply chain managers (ATCM XXXIV – WP 12)

http://www.ats.aq/documents/ATCM34/wp/ATCM34_wp012_e.doc

http://www.ats.aq/documents/ATCM34/att/ATCM34_att014_e.pdf

http://www.ats.aq/documents/ATCM34/att/ATCM34_att015_e.pdf

Reducing the risk of inadvertent non-native species introductions associated with fresh fruit and vegetable importation to Antarctica (ATCM XXXV – WP 06)

http://www.ats.aq/documents/ATCM35/wp/ATCM35_WP006_e.doc

Biosecurity and quarantine guidelines for ACAP breeding sites

http://acap.aq/en/resources/acap-conservation-guidelines/2180-biosecurity-guidelines/file

Outcomes of the International Polar Year Programme: Aliens in Antarctica (ATCM XXXV – WP 05)

http://www.ats.aq/documents/ATCM35/wp/ATCM35_wp005_e.doc

Continent-wide risk assessment for the establishment of nonindigenous species in Antarctica (ATCM XXXV – BP 01)

http://www.ats.aq/documents/ATCM35/bp/ATCM35_bp001_e.pdf

3. Develop and deliver awareness programmes for all people travelling to and working in the Antarctic on the risks of inter and intra-continental movements of non-native species and on the measures required to prevent their introduction, including a standard set of key messages for awareness programmes. Education and training programmes should be tailored, in some case using relevant elements of the information listed above, to the activities and risks associated with the target audience, including:

- Managers of national programmes
- Logisticians/crew/contractors
- Tour operators/staff/crew
- Scientists
- Tourists
- Private expedition organisers
- Fishing vessel operators/staff/crew
- Staff at suppliers/vendors/warehouses
- Other visitors

Guidelines:

General guidelines for visitors to the Antarctic

http://www.ats.aq/documents/recatt/Att483_e.pdf

Resources:

Instructional video on cleaning (Aliens in Antarctica Project, 2010). http://academic.sun.ac.za/cib/video/Aliens_cleaning_video%202010.wmv

'Don't pack a pest' pamphlet (United States).

http://www.usap.gov/usapgov/travelAndDeployment/documents/PackaPest_brochure_Final.pdf

'Don't pack a pest' pamphlet (IAATO). http://iaato.org/en_GB/dont-pack-a-pest

Boot, clothing and equipment decontamination guidelines (IAATO).

http://iaato.org/documents/10157/14310/Boot_Washing07.pdf/2527fa99-b3b9-4848-bf0bb1b595ecd046

'Know before you go' pamphlet (ASOC).

http://www.asoc.org/storage/documents/tourism/ASOC_Know_Before_You_Go_tourist_pamphlet_2009_editionv2.pdf

COMNAP Practical training modules: Module 2 – non-native species (ATCMXXXVIII – IP 101)

http://www.ats.aq/documents/ATCM38/ip/ATCM38_ip101_e.doc

http://www.ats.aq/documents/ATCM38/att/ATCM38_att102_e.pdf

4. Include consideration of non-native species in future ASPA and ASMA Management Plans and in the review of current and future management plans.

Guidelines:

Guide to the preparation of Management Plans for Antarctic Specially Protected Areas (Resolution 2 (2011)).

http://www.ats.aq/documents/ATCM34/att/ATCM34_att004_e.doc

5. Manage ballast water in accordance with the 'Practical guidelines for ballast water exchange in the Antarctic Treaty Area' (Resolution 3 (2006)).

Guidelines:

Practical guidelines for ballast water exchange in the Antarctic Treaty Area (Resolution 3 (2006)).

http://www.ats.aq/documents/recatt/Att345_e.pdf

Monitoring

6. Record non-native species introductions and submit records to the 'Biodiversity database: aliens species in the Antarctica or subAntarctic', managed by the Australian Antarctic Data Centre (AADC), as agreed by the CEP.

Database for entering records:

Alien species database (ATCM XXXIV – IP 68)

http://data.aad.gov.au/aadc/biodiversity/index_aliens.cfm

Resources:

Colonisation status of known non-native species in the Antarctic terrestrial environment: a review. (ATCM XXXVIII IP 46)

http://www.ats.aq/documents/ATCM38/ip/ATCM38_IP046_e.doc

Biological invasions in terrestrial Antarctica: what is the current status and how can we respond? (ATCM XXXVIII - IP 46 Attachment A)

http://www.ats.aq/documents/ATCM38/att/ATCM38_att090_e.pdf Supplementary

information (ATCM XXXVIII - IP 46 Attachment B)

http://www.ats.aq/documents/ATCM38/att/ATCM38_att091_e.doc Monitoring

biological invasion across the broader Antarctic: a baseline and indicator

framework (ATCM XXXVIII – IP 93)

http://www.ats.aq/documents/ATCM38/ip/ATCM38_IP093_e.doc

Status of known non-native species introductions and impacts (Environments Portal)
https://www.environments.aq/information-summaries/status-of-known-non-native-speciesintroductions-and-impacts/

Response

A species apparently new to the Antarctic may be (i) a recent natural colonist (e.g. introduced by wind or bird transport), (ii) a recent human introduction (e.g. associated with cargo, clothing or personal belongings) or (iii) a long-term inhabitant that has never before been identified by science. It is important to know the colonisation history of a new species as this will affect how it is managed.

7. Develop or employ assessment metrics to help determine whether a newly discovered species is likely to have arrived through natural colonisation pathways or through human means.

8. Expert advice should be sought as quickly as possible when potential non-native species (including any diseases of wildlife) are detected.

Guidelines:

Guidance for visitors and environmental managers following the discovery of a suspected non-native species in the terrestrial and freshwater Antarctic environment (ATCM XXXIII - WP 15).

http://www.ats.aq/documents/ATCM33/att/ATCM33_att010_e.doc

http://www.ats.aq/documents/ATCM33/att/ATCM33_att011_e.doc

Resource:

SCAR is well placed to assist with the identification of experts that could provide appropriate advice in a timely manner. SCAR has agreed to identify a group of experts who could be consulted in the event that a suspected non-native species is detected. If a non-native species is detected, contact with the group could be facilitated through the Chief Officer of the SCAR Standing Committee on the Antarctic Treaty System (SCATS), who would then co-ordinate and collate the response from the experts.

Suggested framework and considerations for scientists attempting to determine the colonisation status of newly discovered terrestrial or freshwater species within the Antarctic Treaty Area (ATCM XXXIII – IP 44).

http://www.ats.aq/documents/ATCM33/ip/ATCM33_ip044_e.doc

Annex: Guidelines and resources requiring further attention or development

In addition to the measures, guidelines and resources that have been developed (Section 3) the following non-native species issues have been identified as requiring further attention and policy development. The use of existing guidelines, resources and information and the development of more detailed guidance under these items for inclusion in the Manual are encouraged.

No.	Guidelines and resources requiring further attention or development	Existing guidelines, resources or information
	Prevention	
1	Reducing the distribution of native Antarctic species between distinct biogeographic regions within the continent: • Identify regions of highest risk of introduction. • Identify activities, vectors and pathways that present a high risk to different biogeographical regions • Provide guidance on what constitutes a gateway between Antarctic biogeographical regions (according to organism type). • Develop practical measures to address risks associated with the transport of personnel and equipment between locations in Antarctica. • Develop baseline studies.	Antarctic Conservation Biogeographic Regions (ACBRs) http://www.ats.aq/documents/recatt/Att500_e.pdf The Antarctic Environments Portal Map shows the extent of the Antarctic Conservation Biogeographic Regions and is available from: https://environments.aq/map/ Current knowledge for reducing risks posed by terrestrial non-native species: towards an evidence-based approach (ATCM XXXIII - WP 06). http://www.ats.aq/documents/ATCM33/wp/ATCM33_wp006_e.doc A framework for analysing and managing non-native species risks in Antarctica (ATCM XXXII - IP 36). http://www.ats.aq/documents/ATCM32/ip/ATCM32_ip036_e.doc ATCM XXXIII - WP 14 (United Kingdom) 2010 - Intra-regional transfer of species in terrestrial Antarctica. http://www.ats.aq/documents/ATCM33/wp/ATCM33_wp014_e.doc

2	Preventing further distribution of existing non-native species to other Antarctica locations: • Provide guidance, and develop practical biosecurity measures, to reduce anthropogenic transfer of nonnative species within Antarctica. • Provide guidance on reducing natural transfer of nonnative species within Antarctica.	Colonisation status of known non-native species in the Antarctic terrestrial environment: a review. Attachment A: Biological invasions in terrestrial Antarctica: what is the current status and how can we respond? Attachment B: Supplementary information (ATCM XXXVIII – IP 46) http://www.ats.aq/documents/ATCM38/ip/ATCM38_IP046_e.doc http://www.ats.aq/documents/ATCM38/att/ATCM38_att090_e.pdf http://www.ats.aq/documents/ATCM38/att/ATCM38_att091_e.doc
3	Identifying potential non-native species that present a high risk to Antarctic environments: • Generate a list, with suitable descriptions, of potential non-native species based on the experience of the sub-Antarctic Islands (or other relevant environments) and the biological characteristics and adaptability of the "effective" colonisers.	Current knowledge for reducing risks posed by terrestrial non-native species: towards an evidence-based approach. Appendix 1 – Risk assessment protocol for springtails developed by Greenslade (2002: page 341) (ATCM XXXIII - WP 06) http://www.ats.aq/documents/ATCM33/wp/ATCM33_wp6_e.doc http://www.ats.aq/documents/ATCM33/att/ATCM33_att005_e.doc
4	Preventing non-native species introductions to the Antarctic marine environment: • Improve understanding of risks and pathways for introduction. • Undertake a risk assessment to identify marine habitats at risk of invasion. • Develop specific guidelines.	

5	Addressing non-native species (including microorganisms) risk associated with wastewater discharge, including disease risk to local wildlife (see later section on Diseases): • Improve understanding of risks and pathways for introduction. • Develop specific guidelines to reduce non-native species release with wastewater discharge.	New records of the presence of human associated microorganisms in the Antarctic marine environment (ATCM XXXV – WP 55) http://www.ats.aq/documents/ATCM35/wp/ATCM35_wp055_e.doc Discharge of sewage and grey water from vessels in Antarctic Treaty waters (ATCM XXXVI – IP 66) http://www.ats.aq/documents/ATCM36/ip/ATCM36_ip066_e.doc Assessment of environmental impacts arising from sewage discharge at Davis Station (ATCM XXXV – BP10) http://www.ats.aq/documents/ATCM35/bp/ATCM35_bp010_e.doc Reducing sewage pollution in the Antarctic marine environment using a sewage treatment plant (ATCM XXVIII – IP37) http://www.ats.aq/documents/ATCM28/ip/ATCM28_ip037_e.doc Wastewater treatment in Antarctica: challenges and process improvements (ATCM XXIX – IP60) http://www.ats.aq/documents/ATCM29/ip/ATCM29_ip060_e.doc
6	Limiting introductions or redistribution of microorganisms that might impact upon existing microbial communities in the Antarctic environment: • Improve understanding of risks and pathways for introductions. • Develop more specific guidelines for preventing introductions and/or redistribution of microorganisms	Human footprint in Antarctica and the long-term conservation of terrestrial microbial habitats (ATCM XXXVI - WP 39) http://www.ats.aq/documents/ATCM36/wp/ATCM36_wp039_e.doc SCAR's code of conduct for the exploration and research of subglacial aquatic environments (ATCM XXXIV- IP 33)

	in the Antarctic environment.	http://www.ats.aq/documents/ATCM34/ip/ATCM34_ip033_e.doc

	Monitoring	
7	Monitoring for non-native species in the Antarctic marine and terrestrial environments: • Develop generally applicable monitoring guidelines. More detailed or site-specific monitoring may be required for particular locations. • Implement marine and terrestrial monitoring following the development of a monitoring framework. • Identify who will undertake the monitoring and with what frequency. • A status report on established monitoring should be submitted regularly to the CEP.	Summary of environmental monitoring and reporting discussions (ATCM XXXI – IP 07) http://www.ats.aq/documents/ATCM31/ip/ATCM31_ip007_e.doc

8	Establishing which native species are present at Antarctic sites to assist with identifying scale and scope of current and future introductions (because it is not practical to conduct surveys everywhere, priority should be given to sites of high human activity (i.e. stations, most frequently visited scientific field sites and visitor sites), high value and/or high sensitivity): • Compile existing biodiversity data (including from terrestrial, aquatic and marine ecosystems). • Develop guidelines on undertaking baseline biodiversity surveys.	Final report on the research project 'The impact of human activities on soil organisms of the maritime Antarctic and the introduction of non-native species in Antarctica' (ATCM XXXVI – IP 55) http://www.ats.aq/documents/ATCM36/ip/ATCM36_ip055_e.doc http://www.umweltbundesamt.de/uba-info-medien/4416.html

	Response	
9	Responding rapidly to non-native species introductions: • Develop guidelines on rapid response, including information on practical eradication or containment/control of plants, invertebrates and other biological groups.	Eradication of a vascular plant species recently introduced to Whalers Bay, Deception Island (United Kingdom, Spain 2010) http://www.ats.aq/documents/ATCM33/ip/ATCM33_ip043_e.doc The successful eradication of *Poa pratensis* from Cierva Point, Danco Coast, Antarctic Peninsula (Argentina, Spain and the United Kingdom, 2015) http://www.ats.aq/documents/ATCM38/ip/ATCM38_ip029_e.doc Eradication of a non-native grass *Poa annua* L. from ASPA No 128 Western Shore of Admiralty Bay, King George Island, South Shetland Islands (Poland, 2015) http://www.ats.aq/documents/ATCM38/ip/ATCM38_ip078_e.doc
	Preventing, detecting and responding to diseases in Antarctic wildlife resulting from human activities	
10	Taking steps to reduce the risk of introducing plant and animal pathogens to Antarctica and their subsequent dispersal within	Report on the open-ended intersessional contact group on diseases of Antarctic wildlife. Report 2 – Practical measures to diminish risk (draft) (Australia, 2001) http://www.ats.aq/documents/ATCM24/wp/ATCM24_wp011_e.pdf

	the region by human activity: • Develop (or formally adopt existing) guidance for responding to disease events. • Introduce preventive measures to diminish risks of introduction of diseases to Antarctic wildlife, for example, specific guidance for handling field and station waste to minimise introduction of non-native species. • Develop specific cleaning requirements that may be needed if there is reason to think that people, clothing, equipment or vehicles have been in contact with diseased animals, disease causing agents or have been in an area of known disease risk.	Study to determine occurrence of non-native species introduced into Antarctica through natural pathways (Argentina, 2015) http://www.ats.aq/documents/ATCM38/wp/ATCM38_wp046_e.doc Health of Antarctic Wildlife: A challenge for science and policy (Kerry and Riddle, 2009). Although unusual animal mortality events may occur for a variety of reasons, disease may be a likely cause. Therefore the following resources may be relevant: Mass animal mortality event response plan (British Antarctic Survey). Available from BAS. https://www.bas.ac.uk/ Unusual mortality response plan (Australia), referred to in: http://www.ats.aq/documents/ATCM27/ip/ATCM27_ip071_e.doc Procedures for reporting a high mortality event (IAATO): Available from IAATO. http://iaato.org/
		http://www.ats.aq/documents/ATCM39/ip/ATCM39_ip119_e.doc

References and supporting information

Note: The Environments Portal (www.environments.aq) is a source of peer-reviewed Antarctic environmental information and includes topic summaries on non-native species (e.g. Newman et al., 2014; Hughes and Frenot, 2015).

ATCM XXII - IP 04 (Australia) 1998 - Introduction of diseases to Antarctic wildlife: Proposed workshop.

ATCM XXIII - WP 32 (Australia) 1999 - Report to ATCM XXIII on outcomes from the Workshop on diseases of Antarctic wildlife.

ATCM XXIV - WP 10 (Australia) 2001 - Report on the open-ended intersessional contact group on diseases of Antarctic wildlife: Report 1 - Review and risk assessment.

ATCM XXIV - WP 11 (Australia) 2001 - Report on the open-ended intersessional contact group on diseases of Antarctic wildlife: Report 2 - Practical measures to diminish risk (draft).

ATCM XXV - IP 62 (Australia) 2002 - Draft response plan in the event that unusual animal deaths are discovered.

ATCM XXVII - IP 71 (Australia) 2004 - Australia's Antarctic quarantine practices.

ATCM XXVIII - WP 28 (Australia) 2005 - Measures to address the unintentional introduction and spread of non-native biota and disease to the Antarctic Treaty Area.

ATCM XXVIII - IP37 (United Kingdom) 2005 - Reducing sewage pollution in the Antarctic marine environment using a sewage treatment plant.

ATCM XXVIII - IP 97 (IAATO) 2005 - Update on boot and clothing decontamination guidelines and the introduction and detection of diseases in Antarctic wildlife: IAATO's perspective.

ATCM XXIX - WP 05 Rev. 1 (United Kingdom) 2006 - Practical guidelines for ballast water exchange in the Antarctic Treaty Area.

ATCM XXIX - IP 44 (Australia) 2006 - Principles underpinning Australia's approach to Antarctic quarantine management.

ATCM XXIX - IP60 (United States) 2006 - Wastewater treatment in Antarctica: challenges and process improvements.

ATCM XXX - IP 49 (Australia, SCAR) 2007 - Aliens in Antarctica.

ATCM XXXI - WP 16 (Australia) - Antarctic alien species database.

ATCM XXXI - IP 07 (Australia) 2008 - Summary of environmental monitoring and reporting discussions.

ATCM XXXI - IP 17 (Australia, China, India, Romania, Russian Federation) 2008 - Measures to protect the Larsemann Hills, East Antarctica, from the introduction of non-native species.

ATCM XXXI - IP 98 (COMNAP) - Survey on existing procedures concerning introduction of non native species in Antarctica.

ATCM XXXII - WP 05 (Australia, France, New Zealand) 2009 - A work program for CEP action on non-native species.

ATCM XXXII - WP 23 (South Africa) 2009 - Propagule transport associated with logistic operations: a South African appraisal of a regional issue.

ATCM XXXII - WP 32 (United Kingdom) 2009 - Procedures for vehicle cleaning to prevent transfer of non-native species into and around Antarctica.

ATCM XXXII - WP 33 (United Kingdom) 2009 - Review of provisions relating to non-native species introductions in ASPA and ASMA management plans.

ATCM XXXII - IP 04 (SCAR) 2009 - SCAR's environmental code of conduct for terrestrial scientific field research in Antarctica.

ATCM XXXII - IP 12 (United Kingdom) 2009 - ASPA and ASMA management plans: review of provisions relating to non-native species introductions.

ATCM XXXII - SP 11 (ATS) 2009 - Topic summary of CEP discussions on non-native species (NNS) in Antarctica.

ATCM XXXIII - WP 04 (SCAR) 2010 - Preliminary results from the International Polar Year Programme: Aliens in Antarctica.

ATCM XXXIII - WP 06 (SCAR, Australia) 2010 - Current knowledge for reducing risks posed by terrestrial non-native species: towards an evidence-based approach.

ATCM XXXIII - WP 08 (United Kingdom) 2010 - Draft procedures for vehicle cleaning to prevent transfer of non-native species into and around Antarctica.

ATCM XXXIII - WP 09 (France) 2010 - Open-ended Intersessional Contact Group on "Non-native species" (NNS) - 2009-2010 report.

ATCM XXXIII - WP 14 (United Kingdom) 2010 - Intra-regional transfer of species in terrestrial Antarctica.

ATCM XXXIII - WP 15 (United Kingdom) 2010 - Guidance for visitors and environmental managers following the discovery of a suspected non-native species in the terrestrial and freshwater Antarctic environment.

ATCM XXXIII - IP 43 (United Kingdom, Spain) 2010 - Eradication of a vascular plant species recently introduced to Whaler's Bay, Deception Island.

ATCM XXXIII - IP 44 (United Kingdom) 2010 - Suggested framework and considerations for scientists attempting to determine the colonisation status of newly discovered terrestrial or freshwater species within the Antarctic Treaty Area.

ATCM XXXIV - WP 12 (COMNAP and SCAR) 2011 - Raising awareness of non-native species introductions: Workshop results and checklists for supply chain managers.

ATCM XXXIV - WP 34 (New Zealand) 2011 – Report of the Intersessional Contact Group on nonnative species 2010-2011.

ATCM XXXIV - WP 53 (SCAR) 2011 - Measures to reduce the risk of non-native species introductions to the Antarctic region associated with fresh foods.

ATCM XXXIV - IP 26 (Germany) 2011 - Progress report on the research project "The role of human activities in the introduction of non-native species into Antarctica and in the distribution of organisms within the Antarctic".

ATCM XXXIV - IP 32 (France) 2011 – Report on the IPY Oslo Science Conference session on nonnative species.

ATCM XXXIV IP 50 (United Kingdom and Uruguay) 2011 – Colonisation status of known nonnative species in the Antarctic terrestrial environment (update 2011).

ATCM XXXIV - IP 68 (Australia and SCAR) 2011 - Alien species database.

ATCM XXXV - WP 05 (SCAR) 2012 – Outcomes of the International Polar Year programme: Aliens in Antarctica.

ATCM XXXV - WP 06 (SCAR) 2012 – Reducing the risk of inadvertent non-native species introductions associated with fresh fruit and vegetable importation to Antarctica.

ATCM XXXV - WP 25 rev.1 (Australia and France) 2012 – Guidelines to minimise the risks of non-native species and disease associated with Antarctic hydroponics facilities.

ATCM XXXV - WP 55 (Chile) 2012 – New records of the presence of human associated microorganisms in the Antarctic marine environment.

ATCM XXXV - IP 13 (Spain, Argentina and the United Kingdom) 2012 – Colonisation status of the non-native grass *Poa pratensis* at Cierva Point, Danco Coast, Antarctic Peninsula.

ATCM XXXV - IP 29 (United Kingdom) 2012 – Colonisation status of known non-native species in the Antarctic terrestrial environment (update 2012).

ATCM XXXV - BP 01 (SCAR) 2012 – Continent-wide risk assessment for the establishment of nonindigenous species in Antarctica.

ATCM XXXV - BP 010 (Australia) 2012 – Assessment of environmental impacts arising from sewage discharge at Davis Station.

ATCM XXXVI - WP 19 (Germany) 2013 - Report on the research project “The impact of human activities on soil organisms of the maritime Antarctic and the introduction of non-native species in Antarctica”.

ATCM XXXVI - WP 39 (Belgium, SCAR, South Africa and the United Kingdom) 2013 - Human footprint in Antarctica and the long-term conservation of terrestrial microbial habitats.

ATCM XXXVI - IP 28 (United Kingdom) 2013 – Colonisation status of known non-native species in the Antarctic terrestrial environment (update 2013).

ATCM XXXVI - IP 35 (Argentina, Spain and the United Kingdom) 2013 - The non-native grass *Poa pratensis* at Cierva Point, Danco Coast, Antarctic Peninsula – on-going investigations and future eradication plans.

ATCM XXXVI - IP 55 (Germany) 2013 - Final report on the research project “The impact of human activities on soil organisms of the maritime Antarctic and the introduction of nonnative species in Antarctica”.

ATCM XXXVI - IP 66 (ASOC) 2013 - Discharge of sewage and grey water from vessels in Antarctic Treaty waters.

ATCM XXXVII - WP 04 (Germany) 2014 - Report on the informal discussion on tourism and the risk of introducing non-native organisms.

ATCM XXXVII - IP 23 (United Kingdom) 2014 - Colonisation status of known non-native species in the Antarctic terrestrial environment (update 2014).

ATCM XXXVII - IP 83 (Argentina) 2014 - Record of two species of non-native birds at 25 de Mayo Island, South Shetland Islands.

ATCM XXXVIII - WP 37 (Norway and the United Kingdom) 2015 – Report from ICG on climate change.

ATCM XXXVIII - WP 46 (Argentina) 2015 - Study to determine occurrence of non-native species introduced into Antarctica through natural pathways.

ATCM XXXVIII - IP 29 (Argentina, Spain and the United Kingdom) 2015 - The successful eradication of *Poa pratensis* from Cierva Point, Danco Coast, Antarctic Peninsula.

ATCM XXXVIII - IP 46 (United Kingdom, Chile and Spain) 2015 - Colonisation status of known non-native species in the Antarctic terrestrial environment: a review. Attachment A: Biological invasions in terrestrial Antarctica: what is the current status and how can we respond? Attachment B: Supplementary information.

ATCM XXXVIII - IP 78 (Poland) 2015 - Eradication of a non-native grass *Poa annua* L. from ASPA No. 128 Western Shore of Admiralty Bay, King George Island, South Shetland Islands.

ATCM XXXVIII - IP 93 (SCAR) Monitoring biological invasion across the broader Antarctic: a baseline and indicator framework.

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Resolution 6 (2014) - ATCM XXXVII - CEP XVII, Brasilia

Adopted 07/05/2014

TOWARD A RISK-BASED ASSESSMENT OF TOURISM AND NON-GOVERNMENTAL ACTIVITIES

The Representatives,

Understanding the need for Antarctic Treaty Parties to consider safety and environmental impacts from tourism and non-governmental activities;

Desiring to promote safety of tourism and non-governmental activities;

Desiring also that all tourism and non-governmental activities, no matter the specific platform or nature of the activity, be adequately planned and executed in order to promote environmental protection and to avoid risks to safety of life and potential negative effects on Parties' national Antarctic programs;

Recalling Measure 4 (2004) and Resolution 4 (2004);

Desiring to ensure that all such activities are assessed in a consistent and thorough way to address the above concerns;

Recommend that their Governments:
consistent with their national legislation and as appropriate for tourism and non-governmental activities in Antarctica:
1. encourage operators to utilise a risk-based assessment process as a planning tool; and

2. take into account a risk-based assessment developed by operators as part of the authorisation or comparable regulatory process.

Resolution 7 (2012) - ATCM XXXV - CEP XV, Hobart

Adopted 20/06/2012

VESSEL SAFETY IN THE ANTARCTIC TREATY AREA

The Representatives,

Recalling the Protocol on Environmental Protection to the Antarctic Treaty and Resolution 1 (2004), which strongly supported "the progress achieved by CCAMLR Resolution 20/XXII urging its Members, which are harvesting in high Antarctic latitudes, to license only those fishing vessels with at least an ice classification standard of ICE-1C";

Convinced of the continuing need for comprehensive protection of the Antarctic environment and dependent and associated ecosystems;

Registering concern about the continued occurrence of incidents involving stricken fishing vessels licensed by Members of the Commission for the Conservation of Antarctic Marine Living Resources ("CCAMLR") in the Antarctic region;

Noting the role of the International Maritime Organization ("IMO") with regard to vessel safety internationally;

Further recalling actions taken by CCAMLR to support the IMO in relation to the activities of fishing vessels operating in the Southern Ocean;

Reaffirming the role of the Antarctic Treaty Consultative Meeting to promote the protection of the Antarctic environment in the Antarctic Treaty area;

Recommend that their Governments:

1. continue to work on the International Maritime Organization mandatory code for ships operating in Polar waters and participate in the forthcoming negotiations on the Agreement on the Torremolinos Protocol ;

2. consider appropriate measures to enhance the safety standards of fishing vessels that are flagged to Parties and that operate in the Antarctic Treaty area;

3. report annually to the Committee for Environmental Protection on responses to environmental emergencies involving vessels that are flagged to Parties and that operate in the Antarctic Treaty area in accordance with Article 17 of the Protocol on Environmental Protection to the Antarctic Treaty;

4. remind the operators of their flagged fishing vessels of the IMO Global Search and Rescue Plan and, specifically, to urge Members of the Commission for the Conservation of Antarctic Marine Living Resources to provide or encourage fishing vessels under their flag to make available their contact details and other relevant information to the responsible Maritime Rescue Coordination Centre in advance of entering the Antarctic Treaty area in line with

CCAMLR Resolution 33/XXX; and
5. encourage CCAMLR Members to implement CCAMLR Resolution 20/XXII, which calls on Members to license only those fishing vessels with a minimum ice classification standard ICE-1C to operate within the Antarctic Treaty area.

Resolution 9 (2012) - ATCM XXXV - CEP XV, Hobart

Adopted 20/06/2012

THE ASSESSMENT OF LAND-BASED EXPEDITIONARY ACTIVITIES

The Representatives,

Concerned that poorly planned and executed land-based activities, particularly those undertaken in remote areas of Antarctica, have the potential to present risks to safety of life;

Concerned also to ensure that activities in remote and less well-studied areas of Antarctica do not have any adverse impacts on unique environmental attributes;

Recalling the Environmental Principles contained in Article 3 of the Protocol on Environmental Protection to the Antarctic Treaty;

Recalling also Resolution 3 (2004), Resolution 4 (2004), Resolution 5 (2007) and Resolution 7 (2009);

Noting the increasing interest in land-based expeditionary activities, particularly as a result of the recent centenaries of Amundsen and Scott's expeditions to the South Pole of 1911/12;

Desiring to ensure that all such activities are assessed in a consistent and thorough way, in respect of their environmental, safety and operational procedures;

Recommend that:
the Parties, consistent with their national law and as they consider appropriate, utilise the attached Questions to consider as part of the authorisation or comparable regulatory process for non-Governmental land-based activities in Antarctica when assessing proposed land-based expeditionary activities to be undertaken in Antarctica.

Questions to consider as part of the authorisation process for non-Governmental land-based activities in Antarctica

In undertaking domestic procedures to assess potential non-Governmental land-based activities in Antarctica, Competent Authorities may find it helpful to consider the following list of questions. The overall aim of the list is to underpin the consideration of land-based activities to ensure full compliance with the Protocol on Environmental Protection and other relevant ATCM instruments, including Measure 4(2004), Resolution 4(2004), Resolution 7(2009) and Resolution 3(2011), as appropriate.

The list of questions is neither exhaustive nor prescriptive and is intended for guidance purposes only. Not all of the questions will be relevant to every land-based activity, and the requirements of those operating regularly in Antarctica will clearly be different to those conducting one-off activities. Each Party's Competent Authority will determine how it wishes to utilise this list of questions to consider in each case.

General Environmental Issues

Overarching issues, likely relevant to all land-based activities:

- Are the proposed activities, in terms of scale (eg, number of participants, duration and extent of operational area) and type (ie, what is specifically planned), consistent with the Environmental Principles set out in Article 3 of the Environmental Protocol?

- Has the Environmental Impact Assessment (EIA) been developed in accordance with the Guidelines appended to Resolution 4(2005) and does it cover all of the activities to be undertaken whilst in Antarctica, including those of any other operator contracted to, or working with, the organisers of the activities, where these other operators are not already authorised by another Treaty Party? Does the EIA include any alternative activities that may be offered because of weather restrictions etc? In all cases, have the environmental risks been identified and appropriate mitigation measures planned?

- Does the Environmental Impact Assessment specify clearly defined geographic boundaries within which all of the proposed activities will take place, taking into account contingency plans and potential alternative operating areas (including the location of any field camps, storage facilities or depots, or the route of any traverses)? Are the organisers (or the Competent Authority) aware of what other activities might also be planned to take place simultaneously in this area, and how will any potential cumulative effects be assessed and

considered? Are activities known to have previously taken place in the area or is it, as far as known, a pristine area? Is the proposed activity a one-off event or is it likely to be repeated in the foreseeable future in the same location?

- Can the organisers of the proposed activities demonstrate a good understanding of the environmental conditions of the full area of proposed operation, for example, through prior experience, or through seeking the advice of relevant experts? Are there any Antarctic Specially Protected Areas (ASPAs), Antarctic Specially Managed Areas (ASMAs) and Historic Sites and Monuments (HSMs) in proximity to their intended activities?

- Have the proposed activities been planned in accordance with Guidance for those organising and conducting tourism and non-Governmental activities in the Antarctic (Recommendation XVIII-1(1994))? Are plans in place to ensure that those planning to undertake the activities in Antarctica are fully aware of the General Guidelines for Visitors to the Antarctic (Resolution 3(2011)); and Non-native Species Manual (Resolution 2(2011)?

- Are the proposed management practices for waste and sewage appropriate for the scale and location of the proposed activities; particularly plans for discarding waste from travelling activities (paying particular attention to the likelihood of temporary camps being dismantled quickly)?

- Do contingency plans include provision for the removal of all equipment in the case of accident or damage to equipment, or in the event of an emergency evacuation?

- Have appropriate measures been identified to avoid introductions of non-native species, both by the members of the expeditions, and by their logistical support operator, if different?

Specific issues, to be considered as relevant:

- Are detailed fuel handling, storage procedures, and spill avoidance measures in place, including any specific procedures where fuel is to be transported long distances, or where vehicles and aircraft are to be refuelled on the ice? (The COMNAP Fuel Manual 2008 may be useful in assessing such measures);

- If vehicle use is proposed, what measures have been taken to demonstrate its appropriateness for the proposed area of operation? Are vehicles proposed to be used in

any areas not covered by snow or ice, and if so, what is the potential risk of more than minor or transitory impacts (eg, visible tracks remaining after the activity is completed)?

Contingency Plans (including Search and Rescue and Medical Evacuation)

Overarching issues, likely relevant to all land-based activities:

- Have the proposed activities been planned in accordance with Measure 4(2004) and/or paragraph 1 of Resolution 4(2004), such as to ensure that appropriate contingency plans and appropriate arrangements for health and safety, search and rescue, and medical care and evacuation are in place? Do these contingency plans cover, in particular, weather-related implications, medical emergencies, and equipment failures?

- Can the organisers demonstrate adequate insurance or other arrangements to cover the costs associated with search and rescue and medical care and evacuation, in line with Measure 4(2004) and paragraph 2 of Resolution 4(2004)? Do all insurance policies make specific reference to Antarctica and the types of activities for which the policy/arrangements cover – for both the organisers, and all participants?

- Have the organisers developed a sufficiently detailed risk assessment for the activities proposed, in terms of search and rescue and evacuation (ie, identification of possible scenarios requiring search and rescue and/or evacuation, and clear plans as to how this would be enacted under each scenario)?

- Has radio linkage between each component of the activity (vehicles, groups, medical and/or logistical staff etc), with base camp and with organisers outside Antarctica been prepared and successfully tested?

Specific issues, to be considered as relevant: Questions to consider for non-Governmental land-based activities in Antarctica

- Where activities are planned to take place away from a base camp, are clear agreed protocols in place for regular (eg, at least once per day) reporting to base camp or to a designated contact elsewhere (including whether all necessary communication and location equipment and back-ups will be provided for prior at the beginning of the activities)? Is there a maximum proximity between base camp and the activities to be supported, and is this appropriate? Will search and rescue operations be automatically commenced if no communication is received after an agreed period of time? For travelling

activities, will a continuous record of the last known (and regular) location of participants be kept?

Health and Safety of those undertaking the activities

- Do the organisers, or appointed leaders of the activities in Antarctica if different, have previous experience of operating in Antarctica (or other similar environments, combined with a clear understanding of the different conditions and requirements of Antarctica)? What safety equipment will they have available and is this appropriate for the type and scale of the proposed operation?

- Have the organisers identified the potential health and safety risks arising from their activities in Antarctica, and, if appropriate, will all potential participants be medically assessed for their physical aptitude to carry out the planned activities?

- Have standard operating procedures been developed for accidents and emergencies, health and safety and the provision of medical/first aid? What medical equipment will they have available?

- As appropriate: what will the ratio be of medically and specialist polar trained staff/instructors to novice, or less experienced participants – is this appropriate and does it provide for continuous cover throughout the duration of the proposed activity?; or for remote activities, what will the arrangements be for ensuring timely access to medical assistance?

Specific issues, to be considered as relevant:

- Can the organisers of any potential activities to be undertaken in Antarctica without the supervision or support of an experienced operator demonstrate full compliance with paragraphs 3-7 of the Guidelines appended as Annex 1 to Resolution 4(2004)?

- For supervised/supported group activities which will involve participants engaging in endurance or highly physical activities (assessed relative to the abilities of the participants), what specific prior training and preparation will be undertaken, and will this be for <u>all</u> participants (for example, in line with paragraphs 3, 5 and 6 of Annex I of Resolution 4(2004), even where there are also on-site guides present?

- For supervised/supported group activities which will involve participants engaging in endurance or highly physical activities (assessed relative to the abilities of the

participants), what arrangements will be in place for regular monitoring of the well-being of participants (eg, for races, this might be at a series of checkpoints)? Are formal procedures in place for the withdrawal or removal of participants on medical grounds?

- For travelling activities, is there a general agreed pre-planned (fixed) route (with contingencies), and if so, has there been reconnaissance and mapping of these routes (with particular emphasis on the location of crevasses and other natural hazards)? Are the organisers aware of recent meteorological data across the proposed routes?

- Where vehicles (including all wheeled, tracked or skied machinery, both powered or unpowered, eg, cars, snow mobiles, quad bikes, 'tractor trains') are to be used, what modifications have been made for Antarctic conditions, for example, will they be fitted with ground radar and other navigational equipment, and are the vehicle operators appropriately trained in the use of such equipment? Is the number of vehicles sufficient to support the proposed activities and what appropriate spare parts will be carried?

- Has the loss of one or more vehicles been taken into account and would such an event endanger lives?

Liaison with other Competent Authorities and Treaty Parties

- In line with Resolution 3(2004), what contact has been made with other national authorities that may have an interest in the activities (eg, sub-contractors, participants etc)?

- Will the proposed activities be taking place in proximity to known scientific research locations, or scientific stations? What contact has been made with relevant National Antarctic Programmes?

Education and Outreach

- How will the activities focus on the enrichment and education of visitors, before and during the period in Antarctica, in line with Resolution 7(2009)?

- Have the organisers fully considered whether, and how, the activities will generate a wider interest in the protection of Antarctica, for example, through education and outreach, etc?

Resolution 10 (2012) - ATCM XXXV - CEP XV, Hobart

Adopted 20/06/2012

YACHTING GUIDELINES

The Representatives,

Recalling Resolution 1 (2003) regarding the provision of advice to yacht and vessel operators about the Protocol on Environmental Protection to the Antarctic Treaty;

Recalling the work of the Antarctic Treaty Meeting of Experts on Management of Ship-borne tourism (Wellington, 2009);

Concerned about the safety of vessels in the Southern Ocean and the possible risk of accidents involving these vessels and the resulting harm to both persons and the environment;

Desiring to bring forward safety issues for yacht operators and private sailors, to promote good practices and to further protect the environment;

Recommend that:

1. consistent with their national law and as they consider appropriate, the Parties utilise the attached Checklist of yacht specific items for preparing safe Antarctic voyages when assessing proposed yacht visits to Antarctica;

2. the Antarctic Treaty Secretariat (the Secretariat) place Yachting Guidelines for Antarctic Cruises, as discussed by the Antarctic Treaty Consultative Meeting, on its website;

3. the Parties provide details to the Secretariat, to enable it to maintain on its website in conjunction with the Yachting Guidelines for Antarctic Cruises:
a) contact details of national competent authorities; and
b) details of relevant Maritime Rescue Co-ordination Centres;
and

4. the Parties urge all those intending to undertake a yacht visit to Antarctica to take into account in planning their voyage the Checklist of yacht specific items for preparing safe Antarctic voyages and, as appropriate, the Yachting Guidelines for Antarctic Cruises.

Checklist of yacht specific items for preparing safe Antarctic voyages

Preamble:

Antarctica is one of the most remote and demanding cruising areas in the world's oceans. Weather conditions can be extreme, ice can pose a danger at any time and limited external assistance is available should things go wrong. Any yacht expedition heading south of 60°S needs enhanced planning and preparations and should be crewed by experienced yachtsmen.

The intention of the checklist is to support those planning yacht operations, and to provide guidance as to appropriate standards for Antarctic yacht operation. The safety of a yacht and her crew is the sole and inescapable responsibility of the person in charge who must do his best to ensure that the yacht is fully equipped, thoroughly seaworthy and manned by an experienced crew who have undergone appropriate training and are physically fit to face bad weather and the general conditions of sailing in the Antarctic which can be subject to rapid change.

Yachts heading towards Antarctica must be completely self-sufficient for very extended periods of time, capable of withstanding heavy storms and prepared to meet serious emergencies without the expectation of outside assistance. The materials used in the relevant areas of the vessel structure should provide adequate toughness and ductility to minimize the risk of structure failure due to impact or crushing, brittle failure and other causes. Yachts should be prepared for being "knocked down" and also for encountering extreme weather and sea conditions.

These checklist items for use by stakeholders do not replace, but rather supplement, the requirements of governmental authority, flag states or international regulations. All yachts are to comply with all relevant IMO regulations under SOLAS and MARPOL and with all relevant provisions under the Environmental Protocol and ATCM Resolutions and also appropriate national requirements.

Personal preparation:

- Ensure good knowledge and understanding of the appropriate environmental protocols and regulations in the Antarctic Treaty System
- Consideration should be given to visiting Antarctic waters during Austral summer months and preferably areas with low ice concentration to avoid hazards. Only experienced and highly prepared crews should consider voyages outside the Austral summer or to an area outside the more commonly visited areas.
- Review appropriate web sites (of national governments, IAATO, IMO, Antarctic Treaty System recommended sites) and other sources of information about the Antarctic, e.g. specialized technical publications
- Risk assessments for all planned activities should be provided beforehand
- Finding anchoring/mooring sites that offer shelter from wind, waves/tides, and moving ice can be a challenge. Consult appropriate publications and Antarctic sailing experts to identify suitable locations within the area in which you intend to cruise

- Experience, training and knowledge are the basis for pre-expedition decisions: o Involve experienced yachtsmen particularly of sailing in high latitudes
    - Ensure absolute self sufficiency for at least two weeks in excess of planned trip duration when operating south of 60 degrees: This includes comprehensive spares, tools and, most importantly, the ability to fit/use them. Carry a reserve of enough food, drinking water and fuel. o Consideration needs to be given to the fact that Antarctica is a large area remote from search and rescue services and that responders may take days or weeks to find the location
    - Don't rely only on maps and charts-based GPS positioning o Detailed study of the nautical charts of the area considered to be sailed o Update information on rescue coordination centre responsibilities and contact those early o First aid equipment training for crew members verified by necessary certifications
    - All crew and passengers should be comprehensively briefed on vessel operations, safety procedures, environmental considerations and bio-security
    - Specific training for crew members in ship and sailing techniques relevant for high latitude operations (e.g. ISAF Sea Survival Course). Particularly courses including "Navigation in icy waters" and "Sailing with severe weather conditions" would be an advantage as well as personal experience
- Reports/ Information:
    - Appropriate procedures based on domestic legislations, including reporting to competent authorities, must be taken prior to the departure towards Antarctica
    - Provide to your authorizing government agency the details they require for advance notification of your activity (dates and places of the planned expedition) to include that information in EIES
    - Inform the appropriate MRCC of your intended voyage route, vessel details, equipment carried, and personnel on board; provide, if possible, the vessel's position at 08:00 and 20:00 hours to a MRCC or, alternatively, to a ship located nearby that can relay this information to MRCC o Post visit report to permitting authorities afterwards
    - Weather and ice observations are encouraged to be reported regularly to the Voluntary Observation Program

Technical preparation:

- Vessel structure and general equipment:
    - All hull types should be strong. For yachts regularly visiting Antarctica, well-built and sturdy metal hulls should be favored. Remember that the hull should be accessible from inside for damage control purposes.
    - The vessel should be stable and able to withstand extreme weather conditions and large seas. Consider the vessel's watertight integrity. Small vessels may have great difficulty in these conditions and could expect to be rolled over.
    - All items onboard should be prepared for withstanding extraordinary conditions; keep them well protected not to cause damage by flying loosely around.

- Comprehensive tool kit and spare parts inventory
- Decks should be fitted with safety harness jackstays and attachment points
- Robust mast & rigging on sailing vessels
- Heavy weather sails for sailing yachts (storm sails, including a tri-sail and storm jib)
- Bolt cutters or other appropriate equipment (e.g. hydraulic cutters) should be carried on sailboats in order to free a broken rig.

- Antarctic specification:
  - Spotlight for ice identification at night
  - Radar
  - Multiple shore landing craft if possible o Means to combat icing of the vessel and rig necessary in case of freezing weather conditions o Cold weather treatment for fuel
  - Storm boards (storm shutters or blanking plates) with the ability to replace, cover or repair any hatch or opening
- Anchoring and mooring:
  - Multiple sets of anchoring equipment and cables should be carried, suitable for the size of vessel, the type of seabed and the depth of water likely to be encountered. Possibly consider having heavier anchor(s) and chains than it is required as standard for the size of the vessel.
  - Shorelines and associated equipment/ good ground tackle are recommended where their use is possible.
- Communication equipment (installed on the vessel and portable for carriage onto a lifeboat or liferaft):
  - Long-range communications systems: satellite (Iridium, Inmarsat) and/or HF/SSB radio o VHF marine radio to talk to other vessels and aircraft in the event of a rescue, including portable set(s) for use off the vessel
  - Suitable means to receive weather and ice information
  - Preferably two 406 EPIRB (Emergency Position Indicating Radio Beacon)
- Rescue equipment:
  - Comprehensive first aid equipment such as a Category A kit o Ocean-going man-overboard marking and retrieval equipment (e.g. throwable horseshoe buoys) o Ocean-going grade life rafts (SOLAS rafts with a SOLAS A pack), lifejackets (cp. ISO12042 part 2 275N) and survival suits and safety harnesses for at least 100% capacity; Immersion or survival suits should be carried for all onboard which are compatible with the lifejackets.
  - Search and rescue transponder (SART) or GPS EPIRB to ensure that in the event of an incident, efforts can be focused upon rescue rather than search
  - Automatic Identification System (AIS) is recommended for collision avoidance as well as detection by search aircraft or ships

- Personal Locator Beacon (PLB) or related devices, such as a Man Overboard Beacon on larger vessels, may be helpful to ease rescue operations in relation to a single person
- Fire extinguisher and blanket o Flares and other pyrotechnics o Collision mat or similar material to be hauled over a damaged part of the hull o Portable spotlight o Tapered plugs o A sturdy boarding ladder or platform is highly recommended

- Other necessary equipment:
  - availability of an appropriate, relevant and up-to-date nautical chart set covering the area planned to be sailed
  - navigation system with redundancy
  - Other critical boat systems (i.e. steering, autopilot) should be robust and where possible with backup system (i.e. with redundancy)

Yachting guidelines for Antarctic cruises[21]

Introduction

For yacht owners the Antarctic presents a unique, remote and challenging destination. A typical season may well see 20 to 30 yachts visiting the Antarctic Peninsula. Of these many are commercial charter operations, but a significant number of private yacht owners undertake expeditions each year. Any yacht expedition heading south of 60°S will need to be well planned, prepared and crewed by experienced yachtsmen. All intended activities are to be assessed for potential environmental impacts.

The Antarctic is unique because its administration does not fall to any one country and in that it is protected as a natural reserve dedicated to peace and science. It is regulated via the Antarctic Treaty (AT), the Environmental Protocol and regulations which have been agreed between the Treaty Parties and enacted into their domestic law. Strict penalties may apply to any vessel or any person on an expedition proceeding south of 60°S without authorization or a permit.

Treaty Parties have become increasingly concerned about yachting activity in Antarctica following reports of safety, environmental incidents, and damage to historic sites. The guidelines have been produced to aid planning private Antarctic expeditions on yachts or other non-regulated crafts and review the considerations they should take. In Annex A, the "Checklist for Antarctic yachting" gives a comprehensive summary of the preparatory items to reassess. The documents focus primarily on the most popular and accessible cruising ground of the Antarctic Peninsula. These guidelines do not replace, but rather supplement, the requirements of national authorities, flag states and international regulations.

Additional considerations apply to yacht visits to other parts of Antarctica, which are significantly more distant from ports and from outside assistance, are less frequented, and generally experience more severe conditions. Yacht visits to other Antarctic regions may thus require additional arrangements, more detailed contingency planning and close consultation with competent authorities.

Regulatory framework and permits

Each country Party to the Antarctic Treaty is responsible for the regulation of visits to the Antarctic Treaty area organized by its nationals, but the Environmental Protocol requires that an environmental impact assessment be prepared for all activities planned to take place south of 60°S. Please contact your competent authority to get informed on your particular case and apply for the authorization. You may find specific contact details in Annex B.

It is a condition of any authorisation that a Post Visit Report is submitted within 90 days of the expiry date of the permit. A standard format for the report as a document is available from either the national authority's homepage or the website of the International Association of Antarctic Tour Operators (IAATO).

Particular conditions in the Antarctic cruising area

Antarctic weather is notoriously challenging and changeable. You will need to be well prepared to deal with the conditions and be familiar with the dominant weather systems. A good

[21] Adopted by Resolution 10 (2012). Latest revision: September 2019.

understanding of the region's weather systems, access to sufficient weather data and careful planning are required to mitigate the inherent risks of yachting expeditions to Antarctica.

The majority of yacht visits are heading for the South Shetland Islands and the Antarctic Peninsula which stretches towards the tip of South America. This region provides the shortest sea route to the continent. It is comparatively better charted than the rest of Antarctica and can regularly have more favourable ice conditions than other areas.

The Antarctic season

Antarctica is only accessible to most vessels during the Austral summer. Typically, yachting expeditions to the Antarctic Peninsula take place from November to March.

Weather

The weather patterns in the Antarctic Peninsula region are primarily dominated by the succession of depressions passing continually through the Drake Passage from west to east and the high pressure area over the Antarctic land mass. There are significant variations in the typical weather. In this turbulent area, forecasts change quickly and conditions often exceed those forecast. It is common for very complex low pressure systems to develop in the passage. Wind speeds encountered within these low pressure systems regularly exceed 50 knots and very large seas can develop.

The South Shetland Islands lie very much in the path of the depressions described above. The weather found here is therefore typically wet, windy and generally not very pleasant. The weather on the Antarctic Peninsula is governed by the dominance of the Antarctic High Pressure system and the effect of the depressions passing through the Drake Passage. It is possible that when the high pressure becomes stable and dominant, the depressions are forced far enough north to give pleasant settled weather on the peninsula for days at a time.

Temperatures on the Antarctic Peninsula during the summer months can be expected to be between 5° and 10° C during the day, falling to around -5° C to zero at night. Wind chill can be a significant factor and at times makes the conditions on the peninsula inhospitable.

Ice

The skipper should be aware of the ice conditions using up-to-date ice information, especially at the beginning and the end of the summer season. Ice in these waters originates from two sources: either from calving glaciers and ice shelves or frozen sea-ice. These types of ice differ greatly in their appearance and the dangers they pose to a vessel. The primary danger from ice occurs when it is unseen due to darkness, poor sea-state, fog or poor watch-keeping.

Most of the ice encountered is likely to be glacial and seen as ice bergs, bergy bits, growlers and brash ice (see below). Icebergs can be liable to split or turnover without warning and without any identifiable reason. In doing so, they can cause a large wave capable of swamping a small vessel. Similarly tide water glaciers collapse frequently, especially on warm sunny or wet days, again causing large waves.

Over time, as an iceberg breaks up, it disintegrates forming progressively smaller lumps. Pieces of ice that rise less than a meter out of the sea are known as growlers, whereas larger pieces (up to 4 meters high) are called bergy bits. As a hazard to navigation, these smaller pieces of ice are the primary concern rather than icebergs. They are often difficult to detect with the naked eye and in certain conditions, they can be small enough to remain undetected by radar

and large enough to cause damage. A good radar system, the ability to use it proficiently and a suitable ice light are all essential equipment in these waters.

The clearing of sea-ice on the Antarctic Peninsula during the summer varies greatly from year to year. Some useful bays and anchorages can be the last places to clear, as the process is dependent on local conditions of wind, sea state and current. As a general rule, the ice clears at the northern end of the peninsula first. Constricted sections of water further south sometimes do not clear even towards the end of the season and are often choked with a combination of sea ice floes and bergs.

A vessel can often also be threatened by ice while at anchor, with large pieces of ice moving remarkably quickly due to the wind or currents. In addition to the vessel being struck by encroaching ice it is also possible that larger bergs could block the vessel's exit from an anchorage or could position themselves above an anchor, preventing its retrieval.

The effect of freezing spray can also present a hazard to vessels. Build-up of ice can cause damage to masts and rigging or can cause a loss of vessel stability.

Vessel selection, equipment and operational planning

The craft should be of suitable construction for the intended voyage and possess adequate buoyancy.

Vessel construction and equipment

A wide variety of yachts, both sailing and motor, have visited Antarctica and there are no fixed criteria that ensure a vessel is 'Antarctica' capable. However, the selection and preparation of a reliable well found yacht is fundamental to a safe Antarctic expedition. The first requirement is to be able to reach the continent and return safely through the large seas of the Drake Passage. Most of the commercial yachts regularly operating in these waters have been knocked down, and several have been rolled through 360 degrees. Self-righting of the vessel should be achievable whether or not the rig is intact. Any skipper should be mindful of this when preparing a vessel for the area.

Experienced yachtsmen, who make frequent expeditions to the Antarctic, favour vessels with metal hulls, either steel or aluminium. The inherent strength of the material and its ability to deform on impact, whilst maintaining hull integrity, are prime considerations when operating in these imperfectly charted and ice ridden waters.

Good ground tackle is essential. Suitable equipment is usually significantly heavier than that specified for normal cruising grounds in order to deal with the high winds that can be encountered in any anchorage and the typically poor holding afforded by the rocky nature of the sea bed. In addition it is often necessary to run long warps to the shore in order to back up the anchor.

Sufficient heating will be required to reduce the potential for medical difficulties related to the cold and damp.

Above all an expedition must ensure their absolute self sufficiency when operating south of 60° S. There is no guarantee of assistance or back up of any kind that can be relied upon to arrive within several days (depending upon location and time of season). For essential systems or critical elements of such systems, strong consideration should be given to installing backup arrangements such that a failure can be rapidly replaced. A very comprehensive spares selection and the necessary tools should be carried along with the knowledge and experience

to resolve any serious problem that might arise. Please follow the “Checklist for Antarctic Yachting” in Annex A for a more detailed listing.

Charting

Surveying and charting of Antarctica is by no means comprehensive and some of the formal charting of less visited areas dates back many years. Generally, the degree of charting is proportional to the volume of traffic visiting an area, although it is still possible that a vessel may encounter uncharted rocks in any area.

Electronic charting and GPS cannot be relied upon to fix a vessel’s position in this region as much of the charting in the region derives its information from old surveys. GPS equipment often highlights the inaccuracies in these charts when the GPS derived position is plotted and appears to be significantly in error.

Foresighted supply

It is very clear that no supplies of any kind exist in the Antarctic region, neither commercially nor from other operators. Once leaving ports in any South Atlantic region no fuel, water or any other supplies are available.

Sailing yachts should expect to make significant use of their engines. Particularly once on the continent, the wind is often too strong, too light or in the wrong direction to make sailing effective. In addition, the manoeuvrability afforded to a vessel under motor is often advantageous when moving in ice laden waters. Depending on the fuel tank locations, the viscosity of fuel may well be affected by the cold water temperatures and consideration should be given to adding cold weather treatments or purchasing treated fuel.

Whilst in some locations water can be collected from melting ice, those expecting to use water makers should be aware that their performance will be significantly reduced by the colder sea water temperatures.

Emergency equipment and training

Approved types of life rafts are required in emergencies as well as sufficient life jackets for all crew members and passengers. If possible include immersion survival suits in your journey equipment. At least two cold water diving suits are useful to enable basic repairs underwater.

Radio communications should be adequate for the specific region, e.g. two types of alerting systems: longrange communications and a satellite EPIRB properly registered. An appropriate number of fire extinguishers, suitable for the yacht size, but at least two, should be readily accessible in suitable and different parts of the yacht. Fire extinguishers should be capable of operation in freezing conditions.

Each yacht should be equipped with a man overboard alarm including an emergency button immediately accessible to a helmsman which will sound an audible alarm in the accommodation and simultaneously send an appropriate signal to the ship’s navigational software.

All crew members should have satisfactorily completed appropriate training for the intended voyage, survival courses and first aid courses. At least one member of the crew should have basic safety and equipment operations training similar to that expected of the professional seafarer. Such courses may be developed by (based on the International Convention on Standards of Training, Certification and

Watchkeeping for Seafarers) or are available through national programs or associations (cp. Annex A).

Search and Rescue

The maritime search and rescue coordination arrangements south of 60°South are provided by the appropriate Maritime Rescue Co-ordination Centres but only very limited assets are maintained within the area around the Peninsula. There is no rescue service. Other vessels operating in the area have usually been the first to come to the assistance of those in trouble in past emergencies. In particular the International Association of Antarctic Tour Operators (IAATO) operates an Emergency Contingency Plan providing mutual support for its member vessels. Some member companies within IAATO are specialized in assisting private yachts and can provide a range of support and advice.

An expedition will be required to demonstrate that they have adequate search and rescue, medical and evacuation insurance in place for all persons on board and appropriate contingency plans.

Careful itinerary planning

The person in charge should prepare a voyage plan and leave that plan with a responsible person ashore together with details of the vessel. In addition, the voyage plan may be submitted to the Maritime

Administration of the port of departure. Please consider the General Guidelines for Visitors (Resolution 3 (2011): https://documents.ats.aq/recatt/Att483_e.pdf) [22]

Special Areas and Historic Sites and Monuments

There are a number of areas in Antarctica which are protected due to their outstanding environmental, scientific, historic, aesthetic or wilderness values, or ongoing/planned scientific research. These have been designated Antarctic Specially Protected Areas (ASPAs), and you need to know where ASPAs are located to ensure that you do not enter one inadvertently.

A number of further areas have been designated Antarctic Specially Managed Areas (ASMAs). The purpose of ASMAs is to assist in the planning and coordination of activities within the specified area, avoid possible conflicts and minimize environmental impacts. ASMAs may include areas where activities pose risks of mutual interference or cumulative environmental impacts, as well as sites or monuments of recognized historical value. Individual Management Plans are prepared for each ASMA. Entry into an ASMA does not require a permit, but activities have to be in line with the regulations of the Code of Conduct set out in the Management Plan. Please note that within an ASMA there are likely to be smaller ASPAs which may not be entered.

Finally, a number of sites or monuments are of recognized historic value and listed as a Historic Site or Monument (HSM). Listed Historic Sites and Monuments are not to be damaged, removed or destroyed. Respect no entry-statements due to danger of collapse and don't change any item within the HSM.

[22] *Note from the editor: Resolution 3 (2011) is no longer current. It has been replaced by Resolution 4 (2021). The link has been updated and directs you to the latest resolution.*

Details of current APSAs, ASMAs and HSMs can be found on the Antarctic Treaty Secretariat website, along with much other useful information, at https://www.ats.aq/e/protected.html and a full list of protected areas at https://www.ats.aq/devph/en/apa-database

Research Station visits

All station visits require advance approval. It should be remembered that the primary purpose of all stations is scientific research and any visits permitted are purely on a goodwill basis. For UK British Antarctic Survey bases (Signy, Rothera) and the US Palmer Station this should be obtained from the parent organization well in advance of the expedition. Unannounced visits will be refused.

Some of the other bases (e.g. Vernadsky Research Base (UKR)) may be willing to accommodate a visit at shorter notice if contacted once in Antarctica (typically 72 hours notice is requested).

In addition, the former British 'Base A' at Port Lockroy has been preserved on Goudier Island as a 'living museum'. During the summer months the base is manned and frequently visited by vessels. Visits for passing yachts are normally possible if the base is contacted in advance.

Responsible planning and Coordination

Private sector travel to Antarctica has benefited from mutual support and coordination for over twenty years. Potential expeditions should first and foremost adhere to requirements emerging from the ATCM, and consider seeking additional advice on IAATO guidelines. Recognizing the potential environmental impacts that growing numbers of tourism could cause, regular tour operators to the area formed a member organization. The International Association of Antarctica Tour Operators (IAATO) which works to promote and practice safe and environmentally responsible private-sector travel in this remote, wild and delicate region of the world. Together they have established an emergency support system for their membership as well as extensive procedures and guidelines of commendable high standard of private-sector travel to the Antarctic. In particular their guidelines for wildlife watching and boot & clothing decontamination are available via their website (www.iaato.org). Additional information on Antarctic yacht expeditions can be found in the pamphlet provided at http://iaato.org/yachts.

Environmental and further safety considerations

The Environmental Protocol to the Antarctic Treaty requires that every effort be made to minimize the environmental impact of all activities and that an environmental impact assessment be prepared and approved prior to departure.

Site visitor guidelines

Since 2011, the "General guidelines for Visitors to the Antarctic"

(https://documents.ats.aq/recatt/att483_e.pdf) provide guidance on appropriate behaviour at every possible landing site. Read these Guidelines before visiting Antarctica and plan how to minimize your impact. When preparing your sailing trip, particularly consider preventing the introduction of any plants or animals into the Antarctic. The taking of, or harmful interference with, Antarctic wildlife and its flora is prohibited.

Local site guidelines for visitors have been adopted for some of the most visited sites by the Antarctic Treaty Parties. These short, usually two pages, documents provide a succinct overview of the landing site and essential information for any expedition such as landing areas,

sketch maps and closed areas to protect the wildlife or scientific sites. They are available from the Antarctic Treaty Secretariat website (https://www.ats.aq/devAS/Ats/VisitorSiteGuidelines?lang=e) .

Non-Native Species

Detailed guidelines relating to the biosecurity of the Antarctic and ballast water management are set out in the Non-Native Species Manual endorsed by the ATCM in 2011. The manual is available at the Antarctic Treaty Secretariat website (https://documents.ats.aq/recatt/att608_e.pdf) .

Waste

Detailed regulations apply to the disposal of waste in Antarctica, but the basic principle for all visiting yachts is 'if you take it in, take it out'. Vessels should consider being fitted with sewage retention tanks. No discharges are allowed for oil and chemicals. Respect the more stringent provisions for avian products and garbage.

The full regulations are within the Treaty documents available via https://www.ats.aq/e/waste.html

Subject to any conditions in your environmental impact assessment, sewage and liquid domestic waste may be disposed of into the sea. For vessels certified to carry more than ten persons this should take place a minimum of 12 miles from the nearest land or ice shelf and whilst moving at a speed of not less than four knots. Treated sewage may be discharged from vessels over 200 Gross Register Tonnage or more than 10 persons on board when operating between 4 and 12 nautical miles from land with operational requirements. For smaller vessels, sewage and liquid domestic waste may be dispersed closer to land, but consideration should be given to its rapid dispersal and this should not be done in confined waters.

Off vessel activities

Potentially the most dangerous moments during any expedition are when members are away from the main vessel, either in small craft or on land. When operating in small boats, either cruising or making shore landings, a robust safety program should be in place. The main vessel should stay during the landing and be all the time prepared to pick up landed people in case of an emergency.

It is not unusual for tenders to be unable to return to the mother ship due to rapid changes in weather and/or sea conditions and at times this has necessitated a forced overnight stay ashore. In conditions of fog or whiteout it is very easy for the crew of a tender to become disorientated and navigation to become difficult. Suitable precautions should be taken and emergency supplies and equipment carried in all tenders.

Ice is even more of a threat to a small boat than a ship. When operating amongst sea ice or icebergs always be vigilant to its movement in relation to local currents. Pack ice can move very quickly potentially affecting small boat and shore operations, especially as the tide changes.

All expedition members should be aware of the dangers of crevasses when ashore. In recent years all glaciated terrain has become more dangerous due to higher temperatures. Expedition members should only venture on to snow slopes with the utmost caution and with the appropriate equipment and skills.

Resources and links

Relevant Weblinks

Secretariat of the Antarctic Treaty: https://www.ats.aq

International Maritime Organization: www.imo.org

International Association of Antarctic Tour Operators: https://iaato.org/

ISAF International Sailing Federation - Offshore Special Regulations: www.sailing.org

Resolution 11 (2012) - ATCM XXXV - CEP XV, Hobart

Adopted 20/06/2012

CHECKLIST FOR VISITORS' IN-FIELD ACTIVITIES

The Representatives,

Recalling Article VII of the Antarctic Treaty, which provides for the designation of observers to carry out inspections, and Article 14 of the Protocol on Environmental Protection to the Antarctic Treaty (the Protocol), which provides that inspections shall be arranged to promote the protection of the Antarctic environment and dependent and associated ecosystems and to ensure compliance with the Protocol;

Taking into account Resolution 5 (1995) (Antarctic inspection checklists), Resolution 4 (2008) (Checklist for inspections of Antarctic Specially Protected Areas and Antarctic Specially Managed Areas), and Resolution 3 (2010) (Revised Antarctic inspection Checklist "A"), which propose a number of checklists to guide the planning and conduct of inspections under Article VII of the Antarctic Treaty;

Considering Resolution 7 (2009) (General Principles of Antarctic Tourism), which states that Antarctic Treaty Parties aim to ensure, as far as practicable, that they continue to proactively develop regulations relating to tourism activities that should provide for a consistent framework for the management of tourism;

Reaffirming that inspection checklists are useful as guidelines for those planning and conducting inspections under Article VII of the Antarctic Treaty and in assessing implementation of the provisions of the Protocol;

Noting that inspection checklists are not mandatory and are not to be used as a questionnaire;

Recommend that:
their Governments encourage the use of the attached Checklist for visitors' in-field activities.

Attachment A: Checklist for visitors' in-field activities

The following checklist is aimed to support inspections under Article VII of the Antarctic Treaty and Article 14 of the Madrid Protocol.

The issues included in this checklist are to supplement (but not be a substitute for) information obtained from environmental assessment processes, information exchange, reports by Parties and Experts to the ATCM and CEP, and from documented industry practices and procedures (where applicable). This checklist is neither exhaustive nor prescriptive and is intended for guidance purposes only.

Except where indicated, all the information needed to reply to these questions will be obtained from on site sources (e.g. interviews + field observation)

SECTION A. INSPECTION DETAILS

1. Location (name of the site inspected)
2. Date and time of inspection visit
3. Mode of transport to the site (by sea/ by air/land)
4. Name and flag of vessel (if appropriate)
5. Does the vessel comply with agreed restrictions on the number of passengers carried onboard at the site in question (in relation to Measure 15, 2009 and applicable Site guidelines for Visitors)
6. Tour/ Non-Governmental Organization/ other operator (name, nationality)
7. Any other company involved in the operation (e.g. vessel operator, tour operator, sub-charterer, providers of other services).
8. Affiliation to IAATO (yes/no)
9. Name of Expedition leader (or person in charge of disembarking visitors)
10. Duration of visit
11. Persons conducting inspection (name, nationality)

SECTION B. ADVANCE NOTIFICATION AND OTHER LEGISLATION REQUIREMENTS

12. Has the activity undergone authorization / permit / environmental assessment procedures, and is a copy of the EIA available?
13. Identify if it has been single-year or multiyear, and if it covers the activities of a single-ship or company, or multiple ships and companies.
14. Which Party provided the authorization / permit / or administered the environmental assessment procedures?
15. Was the activity notified in advance to the appropriate Treaty Party?

SECTION C. SITE MANAGEMENT

16. Is the area subject to particular management requirements, like Site Guidelines for Visitors, ASPA/ASMA Management Plan/Codes of Conduct, Facility's internal policies, or similar?

This information should be collected prior to the deployment of the inspection team, from off site sources, such as the ATS, IAATO and National Programs' websites.

SECTION D. INFORMATION MANAGEMENT

17. Did the expedition party (cruise ship/aircraft/other) contact the facility (station, refuge, hut, field camp) prior to arrival in order to coordinate the visit? (if appropriate)
18. Was the Expedition leader (or person in charge of disembarking visitors) aware of the general provisions of the Antarctic Treaty and its Protocol on Environmental Protection?
19. Did visitors receive, prior to their arrival at the site, information on:
    - the values present in the area, and on ways to avoid their degradation?; and on
    - the contents of relevant guidelines and management instruments on Antarctic tourism? (e. g. Site Guidelines for Visitors, General Guidelines for Visitors of the Antarctic, behavior rules and commitments of Rec. XVIII-I, or ASPA/ASMA-Management Plan)

    Describe ways on which this information was transmitted (board presentation, a briefing prior to landing, a briefing immediately after landing)

SECTION E. VISIT DESCRIPTION

20. Total number of visitors landed during the visit
21. Was there more than one tourist vessel at the landing site at any one time?
22. For vessel landings, what was the maximum number of passengers landed ashore at any one time?

    (Noting that the limit should be 100, unless a lower number is otherwise specified in applicable ATCM Measures or Site Guidelines)
23. Was the minimum ratio staff: passenger of 1:20 (unless otherwise specified in applicable ATCM Measures or Site Guidelines) maintained during visit?
24. What types of activities were carried out by visitors during their visit to the site? (e.g. walks ashore, sea baths, swimming, kayaking, diving, trekking, hiking, climbing, camping, marathons, races, snowboard, skiing, hand gliding, wildlife watching, etc).
25. Provide details of any on-ground visitor management or environmental protection measures implemented during visit (eg. temporary area markers to guide visitors, additional guides)
26. Describe in situ safety measures implemented during the visit (for example, in the event that the vessel/aircraft is not able to collect the visitors at the expected time)?
27. Were the provisions set out in any applicable ASPA/ASMA Management Plan/Codes of Conduct, Facilities internal policies, or similar, adhered to in full?

28. Were the provisions set out in any applicable Site Guidelines for Visitors (e.g. preferred landing sites, zoning schemes, behavior ashore, precautionary notes, etc.) adhered to in full?

SECTION F. ON SITE IMPACTS / CONDUCT OF VISIT

29. Was any incident or evidence of direct impacts identified that was caused by visitors on the:
    - site's flora and fauna?
    - the landscape and wilderness values present in the site? (e.g. trampling on pristine surfaces, digging bathing pits, building a cairn, graffiti on rocks, etc)
30. Describe in-situ waste management procedures implemented during visit.
31. Where appropriate, and not otherwise covered in site specific guidelines or management plans, describe how visit was managed in order to avoid impacts on historic sites and monuments (including immobile and mobile historic features) present in the site?
32. Describe procedures implemented during visit to avoid causing any disturbance to science and/or logistic operations (only applicable to visits to, *inter alia,* stations, refuges, huts, field camps).

SECTION G. ADDITIONAL INFORMATION ON PRACTICES AND PROCEDURES TO ENSURE SAFETY AND/OR ENVIRONMENTAL PROTECTION

33. Were industry standard practices or operating procedures used (specify if so)?
34. Were guides / expedition personnel accredited according to any specific training standards? (Please, specify)

Resolution 6 (2010) - ATCM XXXIII - CEP XIII, Punta del Este

Adopted 14/05/2010

IMPROVING THE CO-ORDINATION OF MARITIME SEARCH AND RESCUE IN THE ANTARCTIC TREATY AREA

The Representatives,
Aware of the increase in vessel traffic, in particular passenger vessel traffic, in the Antarctic Treaty area;
Concerned about the possible risk of accidents involving these ships and the resulting harm to both persons and the environment;
Recalling the work of the International Maritime Organization (IMO) in the field of maritime safety and rescue;
Recalling the key outcomes and recommendations from the COMNAP Antarctic SAR Workshops I (Valparaiso, 2008) and the COMNAP Antarctic SAR Workshop II (Buenos Aires, 2009);
Recalling the work of the Antarctic Treaty Meeting of Experts on Management of Ship-borne tourism (Wellington, 2009);
Recalling Measure 4 (2004) and Resolution 6 (2008);
Recognising the value and importance of the search and rescue systems and procedures established under the auspices of the IMO, in particular as regards the network of Search and Rescue Regions and the corresponding Maritime Rescue Coordination Centres (MRCC);
Noting that these MRCCs have systems able to maintain the confidentiality of information transmitted by vessels and collected by the Centres;
Wishing to improve the coordination of maritime search and rescue efforts in the Antarctic Treaty area;

Recommend:
That their Governments recognise the importance of ensuring the effectiveness of search and rescue efforts by:
1) placing on the Antarctic Treaty Secretariat ("the Secretariat") website regular and up-to-date search and rescue related information, using the most appropriate technical means (e.g. through the Electronic Information Exchange System - EIES), of coastal stations facilities as well as the availability of sea and air assets in the Antarctic Treaty area;
2) making available in advance vessel schedules of national Antarctic programmes and tourist operators to the Secretariat (e.g. through the EIES) which then would be available to all MRCC to access; and
3) encouraging national Antarctic programmes and operators of tourist vessels not participating in the COMNAP and IAATO vessel tracking schemes to report the positions of their vessels regularly to the relevant regional MRCC.

Measure 15 (2009) - ATCM XXXII - CEP XII, Baltimore

Not yet effective

LANDING OF PERSONS FROM PASSENGER VESSELS IN THE ANTARCTIC TREATY AREA

The Representatives,

Noting the increasing trend in tourist activities in the Treaty area and the possible impacts of such activities on the Antarctic environment, including its wildlife, and on the conduct of scientific research;
Conscious of their responsibilities to ensure that tourism is conducted in a safe and environmentally responsible manner consistent with the objectives of the Antarctic Treaty;
Acknowledging the tourism industry's collaboration in efforts to ensure that its activities are sustainable and compatible with the objectives of the Antarctic Treaty;
Aware of hazards confronting passenger vessels operating in the Antarctic Treaty area and desiring to promote the safety of life at sea;
Wishing to minimize the likelihood of marine oil spills due to incidents involving large tourist vessels in Antarctica;
Recalling Resolution 4 (2007);
Recalling the existence of resolutions which set site-specific recommendations;

Recommend to their Governments the following Measure for approval in accordance with paragraph 4 of Article IX of the Antarctic Treaty:
That:

1. Parties shall require their operators organizing tourist or other non-governmental activities in the Antarctic Treaty area, for which advance notification is required in accordance with Article VII(5) of the Antarctic Treaty,
a. to refrain from making any landings in Antarctica from vessels carrying more than 500 passengers unless a lower number is otherwise specified in applicable ATCM measures; and
b. in the case of vessels carrying 500 or fewer passengers,
i. to coordinate with each other with the objective that not more than one tourist vessel is at a landing site at any one time;
ii. to restrict the number of passengers on shore at any one time to 100 or fewer, unless a lower number is otherwise specified in applicable ATCM Measures and to maintain a 1:20 guide-to-passenger ratio, unless a more restrictive ratio is otherwise specified in applicable ATCM measures.

2. nothing in this Measure shall derogate from the rights and obligations of any Party with respect to environmental impact assessments and restrictions on the activities of their nationals in accordance with Article 8 and other relevant provisions of the Protocol on Environmental Protection to the Antarctic Treaty.

3. this Measure, including the specific restrictions in paragraph 1 above, shall be subject to further discussion in future ATCMs to take account of possible changes in circumstance, including with respect to specific sites in Antarctica.

Resolution 3 (2009) - ATCM XXXII - CEP XII, Baltimore

Adopted 17/04/2009

GUIDELINES FOR THE DESIGNATION AND PROTECTION OF HISTORIC SITES AND MONUMENTS

The Representatives,

Recalling the protection afforded to historical sites and monuments by Article 8 of Annex V to the Protocol on Environmental Protection to the Antarctic Treaty,
Recalling also Measure 3 (2003), as amended by subsequent Measures, which sets out the current list of Historic Sites and Monuments,
Recognizing the unique value of all the historic and cultural remains of early exploration of the Antarctic continent,
Considering that the cultural and historic heritage of Antarctica is susceptible to loss and decay over time through natural processes and increased human pressure through the placement of logistical and scientific facilities and increased human impacts from visitors and tourists,
Recalling Resolution 5 (2001), which provides guidelines for the handling of pre-1958 historic remains,
Recalling further Resolution 8 (1995), Resolution 4 (1996) an d Resolution 4 (2001),
Aware that successive Antarctic Treaty Consultative Meetings have developed guidelines to ensure that the process for designating Historic Sites and Monuments under the Antarctic Treaty fully complies with the objective of identifying, protecting and preserving the historic and cultural values of Antarctica,

Recommend that the Guidelines for the designation and protection of Historic Sites and Monuments appended to this Resolution be used by Parties as guidance on questions related to the designation, protection and preservation of historic sites, monuments, artefacts and other historic remains in Antarctica.

Guidelines for the designation and protection of Historic Sites and Monuments

1. Parties should make every effort to preserve and protect, in accordance with the Antarctic Treaty and its Protocol, including Annex V, the Historic Sites and Monuments situated in the Antarctic Treaty area. Whenever appropriate, they should consult together on their restoration or preservation and adopt all adequate measures to protect all artefacts, buildings, monuments, archaeological and cultural remains and sites endowed with historic significance, from damage or destruction.
2. Where appropriate, Parties should arrange for each of these historic monuments or sites to be appropriately marked with a notice indicating in the English, French, Russian and Spanish languages that the monument or site is designated as an Historic Site or Monument, in accordance with the provisions of the Protocol.
3. Parties who wish to nominate a particular Historic Site and or Monument should adress in the proposal one or more of the following:
    a. a particular event of importance in the history of science or exploration of Antarctica occurred at the place;
    b. a particular association with a person who played an important role in the history of science or exploration in Antarctica;
    c. a particular association with a notable feat of endurance or achievement;
    d. representative of, or forms part of, some wide-ranging activity that has been important in the development and knowledge of Antarctica;
    e. particular technical, historical, cultural or architectural value in its materials, design or method of construction;
    f. the potential, through study, to reveal information or has the potential to educate people about significant human activities in Antarctica;
    g. symbolic or commemorative value for people of many nations.
4. The Party or Parties that nominated and/or are undertaking management of a Historic Site or Monument should keep the site or monument under review to assess whether:
    a. the site or monument still exists in whole or in part;
    b. the site or monument continues to meet the guidelines outlined in the previous paragraph;
    c. the description of the site or monument should be amended and updated when necessary;
    d. the location and if possible the limits of the site or monument are on its topographic maps, hydrographic charts and in other relevant publications.
    e. the site requires protection or management and, if so, whether it should be also designated as, or included in an Antarctic Specially Protected Area or as an Antarctic Specially Managed Area;
    f. in light of this review, the Historic Site or Monument should be de-listed.

5. During the preparations for a listing of a Historic Site or Monument, the proposing Party should ensure adequate liaison with the originator of the Historic Site or Monument and other Parties as appropriate.During the writing of a site management plan or conservation strategy, the proposing Party is encouraged to consider the adoption of further protective measures, including whenever appropriate:

    a. The development in a comprehensive manner of a conservation strategy, including the establishment when appropriate of buffer zones to guard buildings and monuments against damage;

    b. To the extent possible, seeking to achieve coherence through all the steps leading to historic commemoration such as the design of commemorative monuments, cairns or plaques, and any place-names attached to Historic Sites or areas of historical significance, including buffer zones.

    c. The requirement for environmental impact assessments of activities undertaken to erect a new historic monument or site. In the course of such assessment, the proponent should consider the most environmentally appropriate approach to achieving their objective of historic and cultural protection.

    d. The application of risk assessment in areas of intense human activity or otherwise in more remote and inaccessible areas where the vulnerable nature of historic sites and monuments may require that the protection include an area considered sufficient, compatible and adequate for preserving the historical values of the designated sites or monuments and avoid increased risk of damage arising out of human activity in Antarctica.

    e. The preparation of site guidelines, related to visitors and access by aircraft, vehicles or vessels, through visible marking, mapping and regular surveying, as well as issuing Historic Sites and Monuments Guidelines and other interpretive and educational material.

    f. The periodic undertaking of surveys or visits to the designated Historic Sites and Monuments and circulating reports thereafter on the condition of such Historic Sites and Monuments, including additional information on measures adopted to protect them from destruction or damage.

    g. The inclusion of any relevant Historic Sites and Monuments in the check-lists of Inspections undertaken under Article VII of the Antarctic Treaty and Article 14 of the Environmental Protocol.

6. Parties should observe the interim protection provided by Resolution 5 (2001) (Guidelines for handling of pre-1958 historic remains whose existence or present location is not yet known) during the three year period after the discovery of a new historic artefact or site has been brought to their attention by any person or expedition who discovers pre-1958 historic remains, and consider afterwards the formal incorporation of the artefact/site into the protected or managed areas designated under Annex V of the Protocol. If there is uncertainty as to the age of a newly discovered artefact/site it should be treated as a pre-1958 artefact/site until its age has been definitively established.

7. To that end, Parties should notify the other Parties of the discovery, indicating what remains have been found, and where and when. The consequences of removing such remains should be duly considered. If items nonetheless were removed from Antarctica, they should be delivered to the appropriate authorities or public

institutions in the home country of the discoverer, and remain available upon request for research purposes.

8. Visitors to Antarctica should be informed of the importance of protecting the historic and cultural heritage of the Antarctic continent and its surrounding islands and of all restrictions applying to artefacts, sites and monuments listed under the Antarctic Treaty system or protected under Resolution 5 (2001). This may include by developing historic site information guidelines and incorporating information about cultural heritage into a range of public education and interpretive materials to be prepared by the Parties, reminding visitors to Antarctica that they must not engage in conduct that results in interference to any scientific stations or environmental protected areas, as well as buildings, historical monuments, sites, artefacts, relics,commemorative plaques or site markers. The conservation of these features differ from the protection of biological or environmental phenomena but are equally important to the understanding of the values of Antarctica.

Resolution 7 (2009) - ATCM XXXII - CEP XII, Baltimore

Adopted 17/04/2009

GENERAL PRINCIPLES OF ANTARCTIC TOURISM

Considering the increase in visitation to Antarctica which has taken place since the adoption of the Environmental Protocol and the potential for further expansion;
Committed to the comprehensive protection of the Antarctic environment;
Aware of the responsibilities of the Antarctic Treaty Parties to ensure that all activities undertaken in Antarctica are pre-planned to minimise any impact on the Antarctic environment;
Committed also to ensuring that all activities undertaken in Antarctica are conducted as safely as possible;
Recalling a range of previous instruments in relation to tourism and non-Governmental activities in Antarctica, including inter alia Recommendation XVIII-1 Tourism and Non-Governmental Activities, Measure 4 (2004) Insurance and Contingency Planning for Tourism and Non-Governmental Activities in the Antarctic Treaty Area, Resolution 4 (2004) Guidelines on Contingency Planning, Insurance and Other Matters for Tourist and Other Non-Governmental Activities in the Antarctic Treaty Area, Resolution 4 (2007) Ship-based Tourism in the Antarctic Treaty Area and Resolution 5 (2007) Tourism in the Antarctic Treaty Area;
Recognising that properly managed tourism can enhance public appreciation of the intrinsic values of Antarctica;

The Representatives, on the occasion of the 50th Anniversary of the Antarctic Treaty,

Recommend that the following general principles be used to inform and guide further work in managing Antarctic tourism activities.

General Principles:
· All tourism activities undertaken in Antarctica will be conducted in accordance with the Antarctic Treaty, its Protocol on Environmental Protection, and relevant ATCM Measures and Resolutions;

· Tourism should not be allowed to contribute to the long-term degradation of the Antarctic environment and its dependent and associated ecosystems, or the intrinsic natural wilderness and historical values of Antarctica. In the absence of adequate information about potential impacts, decisions on tourism should be based on a pragmatic and precautionary approach, that also incorporates an evaluation of risks;

· Scientific research should be accorded priority in relation to all tourism activities in Antarctica;

· Antarctic Treaty Parties should implement all existing instruments relating to tourism and non-Governmental activities in Antarctica and aim to ensure, as far as practicable, that they continue to proactively develop regulations relating to tourism activities that should provide for a consistent framework for the management of tourism;

· All operators conducting tourism activities in Antarctica should be encouraged to cooperate

with each other and with the Antarctic Treaty Parties to coordinate tourism activities and share best practice on environmental and safety management issues;

. All tourism organisations should be encouraged to provide a focus on the enrichment and education of visitors about the Antarctic environment and its protection.

Resolution 6 (2008) - ATCM XXXI - CEP XI, Kyiv

Adopted 13/06/2008

ENHANCING THE ROLE OF MARITIME RESCUE COORDINATION CENTRES WITH SEARCH AND RESCUE REGIONS IN THE ANTARCTIC TREATY AREA

The Representatives,

Concerned at the risk of a serious humanitarian and environmental maritime incident in the Antarctic Treaty Area;

Recalling the work of the International Maritime Organisation in producing guidelines relating to maritime search and rescue issues;

Recognising the important role of the five Rescue Coordination Centres with Search and Rescue Regions in the Antarctic Treaty Area in coordinating responses to search and rescue incidents;

Recommend that:

Their Governments, in accordance with their national laws, encourage operators of tourist vessels to:

(a) consider the International Maritime Organisation's "Enhanced contingency planning guidance for passenger ships operating in areas remote from SAR facilities" (MSC.1/Circ/1184) in planning their activities; and

(b) in particular, report their vessel positions on a regular basis to the relevant regional Maritime Rescue Coordination Centres while operating within the Antarctic Treaty area.

Resolution 4 (2007) - ATCM XXX - CEP X, New Delhi

Adopted 11/05/2007

SHIP-BASED TOURISM IN THE ANTARCTIC TREATY AREA

The Representatives,

Concerned by the potential impacts that the increase of tourist activities may have on the Antarctic environment, including its wildlife, and on the conduct of scientific research;

Concerned also about recent incidents involving vessels in the Antarctic Treaty area;

Desiring to promote the safety of life at sea and the protection of the environment in the Antarctic Treaty area;

Desiring also to minimize the likelihood of marine oil spills due to incidents involving large tourist vessels in Antarctica;

Recommend that:

Parties, consistent with their national law,

1. discourage or decline to authorise tour operators that use vessels carrying more than 500 passengers from making any landings in Antarctica; and

2. encourage or require tour operators to:
a) coordinate with each other such that not more than one tourist vessel is at a landing site at any one time;
b) restrict the number of passengers on shore at any one time to 100 or fewer, unless otherwise specified in applicable ATCM Measures or Resolutions; and
c) maintain a minimum 1:20 guide-to-passenger ratio while ashore, unless otherwise specified in applicable ATCM Measures or Resolutions.

Resolution 5 (2007) - ATCM XXX - CEP X, New Delhi

Adopted 11/05/2007

TOURISM IN THE ANTARCTIC TREATY AREA

The Representatives,

Conscious of the rapid expansion and diversification of tourism activities in the Antarctic Treaty area;

Recalling the Environmental Principles contained in Article 3 of the Protocol on Environmental Protection to the Antarctic Treaty;

Desiring to limit the potential impacts of tourism activities, including cumulative impacts, upon the Antarctic environment;

Recommend that the Parties discourage any tourism activities which may substantially contribute to the long-term degradation of the Antarctic environment and its dependent and associated ecosystems.

Resolution 3 (2006) - ATCM XXIX - CEP IX, Edinburgh

Adopted 23/06/2006

BALLAST WATER EXCHANGE IN THE ANTARCTIC TREATY AREA

The Representatives,

Recalling the requirements of Annex II to the Protocol on Environmental Protection, on the Conservation of Antarctic Fauna and Flora, that precautions be taken to prevent the introduction of non-native species to the Antarctic Treaty area;

Aware of the potential for invasive marine organisms to be transported into, or moved between biologically distinct regions within, the Antarctic Treaty area, by ships in their ballast water;

Conscious that the International Convention for the Control and Management of Ships' Ballast Waters and Sediments, 2004 (IMO Ballast Water Management Convention) has yet to enter into force;

Aware of the key principles of the IMO Ballast Water Management Convention, including that ballast water exchange be used as an interim measure until such time as ballast water treatment technologies have been developed, as set out in the Convention;

Noting the provision in the Convention which states that Parties with common interests bordering enclosed and semi-enclosed seas shall endeavour to seek co-operation with neighbouring Parties including through regional agreements to develop harmonised procedures (Article 13(3) of IMO Convention); and

Noting also that the Convention provides for a Party or Parties to put in place additional measures to require ships to meet a specified standard or requirement (Annex, Regulation C-1);

Desiring in the interim to put in place a Ballast Water Regional Management Plan for Antarctica;

Recommend that:

The Practical Guidelines for Ballast Water Exchange in the Antarctic Treaty area annexed to this Resolution be used by all ships in the Antarctic Treaty area, except those referred to in Article 3, paragraph 2, of the International Convention for the Control and Management of Ships' Ballast Waters and Sediments, 2004 (IMO Ballast Water Management Convention).

Practical Guidelines for Ballast Water Exchange in the Antarctic Treaty Area

1. The application of these Guidelines should apply to those vessels covered by Article 3 of the IMO's International Convention for the Control and Management of Ships' Ballast Water and Sediments (the Ballast Water Management Convention), taking into account the exceptions in Regulation A-3 of the Convention. These Guidelines do not replace the requirements of the Ballast Water Management Convention, but provide an interim Ballast Water Regional Management Plan for Antarctica under Article 13 (3).
2. If the safety of the ship is in any way jeopardised by a ballast exchange, it should not take place. Additionally these guidelines do not apply to the uptake or discharge of ballast water and sediments for ensuring the safety of the ship in emergency situations or saving life at sea in Antarctic waters.
3. A Ballast Water Management Plan should be prepared for each vessel with ballast tanks entering Antarctic waters, specifically taking into account the problems of ballast water exchange in cold environments and in Antarctic conditions.
4. Each vessel entering Antarctic waters should keep a record of ballast water operations.
5. For vessels needing to discharge ballast water within the Antarctic Treaty area, ballast water should first be exchanged before arrival in Antarctic waters (preferably north of either the Antarctic Polar Frontal Zone or 60°S, whichever is the furthest north) and at least 200 nautical miles from the nearest land in water at least 200 metres deep (If this is not possible for operational reasons then such exchange should be undertaken in waters at least 50 nautical miles from the nearest land in waters of at least 200 metres depth).
6. Only those tanks that will be discharged in Antarctic waters would need to undergo ballast water exchange following the procedure in Paragraph 5. Ballast Water Exchange of all tanks is encouraged for all vessels that have the potential/capacity to load cargo in Antarctica, as changes in routes and planned activities are frequent during Antarctic voyages due to changing meteorological and sea conditions.
7. If a vessel has taken on ballast water in Antarctic waters and is intending to discharge ballast water in Arctic, sub-Arctic, or sub-Antarctic waters, it is recommended that ballast water should be exchanged north of the Antarctic Polar Frontal Zone, and at least 200 nautical miles from the nearest land in water at least 200 metres deep. (If this is not possible for operational reasons then such exchange should be undertaken in waters at least 50 nautical miles from the nearest land in waters of at least 200 metres depth).
8. Release of sediments during the cleaning of ballast tanks should not take place in Antarctic waters.
9. For vessels that have spent significant time in the Arctic, ballast water sediment should preferably be discharged and tanks cleaned before entering Antarctic waters (south of 60°S). If this cannot be done then sediment accumulation in ballast tanks should be monitored and sediment should be disposed of in accordance with the ship's Ballast Water Management

Plan. If sediments are disposed of at sea, then they should be disposed of in waters at least 200 nautical miles from the shoreline in waters at least 200 metres deep.

10. Treaty Parties are invited to exchange information (via the Council of Managers of National Antarctic Programs) on invasive marine species or anything that will change the perceived risk associated with ballast waters.

Measure 4 (2004) - ATCM XXVII - CEP VII, Capetown

Not yet effective

INSURANCE AND CONTINGENCY PLANNING FOR TOURISM AND NON GOVERNMENTAL ACTIVITIES IN THE ANTARCTIC TREATY AREA

The Representatives,

Concerned at the potential impacts, including the imposition of additional costs, that tourist or other non-governmental activities may have on national programmes, and the risks to the safety of those involved in search and rescue operations;

Desiring to ensure that tourist or other non-governmental activities undertaken in Antarctica are carried out in a safe and self-sufficient manner;

Desiring further to ensure that the risks associated with tourism or other non-governmental activities are fully identified in advance, and minimised;

Noting that the "Procedures to be Followed by Organisers and Operators", as set out in the Attachment to Recommendation XVIII-1, contain some elements relating to self-sufficiency and insurance;

Recommend to their Governments the following Measure for approval in accordance with paragraph 4 of Article IX of the Antarctic Treaty:

That Parties shall require those under their jurisdiction organising or conducting tourist or other non-governmental activities in the Antarctic Treaty Area, for which advance notification is required in accordance with Article VII (5) of the Antarctic Treaty, to demonstrate compliance with the following requirements:

- that appropriate contingency plans and sufficient arrangements for health and safety, search and rescue (SAR), and medical care and evacuation have been drawn up and are in place prior to the start of the activity. Such plans and arrangements shall not be reliant on support from other operators or national programmes without their express written agreement; and

- that adequate insurance or other arrangements are in place to cover any costs associated with search and rescue and medical care and evacuation.

Resolution 2 (2004) - ATCM XXVII - CEP VII, Capetown

Adopted 04/06/2004

GUIDELINES FOR THE OPERATION OF AIRCRAFT NEAR CONCENTRATIONS OF BIRDS IN ANTARCTICA

The Representatives,

Recalling Article 3 of the Environmental Protocol which requires that activities in the Antarctic Treaty area shall be planned and conducted so as to limit adverse impacts on the Antarctic environment,

Recalling also the requirements of Annex II of the Environmental Protocol on the Conservation of Antarctic Fauna and Flora,

Aware of the potential for harmful disturbance to concentrations of birds in Antarctica by the operation of aircraft,

Noting that specific standards for aircraft operations may be contained in Antarctic Specially Protected Area (ASPA) and Antarctic Specially Managed Area (ASMA) management plans,

Recognising that some Parties may already have in place more stringent guidelines for the operation of aircraft near wildlife,

Aware that the scientific data on the impact of aircraft operations on wildlife will continue to improve and that guidance on minimum standards should remain under review,

Conscious of the need for minimum guidance on the operation of aircraft near concentrations of birds in order to minimise the impacts of such activities,

Recommend that:

The Guidelines for the Operation of Aircraft Near Concentrations of Birds in Antarctica appended to this Resolution be used by those engaged in the operation of aircraft in the Antarctic.

Parties should be encouraged to adopt higher standards for the operation of aircraft near concentrations of birds to suit their particular needs and circumstances.

GUIDELINES FOR THE OPERATION OF AIRCRAFT NEAR CONCENTRATIONS OF BIRDS IN ANTARCTICA

Fixed and rotary wing aircraft operations have the potential to cause disturbance leading to changes in the behaviour, physiology and the breeding success of wildlife. The level of impact will vary according to the intensity, duration and frequency of disturbance, the species involved and the phase in their breeding season. Most species are particularly sensitive to disturbance between late September and early May-the period when Antarctic helicopter and fixed wing operations usually occur.

There are many variables affecting noise levels received on the ground during aircraft operations, including: flight height; the type of aircraft and engine; the flight profile; the weather; and the geography of the location. Pilots have to make the final judgement regarding aircraft operations based on the aircraft type, task and safety considerations. Such judgments should also pay due consideration to potential wildlife impacts, noting that Annex II of the Protocol on Environmental Protection to the Antarctic Treaty defines that "harmful interference" means flying or landing helicopters or other aircraft in a manner that disturbs concentrations of birds and seals".

Minimum recommended separation distances for aircraft operations close to concentrations of birds are set out below. These recommended distances should be maintained to the greatest extent possible, unless greater separation distances are specified for the area of operation, for example by an ASPA or ASMA management plan or guidelines already developed by national operators to suit their own particular needs and circumstances. These distances are only a guide and if wildlife disturbance is observed at any separation distance, a greater distance should be maintained wherever practical:

- Penguin, albatross and other bird colonies are not to be over flown below 2000ft (~ 610 m) Above Ground Level, except when operationally necessary for scientific purposes.
- Landings within 1/2 nautical mile (~ 930 m) of penguin, albatross or other bird colonies should be avoided wherever possible.
- Never hover or make repeated passes over wildlife concentrations or fly lower than necessary.
- Maintain a vertical separation distance of 2000 ft (~ 610 m) AGL and a horizontal separation of 1/4 nautical mile (~ 460 m) from the coastline where possible.
- Cross the coastline at right angles and above 2000ft (~610 m) AGL where possible.

Location of aircraft operations (other considerations)

- Where practical, avoid overflying concentrations of birds.

  - Be aware that concentrations of birds are most often found in coastal areas. Snow petrel and Antarctic petrel colonies are also frequently found inland on nunataks. Minimum vertical separation distances should be maintained in these areas.

  - Where practical, landings near to concentrations of birds should be downwind and/or behind a prominent physical barrier (e.g. hill) to minimise disturbance.

  - Avoid Antarctic Specially Protected Areas, unless authorised to over-fly and/or land by a permit issued by an appropriate national authority. For many ASPAs there are specific controls on aircraft operations, which are set out in the relevant Management Plans.

- Follow aircraft flight heights, preferred flight paths and approach paths contained in the Antarctic Flight Information Manual (AFIM), in station aircraft operation manuals and on relevant charts, maps and any Wild Life and Low Flying Avoidance Maps for the major airstrips in the Antarctic (e.g. Marsh, Marambio, Rothera, McMurdo).

- Particularly avoid flying toward concentrations of birds immediately after take-off and avoid steep banking turns in flight as these significantly increase the amount of noise generated.

Timing of aircraft operations

  - Most native bird species breed at coastal locations in Antarctica between September and May each season. During the planning of aircraft operations near to concentrations of birds, consideration should be given to undertaking flying activities outside of the main breeding and/or moulting periods.

  - Where aircraft operations are necessary close to concentrations of birds, then the duration of flights should be the minimum necessary.

  - To minimise bird strikes, especially in coastal areas, avoid flying after dark between September and May. At this time of year, prions and petrels are active. These birds are nocturnal when breeding and are attracted by lights.

- Aircraft operations should be delayed or cancelled if weather conditions (e.g. cloud base, winds) are such that the suggested minimum vertical and horizontal separation distances given in these guidelines cannot be maintained.

Resolution 3 (2004) - ATCM XXVII - CEP VII, Capetown

Adopted 04/06/2004

TOURISM AND NON-GOVERNMENTAL ACTIVITIES: ENHANCED CO-OPERATION AMONGST PARTIES

The Representatives,

Concerned about the increasing trend in Antarctic tourism and the need to ensure more rigorous monitoring and control of such activities;

Desiring to ensure that all such activities undertaken in Antarctica are strictly in accordance with the Antarctic Treaty and its Environmental Protocol;

Aware that some individuals may circumvent national legislation by seeking approval for their activities from more than one national authority;

Noting that the consultations described below would be without prejudice to any Party's implementation of its own national legislation.

Recommend that:

1. All Parties nominate to the Secretariat a single contact point for information about tourism and non-Governmental activities in Antarctica;

2. Parties exchange information about such activities as and when they are notified, particularly where there are potential implications for other Parties;

3. Where Parties are notified, or become aware, of an activity involving a vessel or aircraft flagged or registered with another Treaty Party; or where the organisers are nationals of another Treaty Party, that they consult those relevant Parties as appropriate during the process of evaluating such activities and, where applicable, prior to any decision to authorise the activity or permit to proceed.

Resolution 1 (2003) - ATCM XXVI - CEP VI, Madrid

Adopted 20/06/2003

ADVICE TO VESSEL AND YACHT OPERATORS

The Representatives,

Conscious of the importance of ensuring that mariners and vessel operators are aware of, and comply with, the obligations set out in the Environmental Protocol-and in particular its Annex IV (Prevention of Marine Pollution);

Desiring to provide clear and easily understood advice to those operating vessels and yachts in the Antarctic Treaty Area; and

Recalling discussions at ATCM XXV that a means to improve compliance with the Protocol's obligations by vessel and yacht operators would be to include details of the Protocol and its Annexes, as appropriate in the Antarctic navigational guides or pilots published by parties.

Recommend that:

- Those Parties that publish advice to marines in the form of, for example, Antarctic "Sailing Directions", "Marine Notices", or "Pilots", should ensure that appropriate detail of the Protocol on Environmental Protection to the Antarctic Treaty (1998) and in particular details of its Annex IV, are included in such publications.

Resolution 5 (2001) - ATCM XXIV - CEP IV, St. Petersburg

Adopted 20/07/2001

GUIDELINES FOR HANDLING OF PRE-1958 HISTORIC REMAINS WHOSE EXISTENCE OR PRESENT LOCATION IS NOT KNOWN

The Representatives,

Recalling Recommendation VII-9 which provides for Consultative Parties to adopt all adequate measures to preserve and protect from damage the historic monuments situated in the Antarctic Treaty area, and the provisions of Annex V to the Environmental Protocol,

Recalling also Resolution 8 (1995), which sets out criteria by which types of sites and artefacts that could be designated as historic sites and monuments,

Aware of the prohibition in Article 8 (4) of Annex V on the removal of listed historic monuments,

Recognizing the unique value of all the historic remains of early exploration of the Antarctic continent, and

Noting that increased activity in Antarctica has increased the pressure on historic sites and artefacts not protected by current measures,

Recommend that:

The Guidelines, appended to this Resolution, for handling of pre-1958 historic remains whose existence or present location is not known, be used by Parties as guidance on questions relating to protection of such historic remains in Antarctica.

GUIDELINES for handling of pre-1958 historic remains whose existence or present location is not known.

1. These guidelines apply to pre-1958 historic artefacts/sites whose existence or location is not known.

2. These guidelines should be applied, as far as possible, to provide interim protection of pre-1958 historic artefacts/sites until the Parties have had due time to consider their inclusion into the protection system under Annex V to the Protocol on Environmental Protection. This interim protection should not extend beyond three years after the discovery of a new historic artefact/site has been brought to the attention of the Parties.

3. Historic artefacts/sites for the purpose of these Guidelines, include but are not necessarily limited to:

    - Artefacts with a particular association with a person who played an important role in the history of science or exploration of Antarctica;
    - Artefacts with a particular association with a notable feat of endurance achievement;
    - Artefacts representative of, or which form part of, some wide-ranging activity that has been important in the development of knowledge of Antarctica;
    - Artefacts with particular technical or architectural value in its materials, design or method of construction;
    - Artefacts with the potential, through study, to reveal information or which have the potential to educate people about significant human activities in Antarctica;
    - Artefacts with symbolic or commemorative value for people of many nations.

4. Any person/expedition who discovers pre-1958 historic remains should notify the appropriate authorities in their home country. The consequences of removing such remains should be duly considered. If items nonetheless are removed from Antarctica, they should be delivered to the appropriate authorities in the home country of the discoverer.

5. If historic artefacts/sites are discovered during construction activities, all construction should be discontinued to the greatest extent practical until the artefacts have been appropriately recorded and evaluated.

6. The Party whose nationals have discovered pre-1958 historic artefacts/sites should notify the other Treaty Parties about the discovery, indicating what remains have been found, and where and when.

7. If there is uncertainty as to the age of a newly discovered historic artefact/site it should be treated as a pre-1958 artefact/site until its age has been established.

Resolution 3 (1997) - ATCM XXI, Christchurch

Adopted 30/05/1997

STANDARD FORM FOR ADVANCE NOTIFICATION AND POST-VISIT REPORTING ON TOURISM AND NON-GOVERNMENTAL ACTIVITIES IN ANTARCTICA

The Representatives,

Recalling Resolution 3 (1995) which agreed that there would be an advantage in standardized reporting of information on tourism and non-governmental activity in Antarctica;

Noting that Attachment A to Recommendation 1 (1994) outlines the requirements for Advance Notice of tourism and non-governmental activities, and that Resolution 3 (1995) outlines requirements for post-activity reports;

Recalling that Parties agreed at ATCM XX to trial a standard form for Advance Notification and Post-Visit Reporting during the 1996/97 Antarctic season.

Recommend that:

A standard form be used for Advance Notifications and Post-Visit Reporting on tourism and non-governmental activities in Antarctica in order to obtain consistent information that will facilitate analysis of the scope, frequency and intensity of tourism and non-governmental activities.

TRIAL REPORT FORM FOR TOURISM AND NGO ACTIVITIES IN ANTARCTIC TREATY AREA

ADVANCE NOTIFICATION

Tourist and non-Governmental Activities in the Antarctic

This information is requested in compliance with Antarctic Treaty Recommendation XVIII-1 and Resolution XIX-3. Please submit to the appropriate national authority prior to the Expedition taking place.

A. Tour/Expedition Organizer

Company name:	Contact person:
Company address: International phone: International fax:	National registration of Company: Total number of Expedition Staff[1]:

B: Details of transport and equipment to be used for the Tour/Expedition

(Complete these panels only once if all Tours/Expeditions planned do not vary in their use of tr ansport or equipment: where these vary, complete the panel for every Tour or Expedition)

B.1 Vessel/aircraft used for transport to/from Antarctica

Vessel/aircraft registered name: National registration:	Vessel/aircraft type: Vessel/aircraft passenger carrying capacity: Vessel ice rating (if applicable):
□Ship □Yacht □Aircraft (check)	Vessel/aircraft fuel capacity: Vessel/aircraft fuel type:
Intended use of vessel/aircraft:	Vessel/aircraft call sign: INMARSAT number/fax: Radio frequency:
Captains'/commanders' name(s):	Total number of crew[2]:

B.2 Equipment to be used within Antarctica

Number and types of aircraft to be used: *Number Type Use*	Numbers and types of other vessels or vehicles (e.g. small boats, snowmobiles) to be used: *Number Type Use*

1 Staff: Expedition personnel, guides, lecturers, small boat drivers (exclude crew serving these functions).

2 Crew: Vessel's captain and officers, helicopter pilots, crew and hotel/catering staff (exclude Staff, Passengers and Observers).

ADVANCE NOTIFICATION (continued)

C: Contingency Planning

Type and amount of insurance cover, including name of insurer(s):
Arrangements for self-sufficiency and contingency plans, including for medical evacuations and search and rescue in the event of an emergency:

D: Expedition details (complete one of these panels for <u>every</u> separate cruise/expedition you are organizing)

Planned port of embarkation:	Planned date of embarkation:
Planned port of disembarkation:	Planned date of disembarkation:
Planned Cruise/Flight number or Voyage Name:	Estimated number of Passengers[1] to be carried:
Activities to be undertaken and purpose:	

Intended itinerary – places to be visited, giving estimated dates:

1 Passengers: Members of the Expedition that are not Staff or Crew, excluding Observers/National Representatives.

Signature:_____*Tour/Expedition Organizer* Date:_____

POST-VISIT REPORT: PART 1 – Tour Record

Instructions

The Tour Record is completed for every tour or non-governmental expedition. This information is requested in compliance with Antarctic Treaty Recommendation XVII-1 and Resolution XIX-3(1995).

A: Expedition details

Company name:	Cruise/Flight number:
Expedition Leader(s) name:	Vessel name/aircraft registration:
□Ship □Yacht □Aircraft (check)	Captain's/commander's name:
Port and date of embarkation:	Port and date of disembarkation:
Actual itinerary travelled – please provide description of route, giving dates Note: If you consider the Site Visit Record (SVR) provides an adequate description of the itinerary simply write "See SVR":	

B: Observers

Name:	Name:	Name:
Affiliation:	Affiliation:	Affiliation:

C: Record of Expedition numbers by nationality

Nationality	*Number of Pax[1] Staff[2] Crew[3]*			*Nationality*	*Number of Pax[1] Staff[2] Crew[3]*			*Nationality*	*Number of Pax[1] Staff[2] Crew[3]*		

1 **Pax** (Passengers): Members of the Expedition that are not Staff or Crew.

2 **Staff**: Expedition personnel, guides, lecturers and small boat drivers.

3. **Crew**: Vessel's captain and officers, aircraft pilots, crew and hotel/catering staff (excluding above).

D: Report on Expedition by Expedition Leader (please be brief, but use additional sheets if necessary)

1. Has a meteorological report been submitted to the World Meteorological Organization? ☐Yes ☐No ☐Don't Know
2. List any unusual incidents affecting people or the environment:

3. If there were any unusual incidents, has or will an incident report be prepared? ☐Yes ☐No ☐Don't Know
4. To whom has or will the incident report be provided?
5. Any other comments or observations (e.g. observations of disturbance to wildlife or the physical environment, changes from expedition Advance Notification, etc.):

Signature:_____Expedition Leader or Vessel Captain Date:_____

POST-VISIT REPORT: PART 2 – Site Visit Record Instructions

One line of the Site Visit Record should be completed per site wherever Expedition members disembark or journey beyond base or camp.

Tour Company or Name:_____Vessel Name:_____Cruise/Flight Number:_____

Date(s)	Site visited	Site latitude/longitude	Duration of visit from time first passengers left vessel/aircraft/base/camp	Duration of passenger activities at site visited	Number of people making site visit Pax[1] Staff[2] Crew[3]			Activities at site (List all codes that apply)

1 Pax (Passengers): Members of the Expedition that are not Staff or Crew.

2 Staff: Expedition personnel, guides, lecturers and boat drivers.

3. Crew: Vessel's captain and officers, aircraft pilots, crew and hotel/catering staff (excluding above).

Activity codes

Small boat landing:	BL	Aircraft landing:	AL	Helicopter landing:	HL	Station Visit:	SV
Small boat cruising:	ZC	Aircraft flight:	AF	Helicopter flight:	HF	Camping:	CP

Recommendation XVIII-1 (ATCM XVIII - Kyoto, 1994)

Effective 11/05/2016

TOURISM AND NON-GOVERNMENTAL ACTIVITIES

The Representatives,

Reaffirming the exceptional character of the Antarctic environment given in particular the fragility of its fauna and flora and of the setting which the Antarctic offers for the conduct of scientific activities;

Acknowledging the increase in the development of tourist activities in the Antarctic;

Noting that those who visit the Antarctic and organise or conduct tourism and non-governmental activities in the Antarctic are currently subject to legally binding obligations pursuant to national legislation implementing the Antarctic Treaty and associated legal instruments;

Noting further that such visitors or organisers will be subject to additional legally binding obligations upon entry into force of the Protocol on Environmental Protection to the Antarctic Treaty;

Recogizing the need for visitors and organisers to have practical guidance on how best to plan and carry out any visits to the Antarctic;

Recalling the Final Act of the Eleventh Special Antarctic Treaty Consultative Meeting, at which the Protocol was adopted, in which the signatories of the Final Act decided that the Annexes of the Protocol should be applied in accordance with their legal systems and to the extent practicable;

Desiring to ensure that those who visit the Antarctic carry out their visits or tours strictly in accordance with existing obligations and in so far as is consistent with existing national law, in accordance with the Protocol, pending its entry into force;

Desiring further to facilitate the early entry into force of the Protocol and of the implementation of its provisions in relation to those who visit or organise tours to the Antarctic.

Recommend to their Governments that:

1. They circulate widely and as quickly as possible the Guidance for Visitors to the Antarctic, and the Guidance for Those Organising and Conducting Tourism and Non-governmental Activities in the Antarctic annexed to this Recommendation.

2. They urge those intending to visit or organise and conduct tourism and non-governmental

activities in the Antarctic to act in accordance with the attached guidance consistent with the relevant provisions of their applicable national law.

Guidance for Visitors to the Antarctic

Activities in the Antarctic are governed by the Antarctic Treaty of 1959 and associated agreements, referred to collectively as the Antarctic Treaty system. The Treaty established Antarctica as a zone of peace and science.

In 1991, the Antarctic Treaty Consultative Parties adopted the Protocol on Environmental Protection to the Antarctic Treaty, which designates the Antarctic as a natural reserve. The Protocol sets out environmental principles, procedures and obligations for the comprehensive protection of the Antarctic environment, and its dependent and associated ecosystems. The Consultative Parties have agreed that, pending its entry into force, as far as possible and in accordance with their legal system, the provisions of the Protocol should be applied as appropriate.

The Environmental Protocol applies to tourism and non-governmental activities as well as governmental activities in the Antarctic Treaty Area. It is intended to ensure that these activities do not have adverse impacts on the Antarctic environment, or on its scientific and aesthetic values.

This **Guidance for Visitors to the Antarctic** is intended to ensure that all visitors are aware of, and are therefore able to comply with, the Treaty and the Protocol. Visitors are, of course, bound by national laws and regulations applicable to activities in the Antarctic.

A) PROTECT ANTARCTIC WILDLIFE

Taking or harmful interference with Antarctic wildlife is prohibited except in accordance with a permit issued by a national authority.

1) Do not use aircraft, vessels, small boats, or other means of transport in ways that disturb wildlife, either at sea or on land.
2) Do not feed, touch, or handle birds or seals, or approach or photograph them in ways that cause them to alter their behavior. Special care is needed when animals are breeding or moulting.
3) Do not damage plants, for example by walking, driving, or landing on extensive moss beds or lichen-covered scree slopes.
4) Do not use guns or explosives. Keep noise to the minimum to avoid frightening wildlife.
5) Do not bring non-native plants or animals into the Antarctic (e.g. live poultry, pet dogs and cats, house plants).

B) RESPECT PROTECTED AREAS

A variety of areas in the Antarctic have been afforded special protection because of their particular ecological, scientific, historic or other values. Entry into certain areas may be prohibited except in accordance with a permit issued by an appropriate national authority.

Activities in and near designated Historic Sites and Monuments and certain other areas may be subject to special restrictions.

1) Know the locations of areas that have been afforded special protection and any restrictions regarding entry and activities that can be carried out in and near them.
2) Observe applicable restrictions.
3) Do not damage, remove or destroy Historic Sites or Monuments, or any artefacts associated with them.

C) RESPECT SCIENTIFIC RESEARCH

Do not interfere with scientific research, facilities or equipment.

1) Obtain permission before visiting Antarctic science and logistic support facilities; reconfirm arrangements 24-72 hours before arriving; and comply strictly with the rules regarding such visits.
2) Do not interfere with, or remove, scientific equipment or marker posts, and do not disturb experimental study sites, field camps or supplies.

D) BE SAFE

Be prepared for severe and changeable weather. Ensure that your equipment and clothing meet Antarctic standards. Remember that the Antarctic environment is inhospitable, unpredictable and potentially dangerous.

1) Know your capabilities, the dangers posed by the Antarctic environment, and act accordingly. Plan activities with safety in mind at all times.
2) Keep a safe distance from all wildlife, both on land and at sea.
3) Take note of, and act on, the advice and instructions from your leaders; do not stray from your group.
4) Do not walk onto glaciers or large snow fields without proper equipment and experience; there is a real danger of falling into hidden crevasses.
5) Do not expect a rescue service; self-sufficiency is increased and risks reduced by sound planning, quality equipment, and trained personnel.
6) Do not enter emergency refuges (except in emergencies). If you use equipment or food from a refuge, inform the nearest research station or national authority once the emergency is over.
7) Respect any smoking restrictions, particularly around buildings, and take great care to safeguard against the danger of fire. This is a real hazard in the dry environment of Antarctica.

E) KEEP ANTARCTICA PRISTINE

Antarctica remains relatively pristine, and has not yet been subjected to large scale human perturbations. It is the largest wilderness area on earth. Please keep it that way.

1) Do not dispose of litter or garbage on land. Open burning is prohibited.
2) Do not disturb or pollute lakes or streams. Any materials discarded at sea must be disposed of properly.
3) Do not paint or engrave names or graffiti on rocks or buildings.

4) Do not collect or take away biological or geological specimens or man-made artefacts as a souvenir, including rocks, bones, eggs, fossils, and parts or contents of buildings.

5) Do not deface or vandalise buildings, whether occupied, abandoned, or unoccupied, or emergency refuges.

Guidance for those Organising and Conducting Tourism and Non-governmental Activities in the Antarctic

Antarctica is the largest wilderness area on earth, unaffected by large scale human activities. Accordingly, this unique and pristine environment has been afforded special protection. Furthermore, it is physically remote, inhospitable, unpredictable and potentially dangerous. All activities in the Antarctic Treaty Area, therefore, should be planned and conducted with both environmental protection and safety in mind.

Activities in the Antarctic are subject to the Antarctic Treaty of 1959 and associated legal instruments, referred to collectively as the Antarctic Treaty system. These include the Convention for the Conservation of Antarctic Seals (CCAS' 1972), the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR' 1980) and the Recommendations and other measures adopted by the Antarctic Treaty Consultative Parties under the Antarctic Treaty.

In 1991, the Consultative Parties to the Antarctic Treaty adopted the Protocol on Environmental Protection to the Antarctic Treaty. This Protocol sets out environmental principles, procedures and obligations for the comprehensive protection of the Antarctic environment, and its dependent and associated ecosystems. The Consultative Parties have agreed that, pending its entry into force, as far as possible and in accordance with their legal systems, that the provisions of the Protocol should be applied as appropriate.

The Environmental Protocol designates Antarctica as a natural reserve devoted to peace and science, and applies to both governmental and non-governmental activities in the Antarctic Treaty Area. The Protocol seeks to ensure that human activities, including tourism, do not have adverse impacts on the Antarctic environment, nor on its scientific and aesthetic values.

The Protocol states, as a matter of principle, that all activities are to be planned and conducted on the basis of information sufficient to evaluate their possible impact on the Antarctic environment and its associated ecosystems, and on the value of Antarctica for the conduct of scientific research. Organisers should be aware that the Environmental Protocol requires that "activities shall be modified, suspended or cancelled if they result in or threaten to result in impacts upon the Antarctic environment or dependent or associated ecosystems."

Those responsible for organising and conducting tourism and non governmental activities must comply fully with national laws and regulations which implement the Antarctic Treaty system, as well as other national laws and regulations implementing international agreements on environmental protection, pollution and safety that relate to the Antarctic Treaty Area. They should also abide by the requirements imposed on organisers and operators under the Protocol on Environmental Protection and its Annexes, in so far as they have not yet been implemented in national law.

KEY OBLIGATIONS ON ORGANISERS AND OPERATORS

1. Provide prior notification of, and reports on, their activities to the competent authorities of the appropriate Party or Parties.
2. Conduct an assessment of the potential environmental impacts of their planned activities.
3. Provide for effective response to environmental emergencies, especially with regard to marine pollution.
4. Ensure self-sufficiency and safe operations.
5. Respect scientific research and the Antarctic environment, including restrictions regarding protected areas, and the protection of flora and fauna.
6. Prevent the disposal and discharge of prohibited waste.

PROCEDURES TO BE FOLLOWED BY ORGANISERS AND OPERATORS

A) When planning to go to the Antarctic

Organisers and operators should:

1. Notify the competent national authorities of the appropriate Party or Parties of details of their planned activities with sufficient time to enable the Party(ies) to comply with their information exchange obligations under Article VII(5) of the Antarctic Treaty. The information to be provided is listed in Attachment A.
2. Conduct an environmental assessment in accordance with such procedures as may have been established in national law to give effect to Annex I of the Protocol, including, if appropriate, how potential impacts will be monitored.
3. Obtain timely permission from the national authorities responsible for any stations they propose to visit.
4. Provide information to assist in the preparation of: contingency response plans in accordance with Article 15 of the Protocol; waste management plans in accordance with Annex III of the Protocol; and marine pollution contingency plans in accordance with Annex IV of the Protocol.
5. Ensure that expedition leaders and passengers are aware of the location and special regimes which apply to Specially Protected Areas and Sites of Special Scientific Interest

(and on entry into force of the Protocol, Antarctic Specially Protected Areas and Antarctic Specially Managed Areas) and of Historic Sites and Monuments and, in particular, relevant management plans.

6. Obtain a permit, where required by national law, from the competent national authority of the appropriate Party or Parties, should they have a reason to enter such areas, or a monitoring site (CEMP Site) designated under CCAMLR.
7. Ensure that activities are fully self-sufficient and do not require assistance from Parties unless arrangements for it have been agreed in advance.
8. Ensure that they employ experienced and trained personnel, including a sufficient number of guides.
9. Arrange to use equipment, vehicles, vessels, and aircraft appropriate to Antarctic operations.
10. Be fully conversant with applicable communications, navigation, air traffic control and emergency procedures.
11. Obtain the best available maps and hydrographic charts, recognising that many areas are not fully or accurately surveyed.
12. Consider the question of insurance (subject to requirements of national law).
13. Design and conduct information and education programmes to ensure that all personnel and visitors are aware of relevant provisions of the Antarctic Treaty system.
14. Provide visitors with a copy of the **Guidance for Visitors to the Antarctic**.

B) When in the Antarctic Treaty Area

Organisers and operators should:

1. Comply with all requirements of the Antarctic Treaty system, and relevant national laws, and ensure that visitors are aware of requirements that are relevant to them.
2. Reconfirm arrangements to visit stations 24-72 hours before their arrival and ensure that visitors are aware of any conditions or restrictions established by the station.
3. Ensure that visitors are supervised by a sufficient number of guides who have adequate experience and training in Antarctic conditions and knowledge of the Antarctic Treaty system requirements.
4. Monitor environmental impacts of their activities, if appropriate, and advise the competent national authorities of the appropriate Party or Parties of any adverse or cumulative impacts resulting from an activity, but which were not foreseen by their environmental impact assessment.
5. Operate ships, yachts, small boats, aircraft, hovercraft, and all other means of transport safely and according to appropriate procedures, including those set out in the Antarctic Flight Information Manual (AFIM).
6. Dispose of waste materials in accordance with Annex III and IV of the Protocol. These annexes prohibit, among other things, the discharge of plastics, oil and noxious substances into the Antarctic Treaty Area; regulate the discharge of sewage and food waste; and require the removal of most wastes from the area.

7. Co-operate fully with observers designated by Consultative Parties to conduct inspections of stations, ships, aircraft and equipment under Article VII of the Antarctic Treaty, and those to be designated under Article 14 of the Environmental Protocol.
8. Co-operate in monitoring programmes undertaken in accordance with Article 3(2)(d) of the Protocol.
9. Maintain a careful and complete record of their activities conducted.

c) On completion of the activities

Within three months of the end of the activity, organisers and operators should report on the conduct of it to the appropriate national authority in accordance with national laws and procedures. Reports should include the name, details and state of registration of each vessel or aircraft used and the name of their captain or commander; actual itinerary; the number of visitors engaged in the activity; places, dates and purposes of landings and the number of visitors landed on each occasion; any meteorological observations made, including those made as part of the World Meteorological Organization (WMO) Voluntary Observing Ships Scheme; any significant changes in activities and their impacts from those predicted before the visit was conducted; and action taken in case of emergency.

d) Antarctic Treaty System Documents and Information

Most Antarctic Treaty Parties can provide, through their national contact points, copies of relevant provisions of the Antarctic Treaty system and information about national laws and procedures, including:

- The Antarctic Treaty (1959)
- Convention for the Conservation of Antarctic Seals (1972)
- Convention on the Conservation of Antarctic Marine Living Resources (1980)
- Protocol on Environmental Protection to the Antarctic Treaty (1991)
- Recommendations and other measures adopted under the Antarctic Treaty
- Final Reports of Consultative Meetings
- Handbook of the Antarctic Treaty System (1994)
- Handbook of the Antarctic Treaty System (in Spanish, 1991 edition)

INFORMATION TO BE PROVIDED IN ADVANCE NOTICE

Organisers should provide the following information to the appropriate national authorities in the format requested.

1. name, nationality, and contact details of the organiser;
2. where relevant, registered name and national registration and type of any vessel or aircraft to be used (including name of the captain or commander, call-sign, radio frequency, INMARSAT number);
3. intended itinerary including the date of departure and places to be visited in the Antarctic Treaty Area;
4. activities to be undertaken and purpose;
5. number and qualifications of crew and accompanying guides and expedition staff;
6. estimated number of visitors to be carried;
7. carrying capacity of vessel;
8. intended use of vessel;
9. intended use and type of aircraft;
10. number and type of other vessels, including small boats, to be used in the Antarctic Treaty Area;
11. information about insurance coverage;
12. details of equipment to be used, including for safety purposes, and arrangements for self-sufficiency;
13. and other matters required by national laws.

Recommendation X-8 (ATCM X - Washington, 1979)

Effective 08/04/1987

EFFECTS OF TOURISTS AND NON-GOVERNMENT EXPEDITIONS IN THE ANTARCTIC TREATY AREA

The Representatives,

Recalling that Annex A to Recommendation VIII-9 was to be discussed at the Ninth Consultative Meeting and that a draft text of a Statement of Accepted Practices and the Relevant Provisions of the Antarctic Treaty was referred from the Ninth to the Tenth Consultative Meeting;

Recognizing that, in addition to the statement referred to in the previous paragraph which is primarily intended for the organizers of tourist expeditions, it would be helpful to the organizers of such expeditions to be able to provide to individual visitors a brief guide to good conduct in the Antarctic;

Noting that adventurous individuals organizing non-governmental expeditions to Antarctica may seek help or advice from offices administering Antarctic programs;

Recognizing, also, that in considering responses to requests for help from such expeditions, an important concern is the possibility that such expeditions may, in cases of emergency, involve the offices administering Antarctic programs in financial or material loss;

Recognizing that suitably qualified guides accompanying commercially organized Antarctic tours would both benefit the tourists and help to ensure that the conservation and environmental measures adopted by the Consultative Parties were observed;

Reaffirming the traditional principle in the Antarctic of rendering all assistance feasible in the event of an emergency request for help, but noting that commercial overflights of Antarctica are operating in a particularly hazardous environment, where aircraft operation systems normally available elsewhere in the world are at a minimum, and where emergencies could arise which are beyond the capacity of permanent Antarctic expeditions to respond adequately;

Recommend to their Governments that:

I. Statement of accepted Practices and the Relevant Provisions of the Antarctic Treaty
They insert the attached statement of Accepted Practices and the Relevant Provisions of the Antarctic Treaty into Annex A to Recommendation VIII-9 for the purposes set out in operative paragraph 1 of that Recommendation.

II. Non-Governmental Expeditions
If a non-governmental expedition approaches a Consultative Party for help or advice, that Consultative Party should inform the Contracting Party where the expedition to Antarctica is

being organized and may request all relevant information about the expedition.
They urge non-governmental expeditions to carry adequate insurance cover against the risk of their incurring financial charges or material losses in the Antarctic Treaty Area.

III. Tour Guides
To the extent practicable, they encourage commercial tour operators to carry tour guides with experience of Antarctic conditions, who are aware of the considerations which underlie the Agreed Measures for the Conservation of Antarctic Fauna and Flora and for the protection of the Antarctic environment.

IV. Commercial Overflights in Antarctica
They notify commercial aircraft operators that the present level of tourist overflight activity:

(i) exceeds existing capabilities for air traffic control, communications and search and rescue in the Antarctic;

(ii) may interfere with normal operational flights in support of expeditions engaged in ongoing scientific programs in the Antarctic;

(iii) exceeds the capacity of their Antarctic operations to respond adequately to an unplanned emergency landing.

GUIDANCE FOR VISITORS TO THE ANTARCTIC

Antarctica and its surrounding islands are one of the few places in the world which are still relatively unchanged by man's activities. Scientists still know very little about the ecological situation in the Antarctic. At the present early stage in research on these matters, some restrictions and precautions may seem unnecessarily harsh, but preliminary studies indicate the need for great caution.

By following a few very simple requests, you can help preserve the unique environment of this region.

1. Avoid disturbing wildlife, in particular do not:
   — walk on vegetation;
   — touch or handle birds or seals;
   — startle or chase any bird from its nest;
   — wander indiscriminately through penguin or other bird colonies.
2. Litter of all types must be kept to a minimum. Retain all litter (film wrappers, tissue, food scraps, tins, lotion bottles, etc.) in a bag or pocket to be disposed of on board your ship. Avoid throwing tin cans and other trash off the ship near land.
3. Do not use sporting guns.
4. Do not introduce plants or animals into the Antarctic.
5. Do not collect eggs or fossils.
6. Do not enter any of the Specially Protected Areas and avoid Sites of Special Scientific Interest.
7. In the vicinity of scientific stations avoid interference with scientific work and do not enter unoccupied buildings or refuges except in an emergency.
8. Do not paint names or graffiti on rocks or buildings.
9. Take care of Antarctic historic monuments.
10. When ashore, keep together with your party.

STATEMENT OF ACCEPTED PRINCIPLES AND THE RELEVANT

PROVISIONS OF THE ANTARCTIC TREATY

Introduction

The following statement is intended for the guidance of all those who visit the Antarctic.

The Antarctic Treaty was negotiated in Washington in 1959 by the states which had established scientific stations in the Antarctic during the International Geophysical Year (1957-58) in order to perpetuate the close scientific cooperation which had marked that period. It provides, *inter alia*, that the Antarctic shall be used for peaceful purposes only and that any measures of a military nature shall be prohibited; that there shall be freedom of scientific investigation and that the results of such investigation shall be made freely available; that any nuclear explosions and the disposal of radioactive waste material in the Antarctic is prohibited; that notification of an expedition to the Antarctic shall be provided in advance; and that each of the Antarctic Treaty Contracting Parties shall exert appropriate efforts to the end that no one engages in any activity in the Antarctic contrary to the principles or purposes of the Antarctic Treaty.

Recommendations of Antarctic Treaty Consultative Meetings

The Treaty requires that meetings shall be held from time to time to consider and recommend measures in furtherance of its principles and objectives. Amongst these are measures of which all those who enter the Antarctic Treaty Area, both those sponsored by Governments and those not so sponsored, should be aware. The following notes indicate the nature of these measures and the reader is referred to the Recommendations of successive Consultative Meetings for the details.

Protection of the Antarctic Environment

The ecosystem of the Antarctic Treaty Area is particularly vulnerable to human interference and the Antarctic derives much of its importance from its uncontaminated and undisturbed condition and the effects it has on adjacent areas and the global environment. For these reasons the Consultative Parties recognise their special responsibility for the protection of the environment and the wise use of the Treaty Area.

Conservation of Wildlife

Animals in the Antarctic are in almost all cases tame and are therefore peculiarly vulnerable. Both animals and plants are living under extreme conditions and great care has to be taken to avoid upsetting the natural ecological system. They are protected by the following five mechanisms under the Agreed Measures for the Conservation of Antarctic Fauna and Flora:

(i) Protection of Native Fauna

The killing, wounding, capturing or molesting of any native mammal or native bird is prohibited except in an emergency or in accordance with a permit issued under the authority of a Participating Government. Any attempt to do any of these things is also prohibited under the same conditions.

(ii) Harmful Interference

Every effort shall be made to minimize harmful interference with the normal living conditions of any native mammal or bird.

(iii) Specially Protected Species

Two species of seal, Fur Seals and the Ross Seal have been designated as Specially Protected Species and permits may only be issued in relation to these species in accordance with certain restrictive criteria.

(iv) Specially Protected Areas

Certain areas of outstanding scientific interest have been designated as Specially Protected Areas in order to preserve their unique natural ecological system (see Annex I). No person may enter such an Area except in accordance with a permit issued under the authority of a Participating Government. Such permits may only be issued in accordance with certain restrictive criteria.

(v) Introduction of Non-Indigenous Species, Parasites and Diseases

No species of animal or plant not indigenous to the Antarctic Treaty Area may be brought into the Area except in accordance with a permit issued under the authority of a Participating Government. Special precautions have to be taken to prevent the accidental introduction of parasites and diseases into the Treaty Area.

Pelagic sealing

The Consultative Parties, having regard to the possibly damaging ecological consequences that might arise from the exploitation of Antarctic seals for commercial purposes, negotiated the Convention for the Conservation of Antarctic Seals. This Convention entered into force on 11 March 1978.

Waste disposal

In addition to the measures for the conservation of Antarctic Fauna and Flora outlined above, the Consultative Parties have prepared a Code of Conduct for Antarctic Expeditions and Station Activities including, *inter alia*, recommended procedures for waste disposal (see Annex II).

Protection of Historic Monuments

Every effort should be made to prevent damage or destruction to any historic monuments. The Consultative Parties have listed a number of such monuments for special protection (see Annex III).

Facilitation of Scientific Research:

Sites of Special Scientific Interest

There are many scientific investigations being carried out in the Antarctic which could suffer from accidental interference. For example, long term studies of the population dynamics of a penguin colony may require that visitors be kept to an absolute minimum. Intensive scientific work in one area may require that a nearby ecologically similar area be kept undisturbed and uncontaminated for reference purposes. Again, certain electromagnetically “quiet” areas, where sensitive instruments have been installed for recording minute signals associated with upper atmosphere studies, may require that visits to the site should be kept to a minimum.

For these and similar reasons the Consultative Parties have designated certain Sites of Special Scientific Interest in the Antarctic (see Annex IV). Each Site is subject to a management plan

designed to protect the particular scientific investigations being undertaken. Persons wishing to visit Sites of Special Scientific Interest should, well in advance, consult the national office responsible for the administration of a permanent Antarctic scientific expedition or, if this is not possible, should consult the station commander of the scientific station nearest the site which it is intended to visit.

Tourism and Non-Governmental Expeditions to the Antarctic Treaty Area

An important feature of the Antarctic Treaty is that cooperation under it is facilitated by the prior exchange of information about planned activities. The Treaty commitment covers any expedition organised in or proceeding to the Antarctic from any state which is a Contracting Party to the Antarctic Treaty. A consolidated list of the information to be exchanged is attached at Annex V.

It is a traditional principle that expeditions render all assistance feasible in the event of an emergency. There is in the Antarctic a number of unoccupied huts and refuges which may be used by any expedition in an emergency, in which case the authorities who maintain the hut or refuge should be informed of what use has been made of it.

Special Measures Relating to Tourist and Non-Governmental Expeditions

The number of non-governmental expeditions to the Antarctic is steadily increasing and there is a tendency for these expeditions to concentrate on the more easily accessible parts of the Antarctic. Frequent visits to scientific stations or undue dependence on the facilities of such stations can prejudice their scientific work. It is therefore required that the organizers of a tourist or non-governmental expedition should furnish notice as soon as possible, through diplomatic channels, to any other Government whose station the expedition plans to visit. Any such Government may refuse to accept a visit to a station which it maintains or may lay down conditions upon which it would grant permission including *inter alia*, that:

(i) reasonable assurance be given of compliance with the provisions of the Antarctic Treaty, measures adopted under it and the conditions applicable at stations to be visited;

(ii) tour organizers should ensure that prior to the commencement of the tour or expedition, procedures and systems for adequate telecommunications have been confirmed with the offices administering the Antarctic stations to be visited;

(iii) final arrangements to visit any station be made with that station between twentyfour and seventy-two hours in advance of the expected time of arrival;

(iv) all tourists and other visitors comply with any conditions or restrictions on their movements which the station commander may stipulate for their safety or to safeguard scientific programmes being undertaken at or near the station;

(v) visitors must not enter Specially Protected Areas and must respect designated historic monuments;

(vi) tour organizers should report to the Governments whose stations they have visited, after completion of the tour, the name and nationality of the ship, the name of the captain, the itinerary of each separate cruise, the number of tourists accompanying each cruise and the places and dates at which landings were made in the Antarctic Treaty Area, with the number of persons landed on each occasion.

LIST OF ANNEXES