



# ATCM Guidelines for Operation of Aircraft in Antarctica (Resolution 2 (2004) and IAATO Vessel Based Helicopter Etiquette



All IAATO members should be familiar with the Wildlife Awareness Manual (WAM), found in the IAATO Field Operations Manual. Members who operate aircraft (helicopters or fixed wing) should have the Antarctic Flight Information Manual (AFIM) and the WAM as well as the available to ship and aircraft personnel.

## ATCM resolution 2 (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.**



## Introduction



Fixed-wing aircraft and helicopter operations are now integral to most national Antarctic research programmes, as well as being used by a small number of commercial tourist and air transport companies. The potential for harmful disturbance to concentrations of birds makes it important to provide pilots with guidelines that would prevent or minimize damaging impacts during overflights.

Unfortunately, there is a lack of definitive scientific data on which to base firm guidelines for pilots. Moreover, most of the available research relates to penguins and different species of birds are likely to react in different ways or to different degrees to overflights.

## Background

The United Kingdom introduced Working Paper ATCM XXV / WP-26 at ATCM XXV in Warsaw (2002) to bring the issue to the attention of Treaty Parties and to propose a particular set of guidelines. The CEP invited COMNAP, in consultation with SCAR, to review the guidelines, and to report back to the CEP. The present paper presents our conclusions and a recommended set of guidelines. Pending further scientific evidence, these guidelines are considered to constitute a reasonable basis for voluntary implementation. They are based on the practical experience of researchers, including input from SCAR, and on experience derived from the national operators' provision of logistics support to researchers. These guidelines are designed to help aircraft operations in Antarctica to be undertaken safely with the minimal environmental impact.

COMNAP recommends that aircraft operations in Antarctica should be planned and carried out in accordance with these guidelines to the maximum extent practicable.

## Guidelines

### Minimum distances for aircraft operations close to concentrations of birds

There are many variables in noise levels received on the ground during aircraft operations. Determining factors on noise levels include flight height, the type of aircraft and engine, the flight profile, the weather and the location. Pilots will need to make their own judgements based on the aircraft type, task and operational safety considerations.

Unless otherwise specified, for example by an ASPA management plan or ASMA guidelines, recommended distances are set out below. It is recognised however that whilst these represent preferred distances, which should be adhered to the extent possible, operators may already have developed guidelines to suit their own particular needs and circumstances.

- Penguin, albatross and other bird colonies are not to be overflown below 2000ft (~ 610 m) Above Ground Level, except when operationally necessary.
- Landings within ½ 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 ¼ nautical mile (~ 460 m) from the coastline where possible.
- Cross coasts at right angles and above 2000 ft (~ 610 m) AGL where possible.





## Location of aircraft operations (other considerations)

- Be aware that concentrations of birds are most often found in coastal areas.
- Be aware that when operating aircraft in inland areas, snow and Antarctic petrel colonies are frequently found on nunataks. Minimum over-flight distance should be maintained in such 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 and maps. Once the guidelines have been adopted, COMNAP envisages the preparation of 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 October and April 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 October and April. At this time of year, penguins 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.**



### Special etiquette consideration for vessel based helicopter operations in Antarctica:

- a. Helicopter Operations should be run in accordance with the ATCM Resolutions, the Electronic Antarctic Flight Information Manual (e-AFIM), the Wildlife Awareness Manual (WAM), and IAATO Helicopter Etiquette.
  - Helicopter Operators commit to not being seen or heard.
  - Coordination and Communication between vessels and/or stations around helicopter operations is essential.
  - Do not start helicopter operations until appropriate protocols have been followed and confirmation of contact has been made.
  - Do not deviate from communicated plan.
  - All helicopter transponders must be turned on for T-CAS recognition.
  - All IAATO Operator helicopters should be registered with and participate in the COMNAP Asset Tracking System (CATS).
- b. ANY Helicopter Operations wishing to commence near stations (see below distances) should be discussed and agreed upon at minimum 48 hours before. Any Operational requests by National Antarctic Programs must be followed. Operations should not be flown within the following areas without prior agreement with air traffic control.
  - Rothera: From the northern entrance to the Gullet, South anywhere within Marguerite Bay.
  - McMurdo: Anywhere within McMurdo Sound.
  - Marambio: Within 25nm of any part of Snow Hill Island.
  - King George Island: Within 25nm of King George Island.
- c. At all times, Pilots, Expedition Leaders and Vessel Master recognize the desirability to keep helicopters out of the sight / hearing range of all other vessels at all times.
  - When planning helicopter operations with other vessels in the vicinity, noise pollution to guest wilderness experience should be considered.
  - Helicopter Operators will be cognizant of the Ship Scheduler, and will not start, or conduct air operations within 5nm of where a known booking is taking place. This will include maintaining 5nm distance from any vessel conducting operations at a booked site for the duration of the flight operation.
  - If a vessel operating a helicopter has already started flight activities, and another vessel enters within 5nm, the helicopter operations do not have to stop. Close communication must be kept between all vessels.
  - Any close passes with helicopters to vessels or guest activities should only happen with all operating parties explicit consent.
- d. Pilots should at all times be attentive to signs of wildlife disturbance, and corrective action should be taken where practical to avoid or mitigate the effects of aircraft operations and/or safety considerations such as bird strikes.