

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.