

National Airports Safeguarding Framework – Implementation Review

November 2019

About Avisure

Since 1996 Avisure has consulted on Aircraft-Wildlife collision prevention with more than 140 airport, regulator, airline and industry association clients throughout the Middle East, Asia-Pacific and North America. We regularly contribute to technical innovation and policy development in the aviation wildlife management arena (See references) and we currently host and report on the global database of fatalities, hull losses and serious incidents due to wildlife-aircraft collision. We are (or have been) represented on the executive of the International Bird Strike Committee, the Birdstrike Association of Canada, the Australian Aviation Wildlife Hazard Working Group and the Australian Airports Association. We are current members of the World Birdstrike Association, the Wildlife Disease Association, The Environmental Institute of Australia and New Zealand, and the International Society of Air Safety Investigators. Our corporate experience encompasses wildlife hazard management, airport emergency planning and airside general safety and works safety operations. We have applied both practice and policy across a global range of airports, jurisdictions and biomes and consequently suggest that we can offer a broad and comprehensive insight for the National Airports Safeguarding Group (NASAG).

Scope of Our Submission

In the context of the National Airports Safeguarding Framework (NASF) implementation review we have confined the scope of our response to addressing **Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports.**

Overview

We have reviewed safeguarding frameworks (or similar documents) for wildlife strike risk around the world and in our view the NASF is of a high standard. Despite the deficiencies (discussed later) it succeeds in meeting the objectives of the International Civil Aviation Organisation (ICAO) reference documents¹ and provides enough detail to develop risk-based land use plans in the vicinity of aerodromes.

¹ Primarily ICAO DOC 9184 - Airport Planning Manual Part 2 - Land Use and Environmental Control.

Response to Implementation Terms of Reference

Whether the NASF has been/is being embedded in legislation/regulations?

To our knowledge, apart from Christchurch New Zealand (see below) the NASF has only been imbedded into the Queensland Planning Scheme.

Whether the NASF is reflected in policy, guidance and any other planning advice?

Some of the larger airports have incorporated NASF details into their wildlife management plans or created other material referencing the NASF.

What impediments (if any) have there been to full implementation?

The primary impediment to the full implementation of Guideline C, is that it is difficult to embed the elements of the Framework into a planning scheme. Planning schemes by their nature require certainty for acceptable versus unacceptable practice. Wildlife strike management is based on risk, so each airport and each land use require an understanding of the specific context of that location in relation to surrounding habitat features that cause wildlife to utilise the airspace that could be co-occupied in space and time, with aircraft. The risk presented by a land use may not only relate to the airspace above the land use, but also to the interaction of it as a habitat feature with other habitat features in the landscape, potentially causing wildlife to intersect aircraft flightpaths.

A second impediment is that being a “guidance” document only, in our experience, local governments have been reluctant to adopt it into local planning schemes as it is not bound by law. There are no penalties or implications for local, state and territory planning departments for not adopting the principles.

The level of awareness, consideration and use of the NASF principles and Guidelines A to I by relevant government agencies, public and private airport operators;

The awareness, consideration and use of the NASF has been highly variable. Most of the airports covered by the NASF are well aware of it, primarily as a result of advocacy by Australian Airports Association, the Australian Aviation Wildlife Hazard Group and Avisure. Government agencies’ awareness appears to have been dependent on the knowledge, capacity and capability of the relevant officers at each airport. Some airports have a person or persons who champions the awareness and adoption of the NASF, other airports do not.

The level of industry and community stakeholder awareness and familiarity with the NASF framework and guidelines;

As above: variable and dependent on champions within airports and to a lesser extent local governments.

Any specific case studies to illustrate the impact of NASF on land use planning decisions

Canberra Airport. The ACT Government proposed to restore the Jerrabomberra Wetlands located 3km abeam the undershoot of runway 35 by improving and expanding the wetlands. After concerns were raised by Canberra Airport about the potential to increase the bird strike risk, Avisure were contracted to assess the site and review the plan. Using the principles outlined in the NASF we recommended restoring the wetland in a manner designed not to attract more waterbirds. The plan was re-written with that principle in mind.

Tamworth Airport.

Avisure completed a risk assessment of Tamworth Regional Council's plans for a compost facility near Tamworth Regional Airport. By utilising the NASF and other guidance materials we were able to convince the council that the site was incompatible with the airport.

Launceston.

Avisure completed a review of potential sites for proposed expansion of a TasWater's sewage treatment plant and ponds. The sites were reviewed based on proximity to flight paths and connectivity to other known habitats to identify potential strike risks at Launceston Airport due to the project. Recommendations for mitigation measures were incorporated into a report.

New Zealand

In the capacity as an expert witness for two land use planning cases in New Zealand, we successfully argued that, due to lack of detail in the New Zealand guidance materials, the Australian NASF should form the basis for guiding land use planning schemes around Christchurch International Airport and Whenuapai Airbase on the outskirts of Auckland. As a result, aspects of the NASF are imbedded into the Christchurch City Councils' planning scheme² and currently under consideration in Auckland City Council's planning scheme.

Areas for improvement

There are several areas we believe could be improved:

1. The NASF should be reviewed in light of the updated MOS139 to ensure alignment.
2. Attachment 1 of Guideline C: land use and actions should be reviewed, and additional land uses should be considered for inclusion.
3. Colonial species (e.g. ibis, flying-foxes) and racing pigeons require specific guidance.
4. Within 3km of an airport more details are needed such as for vegetation clearing, ponding, drainage stormwater management, fish cleaning, etc.
5. We suggest that the NASF management radius be rationalised against the standard, below MSA, operational terminal departure and approach zone (10 nm). This radius coincidentally matches the 3000' AGL (90% Strike zone) subtended by a standard 3° GS and is therefore both operationally and biologically relevant to the risk (see diagram below).

² [Christchurch Replacement District Plan](#)

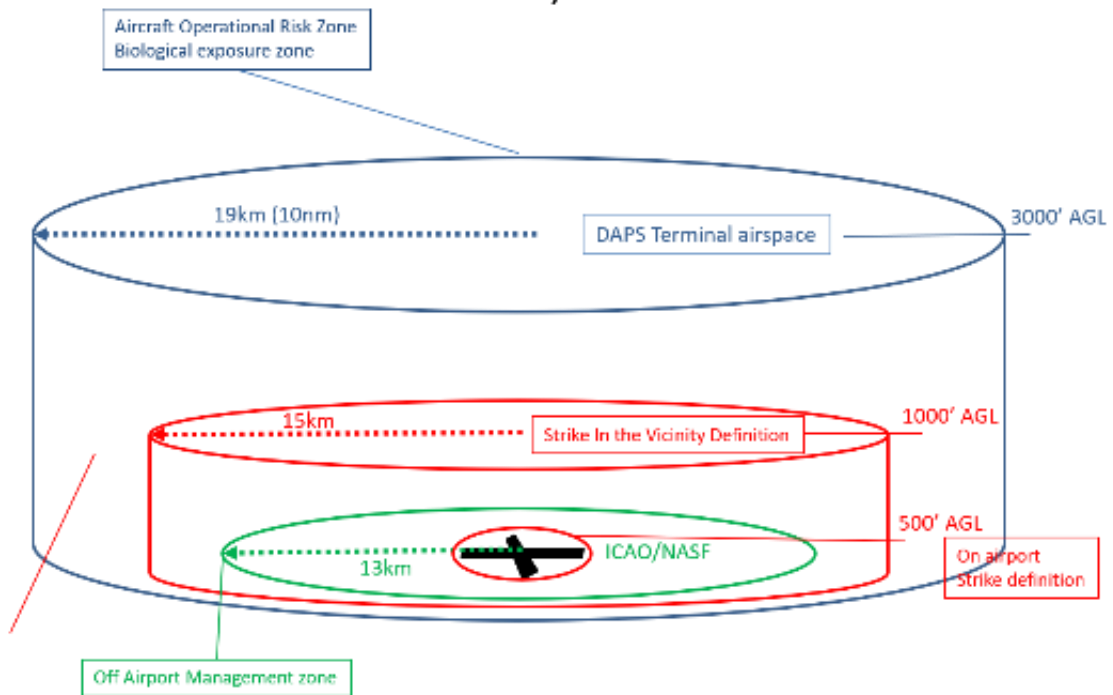
6. The ARP is suggested as the point to measure the 3, 8 and 13km mark from. For some airports the ARP is at one end of the aerodrome and the 3km circle is barely beyond the airport fence. These distances should be measured from the edge of each operational runway as per the OLS radii.
7. Ambiguity should be removed from some areas of responsibility. For instance, Clause 22 states:

“Airport operators should negotiate with land use planning authorities and landowners if required on agreed action plans for monitoring and, where necessary, reducing wildlife attraction to areas in the vicinity of airports...”

It is unclear if the airport operator, the planning authority or the landowner is responsible for the cost and implementation of monitoring and mitigation.
8. It is recommended that qualified bird and wildlife management experts are consulted, but the minimum qualification and experience of such experts should be stated.
9. Construction activities (e.g. excavation) and landscaping works present their own set of risks that require consideration.
10. A flowchart is suggested for users to consider a series of evaluation criteria.
11. The Queensland State Planning Policy can demonstrate how the NASF can be more powerful and compel land use planners to better use it.
12. The NASF should link to planning schemes and be embedded in policy and regulation.
13. The guidelines only apply to certain airports. Some guidance should be given to airports not listed.
14. The guidelines are generic only and cannot blanket all circumstances. Ideally resolution of airspace – land use conflicts should be evidence based rather than generic. Therefore, we strongly recommend that stakeholder groups aim to site-specifically map airspace conflict zones and to base land use, zoning modification and management on this mapping.
15. While surrounding land use clearly influences wildlife movements in relation to aircraft movements the final strike issue is one of dynamic collision avoidance in the airspace. Therefore, airspace managers and airspace users should be ultimately responsible for oversighting and implementing appropriate land use management to prevent collision.
16. A review of equivalent guidance material from other countries should be completed to help identify additional aspects that may be relevant and beneficial for the Australian context.
17. A publicity campaign with airports and planning authorities should be done to highlight the importance of safeguarding and heighten the awareness of the presence and content of the NASF.

Rationalising the radii

Current system



Rationalising the radii

Simplify and combine

