



Australian Aviation Wildlife Hazard Group

Submission on the Discussion Paper: "Safeguards for airports and the communities around them"

July 2009

About the Australian Aviation Wildlife Hazard Group (AAWHG)

The Australian Aviation Wildlife Hazard Group (AAWHG) is a national body formed in 2003 a result of one of the recommendations of the Australian Transport Safety Bureau (ATSB) Report into "The Hazards Posed to Aircraft by Birds"

The current **Terms of Reference** for the AAWHG is to:

- "enhance awareness of the safety issues surrounding bird and animal strikes; provide an opportunity for bird and animal strike information, knowledge and advice to be shared; and to determine directions for future research, regulations and procedures to mitigate the risk posed by birds and animals to aircraft."

The current **Aims** of the AAWHG are to:

- To provide a reference base for the collection, storage and dissemination of reference material relating to bird and animal hazards to aircraft;
- To provide a consultative forum for the development of legislation, at all levels of Government, in relation to bird and animal hazards;
- To facilitate the exchange of information on bird and animal hazards between interested parties and like organisations to enhance the safety of the aviation industry;
- To provide guidance in developing new research resulting in the reduction of bird and animal hazards to aircraft;
- To provide guidance in the training of industry partners in the reduction of bird and animal hazards to aircraft; and
- To provide a model "Bird and Animal Hazard Management Program" to industry for the standardisation of bird hazard identification, reporting and mitigation measures.
- To provide advice on trends and other bird and animal hazard matters relevant to the aviation industry.
- To provide a register of bird and animal hazard control measures used within the Australian aviation industry.
- To ensure the production of regular standardised reports on bird and animal hazards.
- To investigate the possibility of implementing a system in Australia similar to the United States system for bird hazard warnings.

- To liaise with other Bird and Animal Strike Committees or Groups throughout the Region.

The Australian Aviation Wildlife Hazard Group **membership** is made up of the following agencies, organisations and companies:

- Civil Aviation Safety Authority (current Chair)
- Airservices Australia
- Australian Transport Safety Bureau
- The Australian Defence Force (ADF)
- Department of the Environment, Water, Heritage & the Arts
- Department of Infrastructure, Transport, Regional Development & Local Government
- Australasian Aviation Ground Safety Council
- Australian Airports Association
- Individual Airport representatives
- Individual Airline representatives
- Local Government Association
- Regional Aviation Association of Australia
- Aircraft and Engine Manufacturers
- Bird and Wildlife management consultants
- Experts from the academic/research community

The Civil Aviation safety Authority (CASA) currently chairs that AAWHG, although it is expected that the Chairmanship of the Group will be rotated in the future.

The Group's website www.aawhg.org is supported through the CASA website.

Introduction

The Australian Aviation Wildlife Hazard Group (AAWHG) welcomes the release of the Department of Infrastructure, Transport, Regional Development and Local Government's (DITRD LG) Safeguarding discussion paper. The AAWHG appreciates the opportunity to respond and hopefully influence the unified risk based framework for safeguarding, particularly with respect to bird and other wildlife strike risk.

This submission is intended to represent a broad whole-of-industry response to the critical issue of safeguarding airports and aircraft against the risk of bird and other wildlife strike risk.

Background to bird and wildlife management at Airports

The Discussion Paper states:

"Such incidents as simultaneous bird strike causing double engine failure to an Airbus 320 and the landing of the US Airways Flight 1549 on New York's Hudson River in January 2009 are extremely rare and the probability of a significant aircraft accident remains low. As modern aircraft and aircraft engines are designed to minimise the resultant consequences, the impacts are normally confined to structural damage and the efficiency and regularity of service."

It is the case that the probability of a significant aircraft accident remains low, but this understates the cost to airline operators and airports that have to manage wildlife. The annual cost to the worldwide civil aviation industry has been conservatively estimated at US\$1.2 billion¹. These costs, typically absorbed by aircraft owners and airline operators, arise from direct damage cost and indirect downtime costs. Virgin Blue, for example, estimates a delay cost of \$100 per minute such that even non-damaging strikes requiring investigation can be of considerable cost to the airline's operations.

Most major Australian airports take their responsibility for managing wildlife seriously, with mature Bird and Wildlife Management Plans and Safety Management Systems in place, but apart from in Queensland where State Planning Policy SPP01/02 operates, airports have no regulatory support to address serious wildlife risks originating beyond their property. It should also be noted that SPP01/02 only restricts planned developments in the vicinity of an aerodrome and their likely attraction for hazardous bird species. It does not address the questions of hazards already existing in the airport environs. A risk-based, safeguarding policy is essential to minimise wildlife issues which arise as a result of inappropriate land use.

¹ Allan, J. R., and A. P. Orosz. 2001. The costs of birdstrikes to commercial aviation. Pages 218-226 in Bird Strike 2001, Proceedings of the Bird Strike Committee-USA/Canada meeting. Calgary, Alberta, Canada: Transport Canada, Ottawa, Ontario Canada.

The discussion paper nominates landfill sites (presumably putrescible waste facilities), wetlands and nature reserves as land uses that can affect wildlife strike risk. In addition landscaping around airports is mentioned.

The AAWHG considers that there are numerous other land uses that have the potential to attract birds and other wildlife and therefore require consideration. These include (but are not limited to):

- non-putrescible waste landfills and transfer stations;
- sewer works;
- cropping;
- fruit production;
- turf farming;
- piggeries;
- abattoirs;
- aquaculture;
- fisheries;
- commercial fish processing;
- food processing plants;
- riding schools;
- fair grounds;
- outdoor restaurants;
- racetracks;
- playing fields;
- commercial areas;
- theme parks;
- homing pigeon clubs
- golf courses; and
- outdoor theatres.

A suggested approach

The AAWHG advocates an approach that is very similar to the Queensland policy but differs in that in certain circumstances it offers developers an opportunity to propose a land use change in the vicinity of an airport but mitigate any risk.

It is proposed that each airport establish an "Airport Wildlife Strike Risk Protection Zone" (referred to herein as the "Zone"). Land uses within this zone should be then categorised into hazard categories (e.g. Very High, High, Moderate, Low, Very Low). It is expected that the hazard levels would be based on wildlife risk factors such as the distance from the runways.

It is then proposed that a mandatory set of "Airport Wildlife Strike Risk Review Criteria" (referred to herein as the "Criteria") be established at a national level. The purpose of such

Criteria is to provide a structured assessment in order to determine if the proposed development will contribute to the increased risk of a wildlife strike. To function properly, the Criteria would need to be considered by the relevant level of government (Local, State and/or Commonwealth) as a mandatory step before a decision on any proposed development within the Zone is determined.

Depending on the hazard category, the distance, and proposed mitigation, a development proposal within the Zone may (from least onerous to most):

1. Obtain approval from the relevant level of Government following assessment against the criteria.

In exceptional circumstances, where the development is approved but the airport operator believes that a significant hazard to aviation still exists, the operator may then apply to the Secretary of the DITRDLG requesting a review of the approval. Such a request would need to be submitted within five (5) working days of notification to minimise uncertainty to the proponent.

2. Be referred to the DITRDLG for an 'authoritative' assessment, with a presumption that the proposal be *approved*. The Department will make a decision based on its assessment of the risks posed by the proposal and will take into account the views of the airport operator and other stakeholders in making its decision. The Department and may also consult with CASA, Airservices Australia, aircraft operators and independent experts to assist it in assessing the proposal. A recommendation for approval may be subject to the condition that the developer implements appropriate risk mitigation action in consultation with the airport operator.
3. Be referred to the DITRDLG for an 'authoritative' assessment, with a presumption that the proposal be *refused*. The Department will make a decision based on its assessment of the risks posed by the proposal and will take into account the views of the airport operator and other stakeholders in making its decision. The Department and may also consult with CASA, Airservices Australia, aircraft operators and independent experts to assist it in assessing the proposal. A recommendation for approval may be subject to the condition that the developer implements appropriate risk mitigation action in consultation with the airport operator.
4. Be refused.

The proponent of a proposal that would fall under the category of "refused" may also apply to the Secretary of the DITRDLG requesting a review of the refusal. The application for review must outline in detail:

- The mitigation measures proposed to reduce bird and wildlife hazards to aircraft;

- The reasons for the location of the proposal in the vicinity of the airport and why an alternative location is not suitable

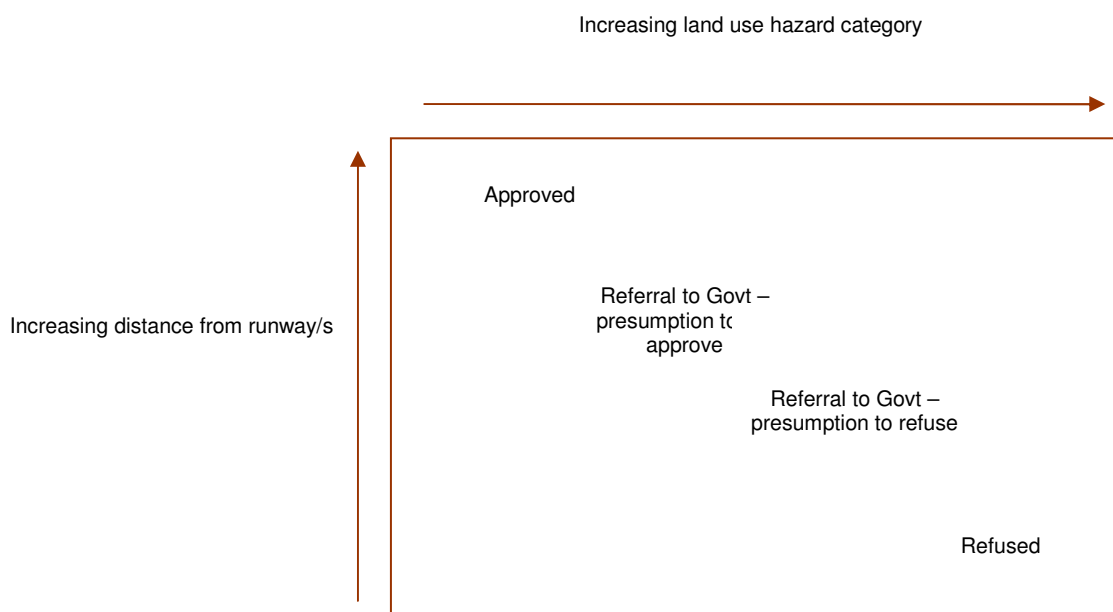
In making a decision to approve a development that would fall under the category of “refused”, the Secretary must be satisfied that:

- The mitigation measures will effectively eliminate or adequately reduce the risk of bird and wildlife hazards to aircraft;
- The proposal is an essential development, which cannot be re-located;

All development proposals or land use changes within the agreed Zones would need to be provided to the Airport Operator prior to approval, even where that land use would normally fall within “approval” outlined at 1) above.

Where a risk assessment is required (ie: for 2. and 3. above), it should consider:

1. Current and developing wildlife strike risks at the airport (in consultation with the airport operator). This will require a detailed understanding of airport operations, aircraft types, aircraft flight paths, etc. as well as understanding the relative risks of individual wildlife species.
2. Existing on and off airport hazards (roosts, breeding colonies, foraging, loafing and sheltering sites) that may influence the way in which wildlife populations will respond to the new land use. This may require an understanding of known or assumed flight tracks of birds and bats and how these change seasonally.
3. The proposed land use and the species likely to be attracted to it and how they will behave in relation to the airport and aircraft flight paths.
4. The mitigation proposed and its proven ability to acceptably manage the risk.
5. Monitoring requirements to ensure risks are not exacerbated over time.



At present, the DITRDLG only has jurisdiction for planning decisions at Federal Airports as per the provisions of the *Airports Act 1996*. There is, however, a precedent for the control of airport airspace as defined under the *Civil Aviation (Building Control) Regulations 1988*. This Policy could be regulated via its incorporation in these Regulations, noting that the applicability of such Regulations should be confirmed as applying to all Australian airports.

This suggested approach considers that the DITRDLG should have similar jurisdiction over appropriate land uses for all airports – regardless of their current status under the *Airports Act 1996*. This position recognises that aviation safety is a national consideration and should therefore override other considerations to ensure that land use surrounding airports is appropriate and does not compromise aircraft safety.

It is expected that the allowance of the DITRDLG to be able to 'override' development approval decisions (made by any tier of government) would be a fundamental shift from the existing regulatory framework. It is therefore surmised that relevant legislation would need to be passed to allow intervention by the DITRDLG on such grounds.

Considerations

While the Queensland policy is robust, the national policy should consider additional land uses (see above). For instance the Queensland policy does not include wetlands, waterbodies, sewer works, non-putrescible waste facilities or landscaping.

With respect to the "Airport Wildlife Strike Risk Protection Zone" (the "Zone"), a number of distances have been used:

- ICAO requirement states that up to 13 km must be considered.
- The Queensland policy uses intervals of 3, 6 and 15 km radius to define Zones.
- The Safeguarding Paper suggests a possible 15km radius for the Zone.

In Australia, some high-risk species routinely transit up to 25km to and from forage and roost sites daily so there is a case for enlarging the prescribed 15km management zone to limit separation conflict with these wildlife. A blanket 25km radius at many airports may however be unnecessarily prescriptive and difficult to coordinate between local government authorities, especially in densely populated areas around major and regional airports. These zone limits are probably best defined on a site-by-site basis after assessing local high risk species and their movement patterns. Alternatively, a 15km radius to align with current Regulations with respect to building controls could be adopted.

The other aspect requiring consideration is retrospectivity. What will be required of a land owner/manager where an existing hazard is identified? A distance-based "existing hazard management zone" could be phased in over time on a case-by-case basis.

Moving Forward

Clearly, the development of a workable policy to protect the areas surrounding airports from wildlife hazards is a complex task, especially given the variety of local conditions that apply to individual airports.

“Airport Wildlife Strike Risk Protection Zones” will need to be tailored for individual Airports based on guiding principles, such as those outlined above. The AAWHG considers that the Zones would need to be gazetted by the Commonwealth following an application by an airport operator (perhaps similar to the airside areas of current security controlled airports).

The determination of the extent of these Zones should be made by the airport operator in consultation with airport operators, CASA, Airservices and State and Local Government Authorities. Where an Airport has established a Bird and Wildlife Management Committee, the determination of the Zone could be assisted by that Committee.

The finalisation of a workable national policy to protect the Zones surrounding airports from wildlife hazards would benefit from high-level input from across the aviation industry, Commonwealth, State and Local Government.

The AAWHG is a national body that encompasses all relevant stakeholders and may be an appropriate forum for the development of the policy.

Conclusion

The AAWHG strongly endorses the DITRDLG safeguarding discussion paper. The Group acknowledges the significant hazards wildlife present to air safety and believes that safeguarding is an extremely important step in mitigating the risks. The Group advocates a risk-based approach that categorises land use types into hazard levels and then considering the distance from runway/s as to whether proposals should be accepted, referred to the airport operator, subject to risk assessment or refused.

The AAWHG looks forward to playing a role in the development of a national policy to protect airports from bird and wildlife hazards in the vicinity of airports.