Before an Independent Hearings Panel of Wellington City Council

In the matter	of the Resource Management Act 1991 (the **Act**)
And	
In the matter	of hearing of submissions and further submissions on the Wellington City Proposed District Plan (**PDP**)

Statement of Evidence of

Jack Austin Howarth for Wellington International Airport Limited

Dated: 23 October 2024

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1. INTRODUCTION

Qualifications and Experience

1.1 My full name is Jack Austin Howarth. I hold a Bachelor of Science in Environmental Studies from Victoria University of Wellington.

1.2 I have been employed by Wellington International Airport Limited (**WIAL**) since February 2022.

1.3 My current role is Wildlife Officer. This role involves:

(a) Maintaining and updating wildlife management documentation to meet regulatory requirements,
(b) Completing notifiable incident reporting to the regulator,
(c) Undertaking investigations of wildlife incidents,
(d) Carrying out off-airport works to monitor and manage southern black-backed gull populations,
(e) Undertaking active management of wildlife when required,
(f) Representing WIAL at the New Zealand Aviation Wildlife Hazard Management Group – an industry group tasked with co-ordination between New Zealand's airports to develop best practice wildlife management systems at a national level,
(g) Organising and maintaining WIAL's ground maintenance contract-related works.
(h) Liaising with stakeholders in collaborative works to reduce the number of hazardous species in close proximity to Wellington Airport.

2. SCOPE OF EVIDENCE

2.1 My evidence will address:

(a) The key risks that bird strike presents to WIAL and its users;

(b) WIAL's current approach to managing bird strike risk; and,

(c) Why bird strike should be recognised and provided for in the Proposed Plan.

3. INTRODUCTION

3.1 WIAL is the owner and operator of Wellington International Airport (**Wellington Airport** or **Airport**).

3.2 The Airport is subject to a number of obligations under the Civil Aviation Authority rules, which relate to the management of wildlife including bird strike risk.

3.3 Under Civil Aviation Rule 139.71, the Airport "*must, if any wildlife presents a hazard to aircraft operations at the aerodrome, establish an environmental management programme for minimising or eliminating the wildlife hazard*". [1]

3.4 As part of this the Airport is required to:

(a) Have and maintain a best-practice abiding Wildlife Hazard Management Plan that is tailored to our local environment and most commonly struck high-risk species;

(b) Monitor the presence of wildlife hazards in areas relevant to aircraft operations related to the aerodrome in question;

(c) Disperse observed wildlife hazards if posing a risk to aircraft movements;

(d) Mitigate the risk of bird strike occurring by all practicable methods;

(e) Reporting of all wildlife incidents, as described in [3.3], to the Civil Aviation Authority; and

(f) Remove wildlife attractants where practicable.

3.5 Bird strike (1) or near strike (2) means[2] any incident where:

(1) there is a collision between an aircraft and one or more birds; or

(2) when one or more birds pass sufficiently close to an aircraft in flight to cause alarm to the pilot:

[1] CAA consolidated Rule: Part 139 Aerodromes Certification, Operation and Use (aviation.govt.nz)
[2] CAA consolidation Rule: Part 12, Accidents, Incidents, and Statistics

3.6 Bird strike is a significant risk to the safe operation of the Airport and its surroundings.

4. KEY RISKS FROM BIRD STRIKE

4.1 Bird strike is one of the 15 critical safety risks for Wellington Airport[3].

4.2 Collisions between aircraft and wildlife can result in damage to, or at worst, the loss of an aircraft and its occupants. These collisions are most crucial when the engine(s), or other component of the aircraft's propulsion, is involved.

4.3 Globally, since the first fatality in 1912, bird strikes have been directly attributed to the loss of 678 aircraft and 795 lives as of 2024.

4.4 The financial loss alone associated with a bird strike event is difficult to calculate due to the combination of direct and indirect expenses associated with repairs, disruptions to operations, and accommodating the loss of transport to passengers. In 2001, airlines were conservatively thought to have lost $1.2 to $1.4 billion USD globally[4]. As flight numbers have increased, it is reasonable to assume the cost of bird strike has increased since 2001.

4.5 Quite apart from the potential for a catastrophic event resulting in the loss of an aircraft and the passengers and crew onboard, the loss of wildlife due to bird strike events is also difficult to calculate. However, since 2014, WIAL has recorded 25 strikes with protected bird species, resulting in the loss of 32 individual protected birds.

4.6 The CAA considers the risk of bird strike is increased by the following activities being near aerodromes due to their propensity to attract wildlife[5].

(a) Refuse Dumps and landfills
(b) Sewage Treatment and Disposal
(c) Agricultural - cultivation of land, types of activity e.g. pig farming
(d) Fish processing plants
(e) Cattle feed lots
(f) Wildlife refuges

[3] WIAL risk register, 2024
[4] The costs of birdstrikes to commercial aviation (Allan, J.R., & Ozosz, A. P., 2001)
[5] Guidance material for land use at or near aerodromes (aviation.govt.nz)

(g) Artificial and natural lakes
(h) Animal farms
(i) Abattoirs and freezing works

4.7 Accordingly, the CAA recommends that "*Proper planning of these activities and their impacts on wildlife should be undertaken. It should be noted that aircraft approach and departure areas may extend for a distance from the aerodrome runway, therefore wildlife impacts on aircraft activities may not be immediately apparent*"[6].

4.8 As such and as set out at [5] below, the WIAL has a number of strategies for reducing the risk of bird strike. However, the reality is that all aerodromes experience strikes and near strikes, and Wellington is no exception.

4.9 All wildlife incidents, as outlined in [3.5], are recorded, along with a range of associated key details such as time and date, aircraft make, altitude, location, species involved, numbers struck, damage, etc.

4.10 Since September 2013, there have been 322 recorded bird strikes, and 929 near strikes at Wellington Airport.

4.11 In the last 10 years at Wellington Airport, there have been 22 instances of aircraft engine ingestion (i.e. a bird entering the active engine of an aircraft) during bird strike events. A further 7 bird strikes caused damage to the aircraft involved, but did not involve engine ingestion.

4.12 The probability of bird strike causing damage to the aircraft involved is greatly increased not just by the location of the collision, but also by the sum of the mass struck. For this reason, large groups, or large individual birds pose the greatest risk to safe aircraft operations.

4.13 The dispersal and management methods used at Wellington Airport are tailored to targeting the highest risk species as a priority. Southern black-backed gulls account for over 40% of all bird strikes at Wellington Airport over the past decade, with 134 of 322 bird strikes since September 2013 attributable to that species alone. When

[6] Guidance material for land use at or near aerodromes (aviation.govt.nz)

adjusted by the mass involved across all strikes, this jumps to 89% of all mass struck. Therefore, any management methods that target the probability of black-backed gulls being struck are considered a priority to Wellington Airport.

5. CURRENT APPROACH

5.1 WIAL takes its obligations in relation to bird strike extremely seriously. The management of bird strike is critical to ensure the safety of passengers and other users of the Airport as well as the surrounding community.

5.2 WIAL uses a range of bird strike management measures to reduce the risk of bird strike as much as possible.

These measures are set out below:

(a) Shared management of wildlife hazards by WIAL's Wildlife Officer, Airfield Airport Operations Co-Ordinator (AOC) and Air Fire Service;

(b) Frequent, and irregular maneuvering area inspections for wildlife;

(c) Responses to wildlife dispersal callouts by pilots and Air Traffic Control (ATC);

(d) Non-lethal dispersal of wildlife via active dispersal methods, such as lasers, sirens, and pyrotechnics;

(e) Lethal management of southern black-backed gulls and spur-winged plovers through firearms use;

(f) Egg oiling of southern black-backed gull eggs at key locations, such as Hue te Taka and Matiu/Somes Island;

(g) Alphachloralose-based (an avicide) culls of southern black-backed gulls at Hue te Taka;

(h) Removing any nesting habitats of key species on airport grounds;

(i) Management of vegetation on airport grounds to minimise attractiveness to key species. Includes implementation of specialized Avanex grass across 15 ha of airside areas and regular and ongoing height control of grass;

(j) Control of food attractants on airport grounds through waste management, and insecticide use on all airside turf environments;

(k) Pre-flight inspections of the runway during curfew hours;

(l) Thermal camera installation for wildlife detection during low-light hours;

(m) Distress siren installations on large, flat roofs to deter wildlife presence

near the runway; and

(n) Membership to, and quarterly engagement with New Zealand Aviation Wildlife Hazard Management Group.

5.3 The challenges associated with the current, largely on-airport, approach to bird strike management include:

(a) Active dispersals require constant monitoring and immediate response times to address the wildlife hazard effectively, leaving opportunities for wildlife to be struck by aircraft;

(b) Avifauna can quickly become habituated to non-lethal controls, resulting in greater time investment per dispersal, and reduced effectiveness of that control;

(c) Reduced efficacy of non-lethal deterrents can result in having to utilise lethal management, which is not preferrable if it can be avoided;

(d) Ongoing active dispersals have their own drawbacks to local residents due to often utilising loud noises, such as from pyrotechnics, firearms, and sirens.

5.4 Although active dispersals are useful for removing wildlife that is found in the immediate vicinity of the runway, it does nothing to address wildlife crossing the runway to reach, at times, distant locations, meaning that strikes can occur when inspections for wildlife are in the process of being completed, or have been completed just prior to the incident. This is of concern when considering the average altitude of strikes involving black-backed gulls is 92 feet (approximately 28 metres).

5.5 WIAL's Wildlife Hazard Management Plan identifies high risk, off-airport bird hazard sites surrounding the Airport. These vary in distance from immediately adjacent to up to approximately 13 km from the airport. Dr Anderson has provided some details around why these sites are attractive to various bird species. With respect to each, WIAL manages the risk these sites pose as follows:

(a) Southern Landfill: The Southern Landfill Extension Plan will require Wellington Airport to be involved in the implementation of a Landfill Pest Management Plan to mitigate the attraction of birds to the site.

(b) Hue te Taka/ Moa Point: Population monitoring, southern black-backed gull nest oiling and population management.

(c) Miramar Peninsula: Population monitoring of southern black-backed gulls, and population control at Hue te Taka.

(d) Local Schools: Arrangement to trial new worm removal agent on nearby secondary school fields. Communication with nearby secondary school to reduce food waste given to pest species.

(e) Lyall Bay: Population monitoring of southern black-backed gulls.

(f) Matiu/Somes Island: Providing funds to Department of Conservation to assist in revegetation of native species, and oiling of southern black-backed gull eggs.

(g) Miramar Golf Course: as discussed below, the redevelopment of the golf course has been undertaken in accordance with a Wildlife Management Plan for which WIAL has had active involvement. It is also important to note that ownership of the southern portion of this site will transfer to WIAL in early 2025, therefore enabling further management by WIAL as necessary minimise the attractiveness of the site to birds.

(h) Wellington Harbour: Monitoring for southern black-backed gull nests.

(i) Bridge Street Community Garden: this community garden is owned and operated by WIAL and is part of WIAL's sustainability initiatives. It is therefore closely managed to ensure it does not result in an attractant to birds. Should, due to any unforeseen attraction occur on this site, WIAL can actively change how the site is managed or cease operation if necessary.

(j) The Hutt River: Observations near Hutt River's mouth.

5.6 One of the greatest difficulties for WIAL when seeking to manage bird strike off-airport is that it has to rely solely on non-regulatory methods. WIAL therefore currently requires the cooperation of landowners, developers, and decision-makers understanding and accounting for the risk of bird strike.

5.7 WIAL has recently been involved in planning processes where bird strike risk was an issue within Wellington City as follows:.

(a) The WCC's Sludge Minimisation Project, which is partly located within the WIAL Main Site Area designation and involves areas leased from

WIAL. This ownership arrangement meant that WIAL was able to be involved from the outset to ensure that any proposed landscaping and stormwater attenuation did not include trees or waterways that are attractive to birds. The Notice of Requirement for WCC's altered designation for this facility was also publicly notified, and therefore WIAL was able to be involved via the submission/hearing process, resulting in conditions relating to bird management.

(b) WIAL made a submission on the publicly notified resource consent for the Southern Landfill Extension, which, when approved on the 11th of March 2024, ultimately resulted in conditions on the resource consent requiring the landfill operation to prepare a bird management plan in liaison with the Airport.

(c) WIAL was involved in relation to the re-development of the Miramar Golf Course. WIAL worked with Miramar Golf Club on a number of matters relating to the redevelopment including ensuring that any landscaping and golf water hazards were not attractive to birdlife and is continuing to work with the Club in the preparation of their wildlife management plan (which they agreed to as a condition of their resource consent).

5.8 Although WIAL did manage to be involved in these processes, it was only as a consequence of the close vicinity of these projects to the Airport and our relationships with both the developers and decision makers or the public notification process that allowed for this.

5.9 There is consequently little consistency in the off-airport management of activities in Wellington in relation to bird strike risk. The most consistent, effective and proactive means of off-airport bird strike management is the control of land-use activities through District Plan provisions in relation to off-airport land. Clear guidance and rules relating to land uses that have the potential to elevate the bird strike risk in Wellington are currently missing from the Proposed Plan.

5.10 In the particular context of Wellington Airport, reducing bird strike risk requires the management of key resources or attractants in areas surrounding the Airport in order to reduce the probability of a serious wildlife incident from occurring.

6. PROPOSED PLAN RULES

6.1 The Airport has proposed a set of plan rules, to be included in the Infrastructure Chapter. The proposed rules are set out in the Mitchell Daysh Limited memorandum to the Panel dated 17 September 2024.

6.2 These rules have been refined since the memo was filed and in response to the Section 42A Report and are set out in Ms O'Sullivan's evidence.

6.3 These rules are intended to regulate activities which would encourage behaviours of birdlife that are conducive to bird strikes occurring, and enable the Airport to engage with landowners early in the consenting process to minimise the risk of bird strike.

6.4 WIAL considers that land use management is the most effective means of long-term mitigation of bird strike risks and enables the Airport to take a consistent and proactive approach to managing the risk from bird strike.

6.5 This is supported by the CAA. The 2011 Advisory Circular 136-16 "Wildlife Hazard Management at Aerodromes" provides aerodromes with "Acceptable Means of Compliance" with Rule 139.71 Wildlife Hazard Management and addresses various management techniques for managing wildlife hazards, including in relation to local authorities.

6.6 The Advisory Circular states:

> *Local authorities are responsible for planning land use activities, and setting bylaws for wastewater treatment, landfills and parks and reserves including sports fields.*
>
> *Local authorities should be told about the hazards and encouraged to develop land use restrictions and management techniques to minimise the presence of birds near aerodromes.".*

6.7 The 13 km radius around Wellington Airport in which landfill implementation would be discretionary is in line with the International Civil Aviation Organization's standards regarding wildlife hazard management and land use practices. It is

recommended by the International Civil Aviation Organization that landfills should not be implemented within a 13 km radius of an aerodrome.

6.8 It is considered best practice and the industry standard in New Zealand to seek to mitigate the effects of wildlife attractant activities out to 8 km and 13 km from the aerodrome. The 8km radius is based on the Australian Aviation regulatory body, the Civil Aviation Safety Authority's (CASA) standards for wildlife management[7]. This has been adopted by the New Zealand Aviation Wildlife Hazard Management group, the leading industry group in New Zealand for the management of wildlife hazards at aerodromes.

6.9 This has been the basis of WIAL's approach to the land use rules proposed which seek to mitigate attraction of birds to attractants within 8 km and 13 km of Wellington Airport. The management of sites identified as attractants outlined in paragraph [4.6] is key to disrupting the flight paths of the most hazardous bird species in particular those that transit the runway while traveling from one destination to another.

6.10 At Wellington Airport, being able to have structured engagement as a result of proposed land use rules with off-airport land users is particularly important due to the relatively small area that Wellington Airport operates on. For example, Wellington Airport occupies approximately 110ha, compared to 1000ha for Christchurch Airport and 1500ha for Auckland Airport.

6.11 As such, unlike other airports, Wellington Airport has limited control over the closest land areas surrounding the Airport, including land directly adjacent to the runway. This significantly limits the Airport's ability to proactively manage surrounding land uses and requires the Airport to currently rely on more reactive controls on its grounds.

6.12 The restrictions on control options available is compounded by Wellington Airport running almost the full length of the area dividing Rongotai and Miramar from one another. This results in land use practices around the runway, particularly those that are considered as attractants to birds flying directly across the runway;

[7] AC 139.C-16 – Wildlife Hazard Management, CASA

intersecting low-altitude aircraft movements as they do so, even if their destination is kilometers away from the airport itself.

6.13 Examples of land use practices and their impact on black-backed gull behaviors can be observed in WIAL's GPS tracking project of 5 black-backed gulls in 2020. The patterns of behavior displayed across these 5 individuals show the strong impact that food resources, and roosting locations (landfills, schools, recreational areas, and natural habitats) have on movement patterns of birds, particularly southern black-backed gulls. It is the movement between key feeding and roosting sites that these rules will assist in mitigating the effects of.

6.14 It is commonly observed by WIAL staff on wildlife inspections that black-backed gulls travel west across the runway during dawn and early morning, then transit back east across the runway during the evening and dusk. It is suspected that the food resources found in Wellington City are the key attractants that influence these observations. The importance of the Southern Landfill as an attractant to black-backed gulls is suspected as a key factor, with evidence to support this theory in the black-backed gull tracking study.

6.15 While the CAA guidance material identifies nine land use activities that are more likely to act as a bird attractant [4.6], Dr Anderson and I have refined the list to only include those that are more likely to present a hazard in the Wellington context based on the species present. For the most part, this has resulted in the removal of agricultural type activities and wildlife refuges.

6.16 In my view any bird attractant activities listed in paragraph [4.6] above introduced within 8 km and 13km of the airport have the potential (certainly without appropriate management measures) to bolster local populations of hazardous species that can take advantage of food processing, and waste management practices. Chiefly, wildlife attractant activities introduced with 8 km and 13 km of Wellington Airport are likely to encourage high-risk bird species to intersect the flight paths of aircraft while they transit from one attraction to another, which is something that reactive deterrents are less effective at managing. Land use management changes would seek to address the issue at the core of the issue.

6.17 At greater distances, such as between 8 km and 13 km, site-specific wildlife management plans targeting key species will, in the majority of cases, be sufficient

to reduce this hazard to a manageable level for Wellington Airport.

6.18 However, in my view this should not extend to landfills and refuse sites due to known effects and as a result the scale of risk associated with bird strike, as outlined in Wellington Airport's black-backed gull GPS study, and Dr Anderson's evidence.

6.19 Managing the key bird attractants activities in the manner proposed by the rules will enable WIAL to proactively disrupt these hazardous movements of high-risk species, while maintaining a degree of pragmatism that not all activities can feasibly be managed.

Jack Howarth

Wildlife Officer

23 October 2024