Aviaire
WILDLIFE HAZARD MANAGEMENT CONSULTANTS
Increasing safety from the ground up

Phase 2

Wythenshawe, Manchester



Wildlife Hazard Management Plan

To support a planning submission for the inclusion of photovoltaic roof panels on blocks of flats at Foscarn Drive, Bracken Drive, Glazebury Drive, Wendon Road

Client: Wythenshawe Community Housing Group

Produced: November 2025

Version No: 001
Rev No: 003

Wythenshawe
Community Housing Group

Contents

Authority for this Plan 3

Contact Details 3

Revision History 3

Abbreviations and Glossary of Terms 4

1 Introduction 5

1.1 Purpose of this document 5
1.2 Context 5
1.3 Site Overview 5
1.4 Wildlife Hazard Management (WHM) 6
1.5 Statutory and Regulatory WHM Requirements 8
1.6 Wildlife Licences in England 9
1.7 UK Birds of Conservation Concern 10
1.8 Aerodromes within proximity of the Project Site 10

2 Target Wildlife Species for Control and Dispersal 12

2.1 Intolerable Bird Species of Aviation Concern (November 2025) 12
2.2 Current Bird Species of Aviation Concern (BSAC) 12
2.3 Current Mammal Species of Aviation Concern (MSAC) 13

3 Review of Proposed Site Design and Activities 14

3.1 Review of Proposed Enabling Works 14
3.2 Review of Proposed Infrastructure Works 14
3.3 Review of Likely Social Behaviour 14

4 Wildlife Hazard Management Strategy 15

4.1 Aim 15
4.2 Goal 15
4.3 Key Objective 15
4.4 Site Management 15
4.5 Required Outcomes 15

5 Required Wildlife Hazard Management Actions 17

5.1 WSAC Monitoring 17
5.2 Roles and Responsibilities 17
5.3 Communication 18
5.4 Measures to Mitigate Elevations in Assessed WSAC 18

6 Reference Documents 22

Authority for this Plan

The authority for this Plan is Wythenshawe Community Housing Group.

This plan has been prepared by Aviaire in compliance with all applicable UK legislation and aviation regulatory standards, and forms part of the documentation for the development and the future estate management of the Wythenshawe Phase 2 Project (the Project).
The organisations responsible for coordinating delivery of the recommendations in this Plan is Wythenshawe Community Housing Group.

Disclaimer

This document is to support the construction phase / planning conditions discharge of the Wythenshawe Phase 2 Project.

This Wildlife Hazard Management Plan supports the planning application and provides an overview of strategies and recommendations to support minimisation of wildlife hazard risks for aircraft using Manchester Airport and airspace within its 13km safeguarded circle (the Purpose).

The contents of this Plan are for the information of Wythenshawe Community Housing Group to whom it is addressed (the Addressees) and for no other parties.

By way of accepting this Plan the Addressees acknowledges that the information contained in the Plan is particular to Wythenshawe Phase 2 Project and it will not be suitable for use on another site.

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Revision History

Version No.	Rev No	Date	Summary of Changes	Section or Page Number
001	001	10/03/2026	Add detail to monitoring schedule.	5.4.3
001	002	26/04/2026	Add further detail to monitoring and logging procedure.	5.4.3

			Details on escalation to use licensable activities.	
001	003	21/05/2026	Removal of roof mounted acoustic deterrent methods and replace with handheld.	5.4.3

Abbreviations and Glossary of Terms

AAIB	Aviation Accident Investigation Bureau
AOA	Aerodrome Operators Association
ARP	Aerodrome Reference Point
BSAC	Bird Species of Aviation Concern
BTO	British Trust for Ornithology
DRA	Design Risk Assessment
HVAC	Heating, Ventilation, Air Conditioning
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
KPI	Key Performance Indicators
MSAC	Mammal Species of Aviation Concern
MAN	Manchester Airport
OLS	Obstacle Limitation Surface
PPM	Planned Preventative Management
RSPB	Royal Society for the Protection of Birds
SARP	Standard and Recommended Practices
SUDS	Sustainable Urban Drainage Systems
UXO	Un-Exploded Ordinance
WCHG	Wythenshawe Community Housing Group ltd
WHDRA	Wildlife Hazard Design Risk Assessment
WHM	Wildlife Hazard Management
WHMP	Wildlife Hazard Management Plan
WSAC	Wildlife Species of Aviation Concern

For the benefit of this document:

- The term “Project” refers to “Wythenshawe Phase 2”
- The term “Airport” refers to the “Manchester Airport”
- The term “Client” refers to “Wythenshawe Community Housing Group”
- The terms “Aerodrome” and “Airport” are synonymous.
- The term “Appropriate Authority” refers to the party or parties with the decision-making authority and ability to implement the required actions as and when necessary.

1 Introduction

1.1 Purpose of this document

This Aviation Wildlife Hazard Management Plan (WHMP) has been prepared on behalf of Wythenshawe Community Housing Group (the Applicants) in relation to land situated to the North of Manchester Airport, Wythenshawe Phase 2 (the Project).

This Wildlife Hazard Management Plan has been produced to support the planning application for the Wythenshawe Phase 2 Project to minimise wildlife hazard risks for Manchester Airport (the Airport).

1.2 Context

This Wildlife Hazard Management Plan supports the planning application from the Applicants for Wythenshawe Phase 2 Banbury Road in relation to land situated to the North of Manchester Airport comprising four blocks of low-rise flats located at:

- 1-30 Glazebury Drive, Manchester, M23 1LS
- 2-72 Wendon Road, Manchester, M23 1PU
- 1-24 Foscarn Drive, Manchester, M23 1LU
- 1-24 Bracken Drive, Manchester, M23 1LT

The application includes provision for:

- Installation of solar PV panels

The Plan provides an overview of context, strategies and recommendations to support minimisation of wildlife hazard risks for aircraft using Manchester Airport (MAN) and airspace within its 13km safeguarded circle.

The WHMP details how compliance with good practice in wildlife hazard management and safeguarding should be achieved throughout all enabling and infrastructure works or until Manchester Airport is no longer operational (whichever is sooner).

Full adherence to the provided management strategy against statutory obligations and recommended practices, will support two key objectives:

1. No elevation in onsite populations for the defined Wildlife Species of Aviation Concern (***WSAC***) for Manchester Airport; and
2. No contribution towards an elevation in bird strike risks for aircraft using Manchester Airport and its surrounding critical air space.

This supports requirements in UK DfT: Town and country planning (safeguarded aerodromes, technical sites and military explosives storage areas) direction 2002 [Updated 22 December 2016].

1.3 Site Overview

Site Name

- Wythenshawe Phase 2

Site Location

The Project is located on land North of Manchester Airport by approximately 4.49 kilometres from the aerodrome reference point (**ARP**).

What3words: leans.cargo.fish [circa centre of site]



Figure 1: Satellite view of the proximity of the Project site to the North of the ARP.

The Project site is currently characterised as an active residential area comprised of four blocks of flats located 4.49km to the North of Manchester Airport. The surrounding land use is mostly residential with some commercial properties to the West such as Roundthorn Business Park.

1.4 Wildlife Hazard Management (WHM)

Wildlife hazard management is the process of mitigating against the likelihood of conflict between wildlife and an aircraft, where wildlife can be birds, mammals, reptiles or insects.

Because wildlife is mobile, sites and natural features away from an aerodrome also increase the risk of wildlife strikes when there are locations on or surrounding an aerodrome provide feeding, roosting and/or breeding opportunities, shelter and security. This is because these locations increase the potential number of wildlife occurring on an aerodrome and the number of birds using the airspace surrounding an aerodrome. It is therefore an aviation priority to reduce wildlife strikes to increase air safety and to mitigate the associated high financial burdens. Even minor strikes can be incredibly costly, with knock-on business, legal and reputation impacts.

Some wildlife species are a greater hazard for aircraft than others due to their weight, movement patterns, flocking tendencies, and their propensity to fly or move within the same vicinity as aircraft.

Risks can be mitigated by knowing when these scenarios are most likely to occur, and by knowing how to reduce the likelihood of occurrence. This is the process of wildlife hazard management.

1.4.1 Wildlife hazard strikes

A wildlife hazard strike is defined as a physical collision or direct interaction between wildlife, most commonly birds, and an aircraft operating within critical phases of flight. These events pose significant operational and safety risks, particularly during low-altitude flight regimes where aircraft are either ascending, descending, or manoeuvring in proximity to airports.

Empirical data and incident reporting consistently indicate that approximately 95% of all wildlife strikes involving aircraft occur at altitudes below 3,000 feet above ground level (AGL). This concentration of strike events at lower altitudes relates to the activities of avian species and other wildlife, which tend to inhabit and traverse airspace near terrestrial features such as wetlands, grasslands, and urban environments. Consequently, most wildlife strike incidents are recorded during take-off, initial climb, approach, and landing phases, periods when aircraft are least able to manoeuvre and most susceptible to external hazards.

The phases of flight for fixed-winged and rotary aircraft at risk from wildlife strikes are as follows:

Flight Stage	Wildlife Strike Risk Profile
Manoeuvring on the Aerodrome	High risk from both birds and terrestrial mammals. Wildlife may be present on taxiways, aprons, and near hangars, attracted by waste, vegetation, or shelter.
Take-off Flight Path	Elevated risk from birds, particularly flocking species and scavengers startled by aircraft noise. Limited aircraft manoeuvrability increases vulnerability.
Final Approach	High risk from birds, especially those foraging or loafing near runway thresholds. Aircraft are low, slow, and less able to avoid strikes.
Missed Approaches	Moderate to high risk from birds. Aircraft re-enter low-level airspace rapidly, often without warning, increasing exposure to bird activity.
Circuit Operations	Sustained risk from birds during repeated low-altitude manoeuvres. Training flights and holding patterns increase time spent in bird-active zones.
En Route (Cruise Phase)	Lower but non-negligible risk from high-flying species such as geese, swans, and raptors. Migratory movements and thermal soaring behaviour can intersect flight paths.

Mitigating the risk of wildlife strikes is a critical operational and safety priority within the aviation sector. The presence of wildlife in and around aerodromes, particularly birds, poses a persistent threat to aircraft integrity and flight safety. Even low-severity strike events, those that may not result in immediate structural damage or injury, can incur substantial financial costs and operational disruptions.

1.4.2 Good practice in wildlife hazard management

Good practice in wildlife hazard management supports efficiency and effectiveness. To achieve this Aviaire advocates a cyclical six-step process in wildlife hazard management.

By following a set sequence of actions in each step an aerodrome operator will achieve required outputs through optimised use of time and resources.

Good quality data is key to optimising the process of wildlife risk assessment and hazard management.

Step	Description
Step 1 – Data Collection	Gather site-specific wildlife activity data, strike history, habitat features, and seasonal patterns.
Step 2 – Risk Assessment	Evaluate the likelihood and severity of wildlife strikes based on collected data.
Step 3 – Planning	Develop a Wildlife Hazard Management Plan (WHMP) with targeted mitigation strategies.

Step 4 – Implementation	Deploy mitigation measures such as habitat modification, deterrents, and operational controls.
Step 5 – Monitoring	Track wildlife activity, strike incidents, and effectiveness of mitigation actions.
Step 6 – Feedback and Learning	Review outcomes, update WHMP, and incorporate lessons learned.



Figure 2: Aviaire Six Step Process.

1.5 Statutory and Regulatory WHM Requirements

All development sites are expected through the UK planning process to adopt and support relevant sections of standard and recommendation practices.

This requires a development site owner, or a suitably delegate, to stay in touch with relevant details in the latest editions of at least the following documents:

- ICAO
  - Annex 14, Aerodromes - Vol l, "Aerodrome Design & Operations"
  - Doc 9137, Airport Service Manual, "Part 3 - Wildlife Control & Reduction"
- UK CAA:
  - CAP 168 "Licensing of Aerodromes"
  - CAP 738 "Safeguarding of Aerodromes"
  - CAP 772 "Wildlife Hazard Management at Aerodromes"
  - UK Reg (EU) No 139/2014 (the UK Aerodromes Regulation) [last amended 27 Jan 2022]
  - CAA 139/2014 Aerodromes UK Acceptable Means of Compliance & Guidance Material [AMC GM]
- UK Law
  - Town and country planning (safeguarded aerodromes, technical sites and military explosives storage areas) direction 2002 [1]
  - The Construction (Design and Management) Regulations 2015 [2]

Extracts from the Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) Direction to be noted:

➢ *Officially safeguarded aerodromes*

"Certain civil aerodromes, selected on the basis of their importance to the national air transport system, are therefore officially safeguarded, in order to ensure that their operation and development are not inhibited by buildings, structures, erections or works which infringe protected surfaces, obscure runway approach lights or have the potential to impair the performance of aerodrome navigation aids, radio aids or telecommunication systems; by lighting which has the potential to distract pilots; or by developments which have the potential to increase the number of birds or the bird hazard risk."

"A local planning authority, before granting permission for the development of land forming the site of or in the neighbourhood of an aerodrome, ... for which a safeguarding map has been

[1] UK DfT; Town and country planning (safeguarded aerodromes, technical sites and military explosives storage areas) direction 2002; Updated 22 December 2016

[2] https://www.hse.gov.uk/construction/cdm/2015/index.htm

furnished to the authority, shall, to the extent specified on such a safeguarding map in relation to particular parts shown thereon, consult the consultee."

In relation to a safeguarding map certified by the Civil Aviation Authority, the owner or operator of the aerodrome identified on that map is defined as a statutory consultee in the planning application process.

"In order to protect aerodromes against these hazards 3, safeguarding maps include, in addition to the requirements related to the height of buildings and structures, a dotted circle, with a 13-kilometre radius in the case of civil aerodromes ..... centred on the safeguarded aerodrome reference point (ARP) to indicate the area within which developments likely to attract birds require similar consultation."

"Local planning authorities are required to consult the relevant consultee 4 before granting planning permission for any development within the relevant radius of an officially safeguarded civil ..... which is likely to attract birds.

"A local planning authority will need to consider not only the individual potential bird attractant features of a proposed development but also whether the development, when combined with existing land features, will make the safeguarded area, or parts of it, more attractive to birds or create a hazard such as bird flightlines across aircraft flightpaths."

Non officially safeguarded or licenced aerodromes

"Operators of licensed aerodromes which are not officially safeguarded, and operators of unlicensed aerodromes ..... should take steps to protect their locations from the effects of possible adverse development by establishing an agreed consultation procedure between themselves and the local planning authority or authorities."

"One method, recommended by the Civil Aviation Authority to aerodrome licensees, is to lodge a non-official safeguarding map with the local planning authority or authorities."

"Local planning authorities are asked to respond sympathetically to requests for non-official safeguarding."

"The general advice in this [government directive] is applicable to non-officially as well as to officially safeguarded aerodromes, but the requirements of the Direction at Annex 1 will not apply." [5]

1.6 Wildlife Licences in England

It is important for all aerodromes in England and developers working within 13km of an aerodrome to understand which wildlife species are likely to be affected in the process of wildlife hazard management and which licences would be applicable to ensure full compliance with statutory application and reporting requirements.

In England a licence is required by law if there is any intention to disturb or remove wildlife or damage habitats under certain circumstances. Natural England grants licences to control wild birds for purposes listed in Section 16 Of The Wildlife And Countryside Act 1981 (as amended) [6].

[3] Bird (wildlife) strike hazards

[4] The owner or operator of the aerodrome identified on the official safeguarding map

[5] This means the process of safeguarding for non-officially safeguarded aerodromes is a voluntary process, rather statutory process, agreed between the aerodrome operator and appropriate authorities such as the local council and planning authorities.

[6] www.naturalresources.wales/permits-and-permissions/species-licensing/list-of-protected-species/bird-licensing/bird-licences/?lang=en

These licenses are for:

- Conserving wild birds
- Protecting any collection of wild birds
- Preserving public health, public safety, air safety
- Preventing spread of disease
- Preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber, fisheries or inland waters - unless you wish to control fish-eating birds.
- Conserving flora and fauna

Anyone wishing to apply for a licence will require at least the following:

1. Evidence one of more of the species is giving rise to an air safety risk for aircraft using the aerodrome, and
2. Evidence all reasonable actions have been made to mitigate as low as reasonably possible the air safety risk using lawful methods appropriate in the circumstances.

Evidence of an air safety risk is supported by a wildlife hazard risk assessment that complies with current good practice and by data collated in wildlife and habitat surveys.

1.7 UK Birds of Conservation Concern

It is also important for all aerodromes and developers working within 13km of an aerodrome to understand which species of aviation concern also occur on the red or amber lists of conservation concern as these species have competing agendas. Consultation is required with the appropriate authorities to establish how to appease the conflicts.

The UK's birds are split into three categories of conservation importance - red, amber and green [7]

- Red List - The species of highest conservation priority, with species needing urgent action.
- Amber List - The species of next most critical conservation priority
- Green List – The species of least critical conservation concern.

All UK aerodrome operators should be aware of which species of birds on and surrounding their aerodrome is of aviation concern and on the UK list of conservation concern.

Where there are species of birds on both lists, it advised that each aerodrome operator seeks to broker joint local policies, agreements and working processes with the appropriate authorities (e.g. local councils and planning authorities, DEFRA and Natural England (and the likes) on all matters likely to impact on biodiversity, wildlife conservation and the occurrence of wildlife strikes.

1.8 Aerodromes within proximity of the Project Site

To support the UK planning process all developments should take into consideration aerodromes within 13 km of the development site.

[7] For more information: www.rspb.org.uk/birds-and-wildlife/wildlife-guides/uk-conservation-status-explained/

1.8.1 Officially safeguarded aerodromes

Manchester Airport

Element	Description
Airport Name	Manchester Airport (IATA: MAN, ICAO: EGCC)
Airport location	Ringway Manchester, 14km southwest of city centre
Airport operator	Manchester Airport is owned and operated by Manchester Airports Group (MAG).
Hours of operation	24/7
Elevation	257 ft (78 m) AMSL
Runways	Runways 05/23R – 10,000ft (3,048m) & 05/23L 10,006.56ft (3,050m) Asphalt

2 Target Wildlife Species for Control and Dispersal

This section identifies the priority Wildlife Species of Aviation Concern (WSAC) for population control and dispersal as mutually agreed with the Airport.

These species were assessed as being those of highest "RED" concern using the formula approach recommended by the International Civil Aviation Organization (ICAO) [8]

2.1 Intolerable Bird Species of Aviation Concern (November 2025)

Common Name		Latin Name
1.	Black-Headed Gull	*Chroicocephalus ridibundus*
2.	Carrion Crow	*Corvus corone*
3.	Herring Gull	*Larus argentatus*
4.	Jackdaw	*Corvus monedula*
5.	Lesser Black-Backed Gull	*Larus fuscus*
6.	Rock Dove	*Columba livia*
7.	Rook	*Corvus frugilegus*
8.	Starling	*Sturnus vulgaris*
9.	Stock Dove	*Columba oenas*
10.	Woodpigeon	*Columba palumbus*

These species have been identified using the following documents and information available within the public domain:

- Manchester Airport Wildlife Species of Aviation Concern (WSAC)
- Royal Society for the Protection of Birds (RSPB)
- The British Trust for Ornithology (BTO)
- The Joint Nature Conservation Committee (JNCC)

The "RED" species are those assessed as being of highest wildlife strike risk due to their calculated damage severity rating and their current probability of occurring above the Airport's Obstacle Limitation Surface (***OLS***).

As a "RED" species it is regulatory and industry advice to take immediate and constant action is taken to mitigate against the likelihood of a strike.

This includes measures of all aspects of future project site development and site management.

2.2 Current Bird Species of Aviation Concern (BSAC)

It is important in perpetuity for all Project designers and site managers to ensure they are referring to the latest list of "RED" BSAC. Updated lists are available from the Airport.

Measures should always be undertaken in design processes to minimise attractions and on-site population increases for each "RED" BSAC.

[8] ICAO, 2020, Airport Services Manual -Part 3 - Wildlife Control and Reduction, 5th edition, Doc 9137, Montreal, Quebec, Canada

It is also important to be aware of the varying occurrence levels for each species and when deterrent actions need to be in place.

Common Name	Time of year present	Priority months	Likely Occurrence Rate on the Project Site
Black-headed Gull	All Year	Oct - Jan	Moderate
Carrion Crow	All Year	All	Frequent
Feral Pigeon	All Year	All	Frequent
Herring Gull	All Year	Mar - Sep	Moderate
Jackdaw	All Year	All	Frequent
Lesser Black-backed Gull	All Year	Mar - Sep	Moderate
Rook	All Year	All	Frequent
Starling	All Year	All	Moderate
Stock Dove	All Year	All	Frequent
Woodpigeon	All Year	All	Frequent

2.3 Current Mammal Species of Aviation Concern (MSAC)

It is important in perpetuity for all Project designers and site managers to ensure they are referring to the latest list of “RED” MSAC. Updated lists are available from the Airport.

Measures should always be undertaken in design processes to minimise attractions and on-site population increases for each “RED” MSAC.

It is also important to be aware of the varying occurrence levels for each species and when deterrent actions need to be in place.

For this Project Mammals have been discounted due to the distance from MAN whereby it is highly unlikely that any MSAC species will be displaced from the Project site over to the airport due to the works.

3 Review of Proposed Site Design and Activities

Review of planned enablement and infrastructure works revealed a number of site activities and features that, if appropriate steps are not taken, will act as likely catalysts for elevating bird populations on the site and/or bird strike risks for Manchester Airport. The elevations will result due to increased amount of feeding, drinking, bathing, roosting, nesting and/or loafing opportunities on the Project site by WSAC.

The following site activities and features have been noted as attractive for the WSAC both during the periods of activity on site and period of no site activity i.e. bank holidays and weekends.

3.1 Review of Proposed Enabling Works

Assessed site activities and features	Attractant behaviour	Attracted species of concern	
1. Overflowing skips, waste bins and unsecured waste bags	• Feeding	• Black-headed gull • Carrion crow • Feral pigeon • Herring gull • Jackdaw	• Lesser black-backed gull • Rook • Starling • Woodpigeon
2. Inappropriately discarded food and litter	• Feeding	• Black-headed gull • Carrion crow • Feral pigeon • Herring gull • Jackdaw	• Lesser black-backed gull • Rook • Starling • Woodpigeon
3. People feeding birds	• Feeding	• Black-headed gull • Carrion crow • Feral pigeon • Herring gull • Jackdaw	• Lesser black-backed gull • Rook • Starling • Woodpigeon

3.2 Review of Proposed Infrastructure Works

Assessed site activities and features	Attractant behaviour	Attracted species of concern	
1. Storage of Materials	• Scavenging / Foraging	• Black-headed gull • Carrion crow • Feral pigeon • Jackdaw	• Rook • Starling • Woodpigeon

3.3 Review of Likely Social Behaviour

Assessed site activities and features	Assessed behaviour	Attracted species of concern	
1. People feeding birds	Feeding attractant	Black-headed gull Carrion crow Feral pigeon Herring gull Jackdaw	Lesser black-backed gull Rook Starling Woodpigeon
2. Poor waste management	Feeding attractant	Black-headed gull Carrion crow Feral pigeon Herring gull Jackdaw	Lesser black-backed gull Rook Starling Woodpigeon

4 Wildlife Hazard Management Strategy

4.1 Aim

To mitigate on the Project site against:

1. An elevation in onsite populations for the WSAC species of concern; and
2. A contribution towards an elevation in wildlife strike risks for aircraft using the Airport and in its surrounding critical airspace.

These measures shall remain in effect in perpetuity, or until such time as Manchester Airport ceases operations.

4.2 Goal

To safeguard the safety and integrity of aviation operations by protecting:

- Aircraft passengers and flight crews
- Aircraft assets and operational continuity
- All personnel within the airport boundary
- The surrounding local community

This will be achieved by supporting a reduction in the likelihood of wildlife strikes for all aircraft using the Airport and surrounding critical airspace above the OLS.

4.3 Key Objective

The key objective will be to achieve the above aim and goal through the application of continual good practice in wildlife control across the project site throughout each of the following:

- All enabling works
- All infrastructure works

4.4 Site Management

Management for the Project site will be fully committed in all phases to supporting the above aim, goal and objective as far as reasonably and practicably possible in proportion to the scale of formally assessed wildlife strike risks.

Management for the Project site will adopt a risk-based approach to supporting this commitment and they will ensure risk reduction is implemented promptly in accordance with recommendations in this Plan, relevant UK legislation, regulatory and industry SARP, and the expectation of the Airport.

Management for the Project site will ensure that all required measures are implemented, and efforts made to minimise the increase in wildlife hazard risks are maintained.

4.5 Required Outcomes

1. Implementation of successful WSAC control as directed by bespoke site policies, management plans and codes of practice.
2. All site policies during enabling, construction and in-use phases to include (where applicable) consideration of successful WSAC control:
    - Maintenance of PV Panels
3. Bespoke Site Management Codes of Practice requiring successful WSAC control for at least the following:
    - Enabling works
    - Infrastructure works
    - Control of WSAC – planned and reactive

4. All key site roles and responsibilities to achieve successful WSAC control through an adaptive, risk management approach under continually changing environmental and wildlife factors.
5. Good education and communications amongst at least the following stakeholder groups so they understand and support successful WSAC control on the site. The use of fair and reasonable performance goals is advised.
    - Site managers
    - People working on site

5 Required Wildlife Hazard Management Actions

This section lays out the actions required as a minimum to ensure the following:

- No elevation in onsite populations for bird species of concern; and
- No contribution towards an elevation in bird strike risks for aircraft using the Airport and its 13 km surrounding critical air space.

Success in the delivery of the actions required must be achieved through implementation in accordance with management procedures within this WHMP.

5.1 WSAC Monitoring

Monitoring is essential to support required risk assessments. It must be carried out as follows:

Phase	Required action	Duration
Throughout all construction phases of the site, across the complete site and during May-Sept (Gull breeding season).	Monitoring the site for WSAC presence and activity.	Into perpetuity for gull breeding and degradation of bird proofing measures or until the Airport is no longer operational.

5.2 Roles and Responsibilities

Below are the nominated parties responsible for overseeing required actions at different phases of the project to ensure prompt and successful mitigation of likely elevations in populations numbers for the WSAC and bird strike risks:

Phase	Action Owner
Prior to the start of works	▪ Principal Contractor (Design)
Construction phase	▪ Principal Contractor (Build)
Operational Phase	▪ Principal Site/Facilities Manager

5.2.1 Project Management Responsibilities

It is for the Principal Contractor or Site/Facilities Manager to adopt and continually support the strategic wildlife hazard management strategy for the Project site.

This includes ensuring:

1. A key point of contact for wildlife hazard management is appointed and maintained throughout the development and future use of the site.
2. All site-related personnel, including site contractors and service providers:
    - Understand the importance of aviation wildlife hazard management
    - Understand the implications of not following required wildlife management procedures and initiating necessary improvements
    - are accountable for supporting successful delivery of the WHMP
3. Full and continuous support of all applicable WHM related statutory and regulatory obligations, and WHM industry codes of good practice.
4. Full implementation of this WHMP as a whole and to support periodic reviews and improvement plans

5. In the instance of a wildlife strike at the Airport or in its 13 km safeguarded zone, the Project will fully support as required a review of the strike incident for the purposes of formal investigation, constructive feedback and/or learning

5.2.2 Site Management Responsibilities

At site level key accountability is with the Site Manager to ensure all reasonable effort is undertaken to avoid WSAC population increases and no elevation in wildlife strike risk for aircraft using the Airport.

It is for the Site Manager to ensure:

- Compliance with all applicable obligations in this WHMP
- Continuous good practice in wildlife hazard management within current statutory and regulatory expectations and against good practice

Should the Site Manager have concerns about bird numbers and activity due to unexpected or seasonal bird activity following adoption of aforementioned measures, the activity will be recorded, and contact will be made with the Airport for advice. Any advice will be acted on immediately unless otherwise advised by the airport.

5.3 Communication

There is a need to communicate with various stakeholders at all phases in the life of the Site to ensure:

- Full compliance with obligations in this WHMP
- Successful mitigation of likely elevations in populations of the WSAC and bird strike risks
- Assurance as required with (at least) the Airport, LPA, or the CAA

5.4 Measures to Mitigate Elevations in Assessed WSAC

5.4.1 Measures taken in the Project design

The following measures have been taken in the Project's design process to address the Project's High and Medium Design Risks i.e. "Spaces beneath PV panels & Gulls nesting behind panels".

- **Spaces beneath PV panels** [**High Design Risk**]

Steel mesh will be attached during installation to the edges of all PV panels and the underlying roof surface in a manner suitable to eliminate access to all spaces beneath the PV panels by assessed WSAC.

The steel mesh will have a maximum gauge of 12.7mm x 12.7mm (0.5") which is suitable to achieve total exclusion of the assessed WSAC – See Figure 3

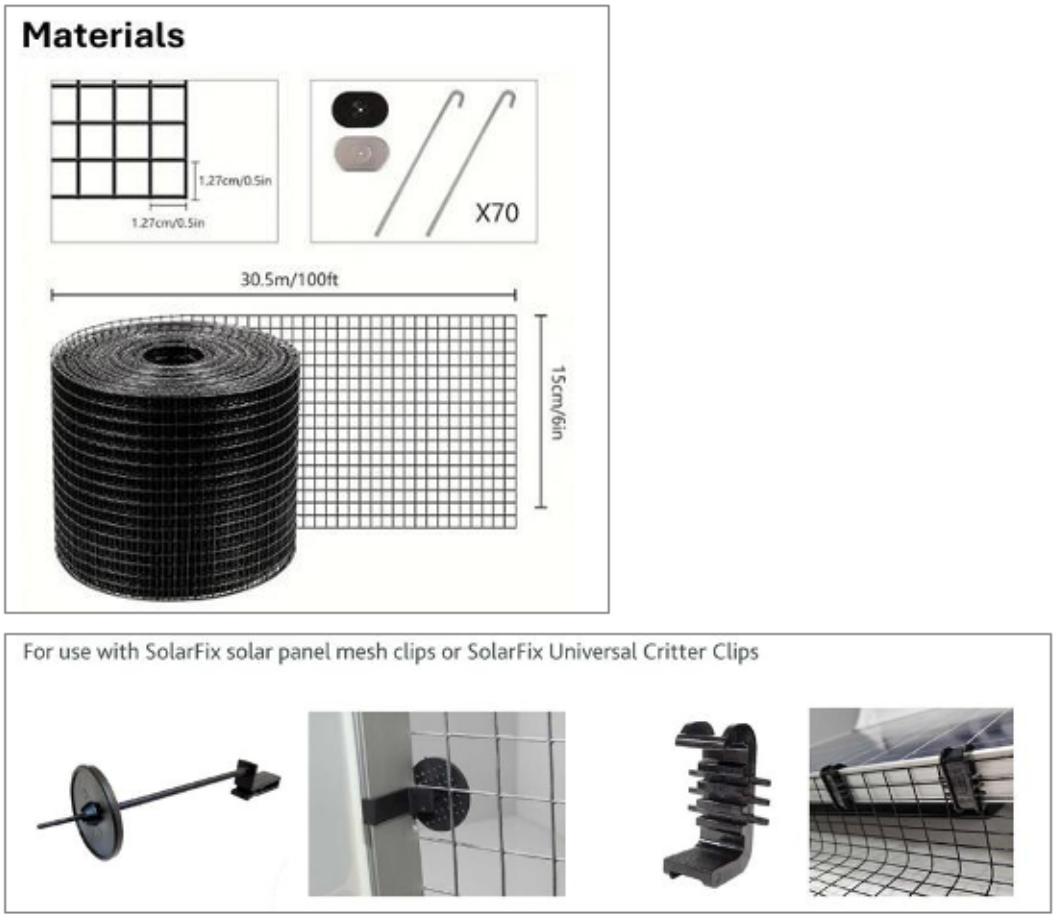


Figure 3: Illustration of mesh installation on PV panels

5.4.2 Measures to be taken during installation of PV panels

1. Mesh to be installed correctly to mitigate against open voids enabling access to birds after installation.
2. Spiking to be installed along all upper edges of the panels to prevent alighting / perching of birds.

The Project's WHM focused Management Policies and Codes of Practice for installation works:

- **"Zero tolerance to escalated levels for assessed WSAC"**

There should be zero tolerance to an escalation of the assessed WSAC on site during installation works over and above what occurred prior to planned works.

Regular monitoring needs to be in place to ensure that there is no increase in assessed WSAC on site (*for details on monitoring see section 5.4.3*)

- **"Good practice in site cleanliness"**

Due to the potential draw for assessed WSAC to skips bins and waste, any unsecured material will become an attractant.

The following practices must be followed at all times:

- All skips stored on-site to be of a design that exclude assessed WSAC
- All skips and bins to be emptied frequently to avoid overflowing
- All waste storage and handling operations susceptible to windblown litter issues to be conducted inside a controlled area

A clean site policy must be enforced at all times. Regular occurrence of inappropriately discarded food and litter will attract scavenging birds which will make for a high attractant and high likelihood of occurrence of some assessed WSAC.

- **"Induction processes"**

To support good practice on site during installations works, Site Management must ensure at least the following:

- Clear communication and publicity of this document to all site contractors.

5.4.3 Measures to be taken whilst the PV panels are in-use

There is a small risk that the gaps behind PV panels, mounting brackets and fixing points may attract some gull species, such as Lesser Black Backed Gull and Herring Gull to find purchase to build nests.

It is therefore important, prior to gull nesting season, regular monitoring must be carried out frequently enough to ensure zero buildup of nesting material.

If nesting material is found, it should be removed promptly under licence and in accordance with good health and safety practices, and the area closely monitored for persisting nesting activities by any of the assessed gull species.

Monitoring for assessed WSAC should be carried out on a weekly basis outside of the breeding season (March to September) to provide assurance to MAN the following is NOT occurring and to ensure that proofing measures have not degraded causing:

1. An elevation in onsite populations for the assessed WSAC; and/or
2. A contribution towards an elevation in wildlife strike risks for aircraft using the subject aerodrome(s) and surrounding terminal airspace.

Ground-level vantage point monitoring around the perimeter of the building is sufficient unless it is observed that there are:

- Repeated sightings of birds carrying nesting material
- Increased frequency of birds landing on roofs or building features
- Evidence suggesting birds may have accessed roof areas (e.g., debris, droppings concentrated in one area)
- Audible activity (e.g., repeated calls) indicating birds may be establishing a territory
- Any confirmed signs of nest construction from ground-level observation
- Reports from site staff or contractors indicating unusual bird behaviour

If any of these signs are present, monitoring should be escalated to a roof-level inspection conducted by a competent person.

Table 1: Example of Monitoring Record.

Date	Time	Location	Weather	Birds/Nest Observed	Actions Taken	Outcomes	Name/signature of surveyor

A simple table style log will be more than sufficient such as the one detailed above (*see table 1*). This monitoring record must be maintained on site and be made readily available for inspection by Manchester Airport or its nominated representative upon request.

The monitoring record will also be required as evidence towards the application of a licence if

required. Monitoring should be increased to twice weekly during the breeding season (March to September) but can remain weekly outside of this period.

Deterrent methods

Site staff will employ a range of reasonable, non-specialist dispersal techniques to deter gulls from establishing nesting territories. These include human presence and active disturbance, visual deterrents and simple acoustic deterrents, all actions will be logged. If gull activity persists, the site will escalate to a licensed specialist contractor.

The priority methods for deterring birds from nesting have been detailed this section (5.4) whereby physical proofing, removal of any waste especially food and human presence in the form of contractors and other site staff will often be sufficient to prevent this activity occurring.

In the unlikely event that the above is not sufficient in deterring birds from alighting on the roof spaces then active dispersal may be required.

Human presence is the main method of dispersal, and the following techniques are considered reasonable and appropriate:

- Regular human activity with birds being approached to encourage them to take flight
- Clapping or waving arms will often be sufficient to encourage the birds to lift

Other visual deterrents can be deployed such as:

- use of temporary reflective tapes placed in areas where gulls have attempted to settle

Acoustic methods may also be utilised to deter nesting behaviour. Handheld devices should be deployed as they can be used infrequently and in a targeted manner against problematic bird species which will help to avoid habituation.

The above methods should be used to disperse gulls which are showing nesting behaviour but cannot continue if gulls have already attempted nesting.

Application for licences

It must be noted lethal control must only be used as a last resort and cannot be used pre-emptively. The licensing authority (Natural England) are unlikely to grant a licence for lethal control unless all the above proofing and deterrent methods have been utilised and there is robust data to evidence there is a significant threat posed by the species in question.

If proofing and deterrent methods are not effective and there are still repeated attempts for nesting behaviour, then escalation to employ specialist trained individuals to conduct licensable activity may be utilised.

If a licence application is to be successful, the site needs to demonstrate the following:

- When and where gulls are present
- What behaviours they are exhibiting (e.g., nesting, aggression, roosting)
- How often the issue occurs
- Why it poses a risk (e.g., aviation safety, public health, serious economic damage)

See (*table 1)* for example of a wildlife log which will form part of the submission for the licence.

6 Reference Documents

The following references have been used in the drafting of this document:

- Airdrome Operators Association (AOA)
  - Advice Note 1 – Aerodrome Safeguarding an Overview (2016)
  - Advice Note 3 – Wildlife Hazards (2016)
- British Trust for Ornithology (BTO) www.bto.org
- Bat Conservation Trust www.bats.org.uk
- Dunning Jr., J. (2008). "CRC Handbook of Avian Body Masses"
- Hayhow DB, Ausden MA, Bradbury RB, Burnell D, Copeland AI, Crick HQP, Eaton MA, Frost T, Grice PV, Hall C, Harris SJ, Morecroft MD, Noble DG, Pearce-Higgins JW, Watts O, Williams JM, (2017), "The state of the UK's birds 2017"
- International Civil Aviation Organization:
  - ICAO, Annex 14, Aerodromes - Vol l, "Aerodrome Design & Operations", July 2018 (8th Edition)
  - ICAO, Document 9137, Airport Service Manual, "Part 3 - Wildlife Control & Reduction", 2020 (5th Edition)
- Royal Society for the Protection of Birds (RSPB) www.rspb.org.uk
- Royal Society for the Protection of Birds (RSPB), the British Trust for Ornithology (BTO) and the Joint Nature Conservation Committee (JNCC) (2018), "Wild Bird Populations in the UK, 1970 to 2017: 8th November 2018"
- Wetland bird survey (BTO) https://app.bto.org/webs-reporting/
- Woodward, I.D., Massimino, D., Hammond, M.J., Harris, S.J., Leech, D.I., Noble, D.G., Walker, R.H., Barimore, C., Dadam, D., Eglington, S.M., Marchant, J.H., Sullivan, M.J.P., Baillie, S.R. & Robinson, R.A., (2018), "BTO Research Report: 708. Bird Trends 2018: trends in numbers, breeding success and survival for UK breeding birds."
- UK Civil Aviation Authority:
  - CAP 168 "Licensing of Aerodromes"
  - CAP 738 "Safeguarding of Aerodromes"
  - CAP 772 "Wildlife Hazard Management at Aerodromes"
  - UK Reg (EU) No 139/2014 (the UK Aerodromes Regulation) [last amended 27 Jan 2022]
  - CAA 139/2014 Aerodromes UK Acceptable Means of Compliance & Guidance Material [AMC GM]
- UK DfT; Town and country planning (safeguarded aerodromes, technical sites and military explosives storage areas) direction 2002; Updated 22 December 2016

Phase 2

Wythenshawe, Manchester

Wildlife Hazard Management Plan

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