

PROLOGIS PARK – HEATHROW STOCKLEY ROAD, HAYES

BIRD CONTROL MANAGEMENT PLAN

March 2013



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1.0 Introduction

A Bird Control Management Plan was requested for ProLogis Park - Heathrow at Stockley Road, Hayes in order to support the detailed planning application for Phase 3 of the development.

The risk assessment of the development identified the fact that it is located within 13km of Heathrow Airport. Mitigation measures to manage and reduce the potential risk of bird strike as a result of the development are therefore required.

The management of gull species in particular but also thrush species, feral pigeon, starling and corvids on the new development is necessary, under statutory obligation, due to the proximity of Heathrow airport and the possibility of bird strike hazards associated with these groups of birds. Reduction of the number of pest species is also beneficial as it will reduce the amount of bird droppings in the area which pose a potential health risk to the public.

The following management strategy summarises the possible areas that could provide roosting and foraging sites for these species and then recommends a management programme that would make the new development less attractive for such species groups.

The management plan is based upon advice in the Civil Aviation Authority's CAP 680: Aerodrome Bird Control 2002 document; the Civil Aviation Authority, Airport Operators Association and General Aviation Awareness Council 2003: Safeguarding of Aerodromes Advice Note 3; the International Birdstrike Committee Standards for Bird Wildlife Control 2006; the CAP 772 Bird Strike Risk Management for Aerodromes 2008 and DEFRA advice.

The responsibility for the actions under the Management Plan would rest with the site Management Team.

2.0 Statutory Protection

Feral pigeons (*Columba livia (domest.)*), Herring Gulls (*Larus argentatus*), Lesser Black-backed Gulls (*Larus fuscus*) and Crows (*Corvus corone*) are protected under Part 2 of Schedule 2 of the Wildlife and Countryside Act, 1981, specifying that the mentioned species may only be killed or taken by authorised persons.

General licences are available from DEFRA to allow killing or taking of these 'pest' species, but used only as a last resort. DEFRA recommend environmental methods such as reduction of suitable habitats for the pests and anti-roosting and proofing measures for the management of these species in unwanted areas.

Starlings (*Sturnus vulgaris*), song thrushes (*Turdus philomelos*) and mistle thrushes (*Turdus viscivorus*) are protected under the Wildlife and Countryside Act, 1981 (as amended).

The Wildlife and Countryside Act 1981 (as amended) protects all wild birds and their nests and eggs. Under this act it is an offence to:

- kill, injure or take any wild bird
- take, damage or destroy the nest of any wild bird while it is in use or being built
- take or destroy the egg of any wild bird

Additionally, two further thrush species, fieldfare (*Turdus pilaris*) and redwing (*Turdus iliacus*), are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and are also protected against disturbance whilst building a nest on or near a nest containing eggs or young.

A potential risk from these species has been identified within the flight zones of the airport and species that should be prevented from roosting on the site are those that constitute a hazard to air traffic.

Feral pigeons, gulls and corvids constitute a hazard due to their size which may cause damage to due to the high velocity of impact of an individual bird striking an aircraft.

Starlings and thrush species are considered hazardous despite their small size; an individual poses little hazard but their tendency to form large flocks increases the risk of damage to aircraft through bird strikes.

High density flocks in collision with aircraft can easily cause damage to the fuselage and transparencies or interfere with the function of engines. It is important that any bird management strategy discourages the formation of these large flocks.

Through the comprehensive and sustainable bird management plan the level of risk arising from the development would be maintained at *very low* in respect of the site.

3.0 Site Description

3.1 General Description

The development is composed of warehouse units A-F with associated car parks and loading areas for HGVs. This bird management plan is for all new warehouse buildings constructed within ProLogis Park – Heathrow and the landscape proposals.

Each of the warehouses has a double pitched roof with a parapet around the roof edge. The whole development including car park is surrounded by a narrow landscape buffer made up of planted trees and shrubs. Each warehouse unit is also bordered by rows of 'extra heavy standard tree planting', shrub and amenity grass areas, as detailed in Barry Chinn Associates' Infrastructure Planting Drawings Nos. L1120/10 01A and 02A.

3.2 Potential Roosting Sites on Buildings

Any ledge on the development has the potential to be used as a site for roosting by all five groups (feral pigeons, thrush species, starlings, corvids and gulls). This includes both natural and urban ledges and building ledges on the warehouses fall into this category.

Buildings do not provide a food source in themselves but ledges, gantries and any complex structure may be used by birds for roosting and/or nesting if food is available in the near proximity.

No buildings have flat roofs where gulls could nest but level building surfaces such as the sloping warehouse roofs could be used by gulls, pigeons and starlings for resting and 'loafing'. It is therefore important that ledges, the ridges of the pitched roofs and all level surfaces are made as unattractive to hazardous species as possible. The management scheme would aim to discourage this sort of resident community.

3.3 **Landscape Hazards**

Landscaping may attract birds by providing feeding, nesting and roosting habitat. Significant hazards could be created by providing dense vegetation attractive for roosting birds; abundant winter food in the form of berries and fruits that attract flocks and the creation of water features.

The potential hazards are avoided by the design of the planting scheme which does not create any water bodies, dense planting or the provision of winter food.

4.0 **Management Strategies**

As well as ensuring that the landscaping proposals and the building design limit the potential for flocking and roosting birds, the aim of the management plan would be to:

- further reduce the overall numbers of birds present on site; •
- reduce the number of larger birds present;
- reduce the site attractiveness in terms of foraging, roosting and nesting; and
- ensure that the site does not form an integral part of a bird flight line towards and from the airport
- ensure clear responsibility for the management of the plan.

There are various control systems that are available for use in deterrence, that decrease the likelihood of roosting and loafing on buildings and planted areas.

These measures are summarised in Table 4.1 and include artificial as well as environmental techniques that reduce the attractiveness of the development to pest species.

Control Measure		Description / Example	Area Of Use	Efficacy		
Environmental measures	Planting adjustment	- Planting of less attractive tree species e.g. non fruit- bearing combined with a low density planting and pruning regime to ensure a low roosting and foraging resource. Management of amenity	All planted landscape buffers and linear planting in scheme. All site	Good		

Table 4.1 Summary of Measures for Control of Pest Bird Species

Landscape Science Consultancy Ltd

L:\LSC\C29.03b C29.03a Hayes Bird Management Plan 2011\C29.03b Hayes Bird Man Plan Revision 2013\Reports & Drafts\Bird Management March 2013.docm

PROLOGIS PARK - HEATHROW, STOCKLEY ROAD, HAYES BIRD CONTROL MANAGEMENT STRATEGY

March 2013

Control Measure		Description / Example	Area Of Use	Efficacy	
		grass			
	Control of waste	- Limit amount of edible food waste that attracts birds	Whole site	Good	
Physical Measures	Roost inhibitors	- Bird spikes - Netting - Pin wiring	Spikes and wiring are a physical deterrent on building ledges, netting is used on flat surfaces. Both prevent birds from landing / roosting	Good	
	Visual scare devices	 Scarecrow Reflective tape e.g. 'Irri- tape' Predator mimics 	Close to potential roosting areas	Low	
Audible measures	Audible / sonic deterrents	Electronic device or rocket that emits a noise that is uncomfortable for the bird and scares them away, or one imitating the distress call of the target prey which means real birds keep away, e.g. Digi-scare	In proximity of possible roosting sites	DEFRA recommend distress call mimics, rockets are effective but may create a public disturbance in urban areas	
	Inaudible / ultrasonic deterrents	Electronic device that emits ultra-sonic pulses that scare away birds.	Indoors, e.g. loading bays, large hangars.	Indoors, good, may have to be used in tandem in larger spaces. Outdoors, limited effectiveness.	

In many situations the manufacturers of artificial deterrents recommend that combinations of the above measures are used as the hazardous species may become habituated to the constant use of one particular measure. This obviously depends on the measure, for example physical deterrents are constantly effective as long as the deterrent is maintained in good condition, though visual predator mimics or scarecrows may have decreased success over time and are obviously less aesthetically pleasing than others.

In this situation, environmental and physical measures may be effective alone but, due to the variability of the reaction of bird species to deterrents, it is essential that the success of any imposed measures is continually reassessed on an annual basis.

5.0 Management Scheme

- 5.1 The aim of the management scheme is to eliminate the use of the development features by hazardous birds and thereby meet the statutory obligations in respect of controlling bird strike risk to users of Heathrow airport.
- 5.2 This will be achieved by:
 - Identifying the site personnel responsible for the annual management of the plan.
 - Establishing the most suitable environmental and physical measures for the site

- Incorporating these into development plans .
- Reducing the landscape scheme to ensure no attractive habitats for birds •
- Annual assessment of effectiveness and risk assessment
- Adjustment of control methods to increase effectiveness if required

5.3 Responsibility

The roles and responsibilities of all personnel in respect of bird control duties would be defined to ensure the effectiveness of the management plan.

The responsibilities would include:

- provision of personnel resources to manage the plan •
- develop a knowledge of the identification of key bird species •
- regular inspection and monitoring of bird numbers
- regular monitoring of the effectiveness of deterrents
- regular risk assessment in respect of potential and continuing risks
- determining acceptable level of risk
- recommending variations to the deterrents of required
- seeking advice and assistance as necessary.
- annual report

Recommended Control Methods 5.4

5.4.1 Environmental Measures of Bird Control

The use of environmental methods to reduce the viable habitat for hazardous species is probably the most effective technique. Reducing the food available for the birds, in respect of both the landscape planting and waste control, reduces the likelihood of them settling in the area and becoming a pest.

1. Planting and Grass Management

No extensive habitat areas will be created on site. No water features are proposed for the site.

The planting scheme submitted by Barry Chinn Associates is composed of less than 25% berry / fruit bearing species. This is a low proportion of berry / fruit bearing species and is not expected to encourage hazardous species.

In various locations the planting scheme has been implemented at a lower planting density to meet BAA requirements. Wider spacing of planted trees would discourage large aggregations of hazardous species, particularly starlings and corvids that usually flock in tree aggregations as they provide more cover.

Large flocks of starlings can form in long grass and scrub; therefore, management of amenity grass in the landscape buffer areas so that it is kept short will also reduce the risk of the formation of these large flocks.

The amenity grass would be a species poor sward that would have limited value as an habitat for invertebrates. This would therefore not attract insectivorous birds to forage over the site.

2. Waste Control

Feral pigeons, corvids and gulls are opportunistic foragers and will forage to some extent wherever there is edible food waste. Keeping the amount of exposed food waste on site to a minimum would reduce the number of pest species by limiting the amount of food available.

It is for this reason that use of self-closing waste bins and regular waste collection is recommended to ensure that there is no food waste available to birds on site.

5.4.2 Physical Methods of Bird Control

It is recommended that the physical deterrent methods are incorporated into the development in addition to the environmental deterrents.

Each deterrent will be checked for its effectiveness prior to the next method being implemented. Further methods will only be implemented if further deterrent is required.

1. Roof Inspections

The primary physical deterrent to birds would be regular inspections of the roof areas by nominated personnel from the Facilities Management Team.

During the period of March–June, weekly inspections of all roof areas would be undertaken by nominated personnel. If bird activity is found to be high, a greater frequency of inspections would be required. All roof areas can be accessed from inside the buildings via roof hatches using CAT ladders.

Outside of this period, monthly inspections of all roof spaces would be undertaken by nominated personnel. If birds are found to be using the roofs in sufficient numbers, more frequent inspections would be required.

During inspections, all roof spaces would be searched for roosting, loafing and nesting birds. Any roosting or loafing birds will be dispersed by nominated personnel using a hand held distress call. Upon the discovery of nesting birds, a qualified ecologist would be consulted immediately.

Any nests found during the inspections would be removed by a qualified ecologist. Wild birds, their nest and eggs, are protected under the Wildlife and Countryside Act 1981 (as amended), therefore, an appropriate DEFRA licence would be required in order to remove any nests and eggs.

2. Visual Methods

A similar product to Irri-tape would be used to deter birds from the development site. Irri-tape is essentially a non-invasive deterrent that can be tied to tree branches that will scare away birds. The Irri-tape works by reflecting light in such a way that makes birds feel uncomfortable and scare them away.

3. Audible / Sonic Deterrents

DEFRA recommend the use of a system that emits the distress call of the target species that scares the target individuals away. An example of this is Digi-Scare, a system already used by airports in the UK. Success of this method may be limited if there are multiple species using the site. Distress calls may be species specific and a decision would have to be made as to which species call should be used. However, this method can be used to deter birds from natural structures, e.g. trees, where other physical measures, such as bird spikes, are unsuitable.

Digi-Scare is an example of a product available on the market although its success is not guaranteed; when choosing a new measure, considerable research should be conducted at the time to find a suitable product with the best effect for the best value.

Ultrasonic deterrents should be used if a problem develops in internal areas such as loading bays. Some pest species are known to nest inside these large, open areas in the roof structures (such as on the support stanchions in the roof). Ultrasonics would be the best deterrent method for an internal area; ultrasonic systems would emit ultrasonic pulses to scare away pest species but do not work well outdoors. For very large areas, more than one ultrasonic emitter may be required. Initially one emitter should be used and if this is found to be insufficient at the annual reassessment, more systems should be installed.

4. Bird Spikes

The most effective measure to reduce perching or nesting of birds (e.g. gulls) on ledges and roof edges are bird spikes. The spikes would discourage roosting by the target species but allow smaller birds to alight.

Bird spikes would be located at the edges of all rooftops, gutters and on any ledges on the warehouse roofs, including the tallest part of the roofs, the central ridges. If applicable, bird spikes would also be fitted to the horizontal parts of the guttering system where located on the outer extremity of the roof.

Bird spikes are standard products and should be sited, fitted and maintained in accordance with manufacturers' recommendations. Care should be taken when spikes are affixed to guttering to prevent interference with the gutters normal functioning.

5. Bird Netting

Bird netting would also be installed on the large flat spaces of the warehouse roofs to prevent birds from nesting, landing and loafing. The netting is installed above the level of the roof so that birds are unable to land on the roof surface. It should be

contoured to the slope of the double pitched roofs to reduce visual impact (i.e. they do not span the ridges but follow the slope of the roof).

Bird netting should be sited, fitted and maintained in accordance with the manufacturers' recommendations.

5.4.3 Deterrent Implementation

Roof inspections will be the primary deterrent from the outset. If this method proves to be insufficient for controlling bird usage, additional methods will be implemented sequentially. Roof inspections would be followed by visual methods, then audible methods, bird spikes and finally bird netting.

Buildings will be surveyed every six months by a qualified ecologist to determine the level of use by pest species and effectiveness of the current deterrent methods.

If the nominated personnel judge the methods in use to be insufficient at any time an inspection by a qualified ecologist should be undertaken immediately. If the deterrent methods in use at that time are found to be insufficient the next deterrent method in the sequence should be implemented.

5.5 Reassessment

After implementation of the initial measures, surveys of their efficacy should be conducted every six months.

This would be conducted initially by a qualified ecologist with a view to training employees of the new development in continual assessment of pest species numbers. This would include methods of identifying the pest species (e.g. distinguishing feral pigeons from wood pigeons).

Additionally, assessment of pest species using the buildings would be monitored and if judged to be necessary by a qualified ecologist, further physical deterrents would be implemented.

5.6 Adjustment

After reassessment, if the physical prevention measures are not sufficient to stop considerable roosting of pest species, then additional actions should be taken. If the target species are roosting and nesting in the trees surrounding the buildings, then either audible and/or visual measures should be utilised to reduce this particularly during the breeding season.

5.6.1 Environmental Measures

1. Replanting/Planting Scheme Adjustment

Replanting of trees and/or shrubs may be necessary if those originally planted do not survive. The decision to replant should be made by the management company for the development. Although replanting must conform to the original planning

specifications, if bird numbers on site are identified as a problem, it may be necessary to plant only non-berry bearing species as replacements.

The mature height of planted trees should also be taken into consideration to ensure that the planted trees would not grow above the BAA recommended safety height.

2. Waste Control

Self-closing waste bins and waste collection would be monitored on a weekly basis and waste should be placed in self-closing waste bins, so that gulls cannot use the waste as a food source.

Any debris left after bin collection would be cleared away immediately.

5.7 **Alternative Methods**

The following are considered as measures to be used as a last resort.

Visual Deterrents

Visual deterrents other than Irri-tape, for example scarecrows, would not be appropriate for the sites as they would be detrimental to the overall appearance of the development, plus these deterrents are generally less effective than others due to habituation of birds.

Netting of Trees

An alternate method to reduce roosting in trees, they could be netted to prevent birds from accessing branches used for roosts. This would probably be an effective measure however it would not be in keeping with the aesthetics of the development and is therefore mentioned as a last resort.

5.8 Report

An annual report would be completed outlining the annual records, risk evaluation and any recommended actions.

6.0 Summary

The Bird Management Strategy is summarised in Table 6.1. In particular it specifies the need to define responsibilities, timing for regular inspections and reassessments of the different aspects of the plan; re-evaluation of risks and possible deterrent steps to take.

Environmental controls in respect of the planting design and waste management are recommended in the first instance. Self closing bins and regular waste collection will be used to minimise the amount of food waste on the site, reducing scavenging opportunities for opportunistic foraging species.

Regular inspections of the buildings would be used to assess the level of bird activity and, if a problem is found, further deterrents would be used. The long term proposals include the installation of audible and/or visual deterrents and the adjustment of the planting scheme, if it is required.

Annual evaluation of the effectiveness of the plan and the assessment of potential and continuing risks is recommended.

Activity		Year						
		1	2	3	4	5	6	
Amenity gra Cutting regin	ss management me	x16	x16	x16	x16	x16	x16	
Manage tree height						0		E
Replacement planting			0	0	0	0	0	
Waste mana	gement*	x52	x52	x52	x52	x52	x52	
Building Mo Species Usa	nitoring of Pest ge ^x	Weekly (Mar-Jun) Monthly (Jun-Mar)	Weekly (Mar-Jun) Monthly (Jun-Mar)	Weekly (Mar-Jun) Monthly (Jun-Mar)	Weekly (Mar-Jun) Monthly (Jun-Mar)	Weekly (Mar-Jun) Monthly (Jun-Mar)	Weekly (Mar-Jun) Monthly (Jun-Mar)	
Installation	Visual Deterrent	0	0	0	0	0	0	
	Audible Deterrent	0	0	0	0	0	0	
	Bird Spikes	0	0	0	0	0	0	
	Bird Netting	0	0	0	0	0	0	
Maintenance (according to specification	e o manufacturer's as)*		•	•	•	•	•	
Reassessmer effectiveness recommenda	nt of all risks and s of all elements*; ations for additional or		•	•	•	•	•	
alternative measures.								
Complete evaluation+ Report						•		

Table 6.1 Summary of the Bird Management Plan over the first six years

• Represent mandatory actions.

• Actions to be conducted if monitoring indicates further deterrent is required.

* Annually

+ Every 10 Years

x More frequent inspections may be required if bird usage is high.

References

Civil Aviation Authority, 2002: CAP 680: Aerodrome Bird Control.

Civil Aviation Authority, Airport Operators Association and General Aviation Awareness Council 2003: Safeguarding of Aerodromes Advice Note 3: Potential Bird Hazards from Amenity Planting and Building Design.

Civil Aviation Authority, 2008: CAP 772: Bird Strike Risk Management for Aerodromes.

International Birdstrike Committee Standards for Bird Wildlife Control 2006: **Recommended Practices 1.**

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