

Wildlife Hazard Management

Airside Operational Instruction 15

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DOCUMENT REVIEW HISTORY		
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VERSION	REVIEW	DATE
V1.0		September 2015
	1.1	September 2016
V2.0		January 2017
V3.0		December 2017

A. AMENDMENTS

This document will be subject to a routine review, over a period not exceeding 18 months. The latest version will be included in the annual reissue of the Aerodrome Manual; interim reviews are carried out as deemed necessary.

Only operational related amendments will prompt the issue of a new Version; pertinent amendments being highlighted in green text & indicated by a green bar in the right margin. Indication of any amendment of an administrative nature will be listed below.

B. REVIEW / AMENDMENT HISTORY

REVIEW SUMMARY			
VERSION / REVIEW REF:-	1.1	REVIEW COMPLETED BY:-	CATHY WILLOUGHBY-CRISP
DATE:-	SEP 16	ROLE:-	AIR TRAFFIC & OPERATIONS MANAGER

PARAGRAPH	AMENDMENT
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VERSION / REVIEW REF:-	V2.0	REVIEW COMPLETED BY:-	CATHY WILLOUGHBY-CRISP
DATE:-	JAN 17	ROLE:-	AIR TRAFFIC & OPERATIONS MANAGER

PARAGRAPH	AMENDMENT
2.2.2 & 2.6	Requirement to have a process of notification
2.4.1 & 2.14.2	Responsibility for notification

REVIEW SUMMARY			
VERSION / REVIEW REF:-	V3.0	REVIEW COMPLETED BY:-	CATHY WILLOUGHBY-CRISP
DATE:-	DEC 17	ROLE:-	AIR TRAFFIC & OPERATIONS MANAGER

PARAGRAPH	AMENDMENT
	New ownership

1. INTRODUCTION

1.1 PURPOSE

The purpose of a Wildlife Hazard Control Plan (WHCP) is to assess the wildlife strike risk and define/implement the appropriate wildlife control measures, to reduce or mitigate the risk. The plan should also record the results of wildlife strike risk assessments that are conducted and specify the wildlife strike risk mitigation measures that are in place.

The measures should relate to the threat posed by each identified risk and, due to the relative unpredictability of wildlife activities, should be responsive to changes as the risk rises or falls. Those measures may include the wildlife control techniques as detailed in the CAP 772; Bird Strike Risk Management for Aerodromes.

2. WILDLIFE HAZARD MANAGEMENT

2.1 INTRODUCTION

This document is a detailed description of Bournemouth Airport's policies for the mitigation of the wildlife strike hazard to aircraft using the Airport. The local wildlife strike risk is described in detail in the Airport's Wildlife Risk Assessment (see Section 3)

Regulation (EU) 139/2014 requires the Aerodrome Authority to formulate and implement a comprehensive and auditable Bird Control Management Plan (BCMP). This document serves as the BCMP but is titled as the WHCP as it addresses not only the bird strike risk but the wildlife strike risk as a whole.

2.2 BIRD CONTROL MASTER PLAN

In addition to listing the roles and responsibilities of Aerodrome management and bird control personnel, the CAP 772; Chapter 1 provides guidance that a BCMP should, at minimum, include details of the following:-

2.2.1 The Policies and Procedures for:-

- Risk Identification and Assessment
- On-Aerodrome Bird Control, including during Low Visibility Operations
- The Recording of Bird Control activities
- Reporting Bird Control issues
- Bird Control Performance Monitoring, Measurement and Improvement Systems
- Personnel Training and Appraisal
- Recording and Analysis of Bird Strike Reports
- The Logging of Bird Species and Data Analysis
- Recording the Results of Bird Strike Risk Assessments that are conducted
- Obtaining permission for Control Measures, as necessary
- The Periodic Assessment and Review of the Bird Strike Risk Recording and Information System, Bird Control Procedures and associated activities

2.2.2 Further requirements are:-

- a) Details of the Bird Strike Risk Assessments that are conducted; and the Bird Strike Risk Mitigation Measures in place.
- b) The means to ensure that flocks of birds, whether resident or visiting, do not habituate on the Aerodrome; achieved through the deployment of effective habitat management and bird dispersal and control measures to reduce bird activity on the Aerodrome.
- c) The activities employed by the Aerodrome operator, to control or influence areas in the vicinity of the Aerodrome to minimise the attraction to birds, including:-
 - Establishment of a Safeguarding process with the Local Planning Authority, for consultation on proposed developments that have the potential to be bird attractant within 13 km of the Aerodrome
 - Means to influence land use and development surrounding the Aerodrome so that the bird strike risk does not increase and wherever possible, is reduced
 - Means to help encourage landowners to adopt bird control measures and support landowners' efforts to reduce bird strike risks
 - Procedures to conduct and record the results of site monitoring visits
 - Process to notify the appropriate authority, if a potential wildlife hazard is identified during an assessment

2.3 TERMINOLOGY

In the context of this document, "Airfield" refers to the aircraft Movement Area; i.e. the Runway, Taxiways, Aprons and the grass areas to the perimeter fence.

"Airport" refers to the Airfield plus the Terminal buildings, Hangars etc.

2.4 ROLES AND RESPONSIBILITIES

The primary responsibilities of personnel involved in the implementation of the Wildlife Control Policy at BOH are outlined in the following paragraphs

2.4.1 FIRE SERVICE MANAGER :-

The Fire Service Manager (FSM) is responsible for implementing the WHCP and maintenance of the associated guidance documents. The FSM regularly reviews its implementation and efficiency with the Wildlife Control Co-ordinator.

The FSM is the responsible person for:-

- Supporting the WCC in the implementation of the WHCP
- Ensuring that adequate resources are provided to implement the WHCP
- Notifying the Safeguarding Officer of any identified hazard in the vicinity of the Aerodrome

2.4.2 WILDLIFE CONTROL CO-ORDINATOR:-

The Wildlife Control Co-ordinator (WCC) reports to the FSM. The WCC is the on-site technical specialist on aerodrome wildlife control. Their primary responsibility is to develop and use their expertise to ensure that the WHCP minimises the wildlife hazard and is implemented fully and efficiently.

Specifically, the duties comprise:-

- a) Assessing hazard level on which to base the WHCP.
- b) Determining policy and producing the WHCP, making use of the technical expertise from appropriate sources.
- c) Publishing the WHCP for the Aerodrome Manual.
- d) Ensuring that operational aspects of the WHCP are implemented to the satisfaction of the Airport's senior management and external auditors.
- e) Advising FSM on all matters relating to wildlife and wildlife strike prevention and to assist with the production and development of the WHCP.
- f) Planning, organising, supervising and monitoring wildlife control operations to ensure that the WHCP is implemented and standards maintained.
- g) Supervising wildlife control record keeping (log, wildlife counts, wildlife strike recording and reporting, shooting and habitat management diaries, etc.) ensuring that standards are maintained.
- h) Monitoring habitats and habitat changes on and around the Aerodrome; develop countermeasures and make recommendations to the FSM.
- i) Monitoring the implementation of habitat management and long grass programmes in accordance with the WHCP and introduce modifications to the maintenance programmes and remedial measures as necessary.
- j) Analysing and interpreting log records of wildlife control activities and wildlife count data.
- k) Producing reports on the progress of the WHCP and on specific topics, safety briefs and wildlife hazard warnings as required.
- l) Ensuring that all shotgun and firearms licences and aerodrome-specific licences issued under the Wildlife and Countryside Act 1981 are current.
- m) Ensuring the supply, safekeeping and correct maintenance of wildlife control equipment and consumables.
- n) Identifying elements of Airport operations that have a high wildlife strike potential and briefing FSM, Deputy FSM etc. with proposals and recommendations to reduce the hazard.
- o) Carrying out surveys of wildlife concentrations and movements in the local area and liaising with local ornithological and conservation societies for additional information.
- p) Carrying out Aerodrome Safeguarding to assess proposed developments with the potential to attract hazardous wildlife notified by the Local Planning Authority.

- q) Liaising with local landowners, farmers and gamekeepers to obtain intelligence on cropping plans, game conservation, shooting, etc.
- r) Identifying potential hazards from collating local ornithological and other data; disseminate the information to WCOs, ATC etc. and liaising with landowners on mitigation action.
- s) Organising, supervising and undertaking control/dispersal action as necessary at breeding, feeding or roosting sites on and off the Airfield.
- t) Seeking advice and assistance from outside specialists on matters requiring expertise not available on the Aerodrome.

2.4.3 RFFS STATION MANAGER (RFFS SM):-

The RFFS SM reports to the FSM and holds responsibility to:-

- Supervise the duty RFFS Crews Wildlife Control Operatives (WCOs)
- Carry out non-routine control and surveillance tasks as required, analyse records, produce reports and attend meetings as required
- Organise servicing, repair and replacement of equipment
- Maintain stocks of consumable stores

2.4.4 RFFS CREWS:-

The RFFS Crews will carry out wildlife hazard control operations as follows:-

- a) Continuous surveillance throughout the operating hours, for hazardous concentrations and movements of wildlife at the Airfield, on adjacent land and within the surrounding airspace; this generally extends to fields immediately adjacent to the perimeter fence and as far as practicable into the Runway Approach and Climb-out areas.
- b) Active dispersal of wildlife from the Airfield and its immediate environs by mobile patrols, using the equipment and techniques recommended as best practice in the Airport's internal guidance documentation and CAP 772.
- c) Where necessary, and within the provisions of the Wildlife and Countryside Act 1981, shooting wildlife and removing nests and eggs.
- d) Warning ATC whenever a potential wildlife hazard cannot be countered immediately or without making the situation worse in the short term.
- e) Monitoring the implementation of the habitat management programme to minimise the attraction of the Airfield and its environs for wildlife.
- f) Intelligence gathering, record keeping and reporting to produce a sound and current background of data on which to monitor and develop the WHCP.
- g) Record wildlife strikes using the CAA online form SRG 2004. These forms will then be passed onto the RFFS SM for submission to the CAA, using the online reporting method and checking to ensure all details are present and correct. As part of the role, the RFFS Crews will be trained in identification from remains as well as local and national bird strike reporting procedures.

- h) Record and inform the RFFS SM of all developments with potential to affect the efficient performance of the wildlife control task.
- i) Abide by regulations for operating on movement areas, driving, health and safety, civil laws affecting the task, and ensure that personal permits and certificates required to perform the task are kept up to date.
- j) Assist with control/dispersal action as necessary at breeding, feeding or roosting sites on and off the Airfield.

2.4.5 AIR TRAFFIC CONTROL:-

Air Traffic Control is responsible for the following:-

- Primary surveillance for hazardous concentrations and movements of wildlife whenever the duty RFFS Crew is not active on the Airfield
- Back-up surveillance for hazardous concentrations of wildlife whenever the Airfield is operational
- Passing warnings of wildlife hazards to pilots
- Passing pilot reports of wildlife strikes or wildlife sightings to the duty WCO in an expeditious manner
- Expediting the movements and operations of wildlife control patrols around the Airfield

2.5 RISK IDENTIFICATION AND ASSESSMENT

Wildlife is one of the major controllable hazards to aviation. Typical wildlife species that occur on aerodromes have the potential to cause catastrophic accidents and major incidents to all types of aircraft, from light aircraft to wide-bodied transports, with piston, turboprop and jet engines.

Using the CAA risk assessment criteria, wildlife strikes at UK airports tend to fall into the “review” category overall, requiring all reasonable action to be taken to reduce the risk in accordance with the “As Low as Reasonably Possible” (ALARP) principle. Mitigating action will be aimed at reducing both the frequency and potential severity of wildlife strikes occurring at BOH. This will be achieved by the measures described below, with flocking bird species, larger species of bird and quadruped being particularly prioritised. The primary approach will be to reduce the probability of wildlife strikes by deterring and/or removing hazardous wildlife from the airfield and its immediate vicinity.

Analysis of UK airports’ wildlife strike statistics shows that the frequency of wildlife strikes inevitably increases wherever aircraft movement rates increase significantly. However, further analysis also shows that the risk of wildlife strikes to individual aircraft movements (i.e. the overall bird strike rate corrected for aircraft movements) can be reduced significantly by proper implementation of wildlife control measures. Keeping bird strike frequency/risk at current levels or better at a time of increasing aircraft movements may require the dedication of increased resources to wildlife strike mitigation measures.

In terms of risk to aircraft, the priority wildlife groups at BOH are gulls, followed by raptors (mainly kestrels), pigeons, corvids (carrion crow primarily), grassland plovers (mainly lapwing), starlings and foxes.

There is some wildlife strike risk from waterfowl crossing the Airfield or transiting through the immediate airspace. With the exception of the gull transit hazard BOH's historical wildlife strike hazard is unremarkable, and in most respects is typical of an airport in a coastal location.

Local farming practices have the potential to increase the bird strike risk either in an acute (e.g. ploughing or game shooting close to the Airport) or chronic (attractive crops situated close to the Airport perimeter) manner. This requires the establishment of contacts with the airport's near neighbours a mutually understanding relationship.

2.6 ELEMENTS OF THE PLAN

The WHCP consists of a number of elements which are detailed as follows:-

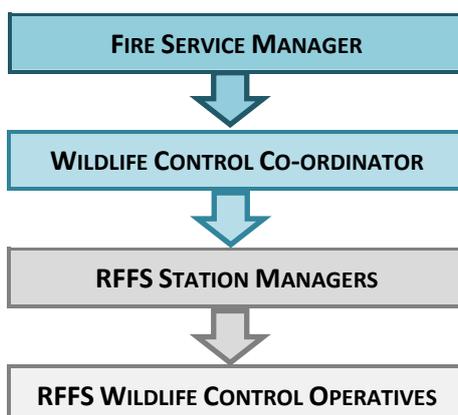
- a) A habitat management programme to minimise the attraction of the Airfield and its environs for birds.
- b) Continuous surveillance throughout operating hours of the Airfield surface and the airspace overhead and immediately around the Airfield for hazardous concentrations and movements of birds.
- c) Active dispersal of birds from the Airfield by mobile patrols.
- d) Warnings passed to ATC from the RFFS Wildlife Control Operatives (WCOs) of hazardous concentrations and movements of birds that cannot be immediately dispersed.
- e) Shooting birds and removing nests and eggs when non-lethal measures prove ineffective or require reinforcement to retain their effect.
- f) Intelligence gathering and utilisation through record keeping, surveys of the local area, data analysis and reporting to maintain operational standards and produce a sound and current background of knowledge on which to base and update bird control policy.
- g) A bird hazard safeguarding system agreed with the Local Planning Authorities and arrangements for consultation with planning applicants and other local stakeholders.
- h) A process for notifying the appropriate authority when any potential wildlife hazard is identified from assessment within the vicinity of the Aerodrome

2.7 HABITAT MANAGEMENT

2.7.1 GRASS MANAGEMENT:-

The principle element of habitat management at BOH is a wildlife deterrent long grass regime – the “Long Grass Policy” (LGP) in accordance with the best practice promulgated in CAP 772, modified appropriately to suit local conditions. The grass management regime is described in detail in BOH AOP 105; Control of Grass Cutting.

The grassland management audit trail is as follows:-



2.7.2 OTHER BIRD ATTRACTIONS:-

Any new open water to be created on or near the Airport by, or on behalf of the Airport owners, will be assessed for its potential contribution to the Airport's wildlife hazard before proceeding. Sensitive location and/or passive exclusion measures may be required to mitigate any perceived increased risk.

Any future tree planting or landscaping scheme will be assessed for its future bird attracting potential and modified as necessary before proceeding.

Airport building rooftops, including the Terminal building, may attract large gulls (normally herring gull and/or lesser black-backed gull) to breed. Every effort will be made to prevent this and airport buildings will be monitored each spring to ensure that breeding gulls do not become established.

Wildlife control patrols will monitor continuously the development of bird attractants (scrub growth, flooding etc.) and determine and recommend appropriate remedial action to FSM / WCC.

2.8 CONSTRUCTION OR EARTHWORKS ON THE AIRPORT

Before any significant construction works or earthworks commence on the Airport, a local risk assessment will be conducted to determine the potential of these works to attract hazardous wildlife and will recommend appropriate modifications or mitigation measures.

2.9 WILDLIFE ATTRACTANTS IN THE AIRFIELD ENVIRONS

The WCC will monitor the areas in the immediate vicinity of the airfield to detect wildlife concentrations and recommend mitigation action to the FSM, or pass warnings to ATC as appropriate.

Around BOH, local agricultural activity such as ploughing, or organised game bird shooting, may cause acute bird hazards in certain areas on occasion.

Local agreement will be sought with landowners to modify land use practices whenever a wildlife hazard caused by a specific pattern of land use is identified.

2.10 SURVEILLANCE AND WILDLIFE CONTROL PATROLS

Surveillance for wildlife is maintained throughout the operating hours of the Airfield as follows:-

- Continuous mobile patrols by the RFFSC during rostered hours
- Enhanced surveillance from the VCR by ATC, supported by other Airport staff mobile on the Airfield and whenever the RFFSC are not actively patrolling the Airfield (e.g. when temporarily tasked with other duties)

2.11 THE AIM OF THE PLAN

Although removing wildlife from the Airfield and its immediate environs will achieve the greatest reduction in the wildlife strike hazard, airfields that are completely and permanently bird-free do not exist. The aim of the WHCP is to establish and maintain an environment in which hazardous wildlife are prevented from using the Airfield for feeding, resting and commuting overhead. This is established and maintained by an active, efficient wildlife control organisation. Incoming wildlife are dispersed before hazardous congregations build up or gain access to the Movement Area. Once this environment is established, wildlife movements (arrivals, transits and departures) are greatly reduced, and in most circumstances, this aim is realistic and achievable.

Although high-risk times and species can be identified, the bird hazard is ever present and liable to rapid change. Therefore, it is necessary for RFFS and ATC staff to maintain continuous surveillance and take action to remove wildlife on their arrival. Bird pressure may sometimes strain resources to the point that the entire Airfield cannot be maintained free of wildlife. In this situation, all concerned personnel shall agree the least hazardous areas to be affected and action will be taken to ensure that there is then no inadvertent disturbance and/or short-notice aircraft use of these areas. Normal operations are to be restored as soon as possible.

2.12 LETHAL CONTROL POLICY

Shooting, using the shotgun or air rifle as appropriate and removal of nests and eggs are carried out within the provisions of the Wildlife and Countryside Act 1981 and associated licences, and in accordance with the aims and policies described in CAP 772. At BOH, there are significant local conservation interests and so an additional degree of sensitivity is required when conducting lethal control of birds in the interests of flight safety. However, these concerns must not be allowed to endanger flight safety by adversely affecting the efficacy of bird control efforts at the Airport.

2.13 PERSONNEL TRAINING

All staff and management personnel involved in the WHCP are trained to CAA recognised standards at courses and seminars, backed up with on-the-job training. All firearms users will be trained in the safe use of firearms in general and specifically for operations at BOH. Periodic refresher training will be arranged as necessary.

Training courses for all staff will include the following topics:-

- Wildlife Identification
- Wildlife Control for Common Species and Aerodrome Specific Procedures
- Risk Assessment for Bird Control
- Recording of Statistics
- Reporting of Wildlife Strikes and Remains Identification
- Overview of Airfield Grassland Management
- Overview of Safeguarding with Aerodrome Specific Information
- Licensing Issues

2.14 SAFEGUARDING POLICY

2.14.1 BACKGROUND:-

Circulars (Safeguarding Directions) issued by the DfT/ODPM (now Communities and Local Government) Consultation Paper on Minerals Policy Statement 1: Planning and Minerals and Associated Good Practice Guidance require Local Planning Authorities to consult civil aerodromes on relevant development proposals, explosives establishments and technical (radar/radio) sites.

Virtually all land types and land uses, including 'natural' habitats, attract birds in some way and in theory a case could be made to exclude virtually anything from the vicinity of an aerodrome. However, this is both unrealistic and unattainable in practice, and all aerodromes operate with an on-going background level of bird hazard.

However, the safeguarding process targets new developments that individually, or as part of a cumulative process, could become major attractants with the potential to cause significant problems. In terms of risk assessment, the existing situation and the current disposition of local bird populations must be included in the assessment of a proposed development.

2.14.2 AIMS:-

The principle aims of the safeguarding policy are as follows:-

- a) To guard against new or increased hazards, caused by or resulting from new developments.
- b) Where possible, encourage developments which will reduce hazards. For example, an LPA may consult over a number of potential replacement sites for an existing landfill; some of which may reduce the hazard, whereas others would increase it.
- c) Similarly, continuation of operations at some sites may require renewed planning permission, or re-permitting. This enables the safe-guarder to exploit opportunities to terminate or reduce existing hazards, by objecting to the continuation of an operation that has proven to be hazardous or, at least, seeking mitigation measures

Local bird safeguarding policies must operate with sensitivity to the high conservation value of the area but must strive to avoid any increase in the wildlife hazard to aircraft operating at BOH and where possible, to reduce existing hazards.

A bird safeguarding map is held in the BOH Fire Station; this delineates the circle of 13km radius, within which the bird safeguarding process normally operates.

Any new or changing hazard within the delineated area will be brought to the attention of the FSM, who will notify the Safeguarding Officer; they will conduct the appropriate assessments and make contact with the relevant authorities / organisations as necessary.

2.15 SUMMARY

The WHCP at BOH is designed to have a significant deterrent effect in reducing numbers of key wildlife species visiting the Airport and where possible, reducing overflights of birds or bird concentrations in other hazardous locations, such as Runway Approaches. In reducing wildlife numbers, the potential for conflict between wildlife and aircraft can be significantly reduced, which makes a safer operational environment.

The full range of techniques accepted as current best practice will be applied as appropriate, and the Airport will not rely unduly on any one aspect, nor neglect other key methods on the grounds of cost or convenience.

The cooperation of all Airport employees, local landowners and Planning Authorities will be required to achieve the best results and BOH will endeavour to encourage and maintain this.

3. WILDLIFE HAZARD RISK ASSESSMENT

3.1 BACKGROUND

BOH is located on the South Coast, approximately 6 miles from the coast. The river Stour flows to the south of the Airport, just over 1km at its closest point from the perimeter fence and the river Avon flows to the east, a similar distance from the eastern end of the Runway.

Bird populations in the area are higher than average for a UK airport, particularly in the winter months, due to the ingress of Gulls during periods of inclement weather. The fleet mix and movement frequency of aircraft using the Airport require that the local bird strike hazard is assessed and appropriate mitigation measures are put in place. This document aims to achieve this requirement.

3.2 PROCESS

The requirements are achieved by the following means:-

- a) An introductory application of Civil Aviation Authority (CAA) Risk Assessment Methodology to the bird hazard to aircraft in general.
- b) An assessment of the bird hazard at BOH, using historical data.
- c) Refinement of the Risk Assessment with reference to the historical bird strike records for aircraft types operated from the Airport.
- d) Updating the 'local knowledge' Risk Assessment by site visits, to review changes on the Airport and in the local area.
- e) Recommendation of mitigation measures appropriate to the scale of operations and specifically designed for the conditions at BOH.

3.3 CAA RISK ASSESSMENT METHODOLOGY

Risk Management is an essential part of safety management and risk assessment is the process by which risks are evaluated and where necessary, policies for their mitigation determined as follows:-

- a) Identification of all possible hazards.
- b) Hazard review, in which the identified hazards are reviewed critically and re-defined as necessary.
- c) Hazard severity assignment for each of the hazards identified.
- d) Estimation of probability of each hazard arising.
- e) Risk tolerability determination in which severity and probability of hazards are combined.
- f) Risk reduction as required by action to mitigate the severity or likelihood of occurrence.

The hazard severity for bird strikes includes all levels up to and including catastrophic, depending upon the type and number of birds.

Classifications for Hazard Severity, Hazard Probability, Safety Risk Assessment and Safety Risk Tolerability are derived from principles contained in ICAO Doc. 9859; Safety Management Systems. Part B of the Aerodrome Manual provides detail for the BOH processes and principles

An “Unacceptable” Risk Assessment must be reduced and where it falls between “Acceptable” and “Unacceptable”, it should be reduced to a level ‘as low as reasonably possible’ (ALARP). Mitigating action may be aimed at reducing the severity of the hazard, its probability or both and is achieved by removing, as far as is reasonably practicable, birds from the vicinity of aircraft or aircraft movement areas.

3.4 RISK REDUCTION

The aim of risk reduction is to reduce the risk to a tolerable level. To ensure that this is achieved, a further risk assessment should be made taking into account the effect of the risk reduction measure(s). If the residual risk level remains unacceptable, further actions are necessary until the aim is achieved.

All factors that could bring birds to the Aerodrome and into potential conflict with aircraft must be considered to produce a coherent policy to reduce the hazard to an acceptable level.

3.4.1 REQUIRED RISK REDUCTION MEASURES:-

- Habitat Management:-

Long Grass Policy (LGP) as described in detail in CAP 772, is essential to reduce the Airfield's attractiveness to hazardous birds.

- Active Bird Dispersal:-

Has a positive effect in reducing numbers of almost all species but may fail to be fully effective if habitat management is compromised in any way and the Airfield is highly attractive to birds.

- Shooting:-

Shooting is required as a very occasional, necessary reinforcement to active bird dispersal, acknowledged by and provisioned for in bird protection law.

- Safeguarding:-

Safeguarding is a system of planning consultation to control bird attracting and other potentially hazardous developments (such as landfill sites, large bodies of open water etc.) nearby and prevent associated hazardous bird concentrations or mass movements which may affect the Aerodrome.

Overall effective bird hazard control requires:-

- Habitat management to minimise the attraction of the Airport and its environs for birds
- Detection of hazardous concentrations of birds on the Airfield surface, in its immediate environs, and in the airspace overhead
- Active dispersal of birds from the Airfield by mobile patrols using proven dispersal techniques, including broadcast distress calls and bird scaring pyrotechnics
- Warning ATC whenever potential hazards are detected, which cannot be controlled before an actual hazard arises
- Intelligence gathering and utilisation
- Training
- Quality Assurance management
- A local safeguarding consultation arrangement with planning authorities

3.5 CATEGORY OF BIRD HAZARD

The potential bird hazards identified fall into several categories:-

- Will almost certainly occur in the absence of ongoing action; e.g. gulls and Lapwings
- Might arise and therefore requires systems in place to detect their development at an early stage and subsequent mitigation action applied; e.g. starling roosts or roof-nesting gulls
- Might develop as a result of gradual, long-term habitat changes and which therefore require conditions to be monitored and mitigating action applied; e.g. tree growth attracting rooks to nest

Central to the success of the WHCP is not the actual mitigation measures but a robust management and monitoring/auditing system.

3.6 BIRD HAZARD SAFEGUARDING

The Airport has established a safeguarding consultation system with the Local County Councils, which has been in operation for several years and includes bird hazards as defined in the Safeguarding Directions. Each application will be considered both on its own merits and in terms of its potential interactions with existing bird habitats in the local area as identified in the BOH Bird Safeguarding Area Survey, which is a live document updated with local intelligence as it becomes available.

It is important that the background hazard level should not increase as a result of local planning decisions. However, commercial, recreational and conservation developments at the Airport are beneficial to local communities and where possible, accommodations or compromises may be possible.

The LPAs are advised of the importance of bird safeguarding in the context of the Airport's requirements and statutory responsibilities and will seek to ensure that modified policies are written into local structure (minerals, waste plans etc). Local liaison with interested conservation bodies and significant landowners will also be sought where appropriate.

3.7 LIAISON WITH LOCAL LANDOWNERS

3.7.1 ARABLE FARMING PRACTICES:-

Ploughing, drilling, harvesting and the presence of certain crops can all have a major influence on local bird populations. Some, such as ploughing, can have a short-term, potentially dramatic effect in attracting large numbers of birds that feed on exposed soil invertebrates. Such activities can significantly increase the bird strike risk in the short term, particularly when they take place in Runway Approaches or in fields directly adjacent to the Airfield boundary. There are no legal mechanisms to prevent such activity and the only measures are to negotiate the timing and location of such activities with the landowner and possibly, the short-term deployment of personnel to disperse bird concentrations.

The type of crop grown also has consequences for the bird strike hazard. Root crops are only significantly attractive for a period after crop lifting. Cereal crops, such as wheat and barley may attract granivorous species for a short time after drilling and may then provide a feeding habitat for invertebrate feeding gulls and grassland plovers and grazing swans, until the crop reaches around 150mm tall. Ripening crops may attract corvids and pigeons for a short while, as does any stubble left after harvesting. Oilseed rape may attract significant numbers of woodpigeons throughout the winter months and in close proximity to aerodromes, this crop may represent a significant and relatively long-term hazard.

3.7.2 LIVESTOCK FARMING:-

Livestock farming typically attracts moderate numbers of corvids and starlings, which may be found in attendance with livestock year-round. In general, livestock farming is not regarded as being a particularly bird-attracting activity but at times starlings, rooks and/or jackdaws may associate with livestock in significant flocks. The presence of livestock can compromise the bird dispersal measures that can be used, particularly the firing of pyrotechnics.

However, outdoor pig rearing is potentially a major hazard to air safety. These sites can attract birds in numbers comparable with a landfill site; with corvids, gulls, starlings and lapwings present in very large numbers. Unless the Airport was to attempt the invocation of the Air Navigation Order (ANO) 2009; "A person shall not recklessly or negligently act in a manner likely to endanger an aircraft, or any person therein", the prevention of such a hazardous development must be negotiated locally by mutual consent.

3.7.3 GAME BIRD REARING AND SHOOTING:-

This represents a significant local bird strike hazard at some airports where large numbers of game birds are reared, released and shot in very close proximity and these birds are supported by game bird feeding stations and strategically planted "game crops" around the airport. Game birds of all species are an extremely high-risk group and have a history of destroying even large turbine engines and habitat management and "scaring" measures are not sufficient to contain the hazard. With many farmers seeking to diversify and find additional sources of revenue, game shooting may be seen as a local option. Local agreements to position release pens, feeders, game crops and shooting "beats" away from the airport boundary may be necessary to prevent the inadvertent creation of an uncontrollable and acute hazard. In recent years, both military and civil aerodromes in the UK have experienced serious problems with game rearing interests and in at least one case uniformed police intervention was required to prevent a shoot from taking place next to a busy civil airport.

3.8 BIRD HAZARD CONTROL STRATEGY

This will include decisions on management structure, manning, training and equipment provision. This document will not include a detailed discussion of aerodrome bird control equipment and procedures, as these are described in detail in CAP 772 "Bird strike Risk Management for Aerodromes".

3.9 HABITAT MANAGEMENT

Bird hazard mitigation measures should be considered during any planned development of the Airport and where possible, those of its near neighbours. In particular, this should address any potentially new bird habitats; e.g. exposed water, planting schemes, building roof design etc.

In particular, the following should be considered:-

3.9.1 BUILDINGS:-

Safe foot access to the rooftops of any new large buildings (e.g. warehouses, hangars etc.) on or within 6km of the Airport should be required at the design phase through the safeguarding process. This will ensure that should the colonisation of a roof by breeding gulls take place, swift action can be taken to remove the colony without resorting to shooting or trapping and without endangering people working at height. 'Green' roofs (i.e. roofs covered with vegetation) should be avoided where possible around airports as they attract breeding gulls.

3.9.2 GRASSLAND MANAGEMENT :-

Local soil and drainage conditions, as well as weather factors, should be considered as part of the Long Grass Policy (LGP). After wet weather in winter/early spring, soil conditions over much of the Airport are difficult for the maintenance of a "classic" grass sward as described

in CAP 772, which is taken into consideration in the Airport's plans and documentation. Typically, this means that the spring "bottoming out" cut may be deferred until the soil dries out sufficiently to minimise damage by grass cutting machinery.

3.9.3 OPEN WATER:-

The creation of open ponds, streams or ditches on the Airport site should be considered unacceptable, particularly in an area with high waterfowl populations. There is a very clear correlation between waterfowl strikes and the presence of open water habitats on aerodromes. This mainly applies to mallards and grey herons and both species regularly use even the smallest ponds and drains that may be present. Active bird dispersal is not sufficiently effective against these species, to reduce the hazard to an acceptable level. The only recommended mitigation measures are passive bird exclusion systems, primarily netting systems. Netting is recommended for any open drains, balancing ponds etc. that may be required on, or very near to the Airport Manoeuvring Area and this has been implemented in the recent balancing pond construction.

3.9.4 LANDSCAPING:-

Any BOH landscaping scheme planned on, or within 2km of the Airport should take into consideration the bird hazard mitigation principles outlined in CAP 772.

4 CONCLUSION AND SUMMARY

4.1 OVERVIEW

BOH is situated in an area where several large flocking bird species are common and some species can be numerous on occasion. As a consequence, the background risk is higher than the UK average and this must be considered when implementing mitigation measures.

Particular local concerns are:-

- Very large local gull populations; the routing of their daily commuting flights through the local airspace and their tendency to settle on the Airport's paved surfaces by day and by night
- A higher than normal level of fox activity within the Aerodrome boundary during certain times of year

Other problems include occasional starling flocks, pigeons feeding on weeds or breeding in hangars, corvids and occasionally, other species. However, although these are accepted to be hazardous priority species, population levels at BOH have been kept at moderate levels and the associated hazard can be deemed as under control.