Wildlife Hazard Management

Airside Operational Instruction 15

Content

MAG East Midlands Airport

SECTION 1 - INTRODUCTION

1. EU Regulation No 139/2014 and its Implementing Rules (EASA ADR.OPS.B.020) requires the aerodrome operator to

   - Assess the wildlife hazard on, and in the surround of the aerodrome.
   - Establish means and procedures to minimise the risk of collisions between wildlife and aircraft; and
   - Notify the CAA if a wildlife assessment indicates conditions in the surroundings of an aerodrome are conducive to a wildlife hazard problem.

2. The supporting AMC (Acceptable Means of Compliance) requires the establishment, implementation and maintenance of a wildlife risk management programme. This document follows CAP772 (Birdstrike Risk Management for Aerodromes) as best practice, within this document the requirement for a Wildlife Risk Management Programme (WRMP) is met through the current Wildlife Hazard Control Plan (WHCP)

3. 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.

4. The measures should relate to the threat posed by each identified risk and, due to the relative unpredictability of wildlife activities, should be responsive top changes as the risk rises or falls. Those measures may include the wildlife control techniques as detailed in CAP772 .

SECTION 2 - WILDLIFE HAZARD MANAGEMENT

1. Introduction

1.1 This document is a detailed description of East Midlands 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).

1.2 Civil Aviation Publication CAP 772, is used as *best practice*. Chapter 1 contains details of the elements which should, as a minimum be included, these are:

1.2.1 The roles and responsibilities of aerodrome management and bird control personnel;

1.2.2 The policies and procedures for:

a. risk identification and assessment;
b. on-aerodrome bird control, including when low visibility operations are in place;
c. the recording of bird control activities;
d. reporting bird control issues;
e. bird control performance monitoring, measurement and improvement systems;
f. personnel training and appraisal;
g. recording and analysis of birdstrike reports;
h. the logging of bird species and data analysis;
i. recording the results of birdstrike risk assessments that are conducted;
j. obtaining permissions for control measures, as necessary; and
k. the periodic assessment and review of the birdstrike risk recording and information system, bird control procedures and associated activities;

1.2.3 Details of the birdstrike risk assessments that are conducted and the birdstrike risk mitigation measures that are in place;

1.2.4 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; and

1.2.5 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 the:

a. 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;
b. means to influence land use and development surrounding the aerodrome so that the birdstrike risk does not increase and, wherever possible, is reduced;
c. means to help encourage landowners to adopt bird control measures and support landowners' efforts to reduce birdstrike risks; and
d. procedures to conduct, and record the results of, site monitoring visits.

1.3 In the context of this document, “airfield” refers to the aircraft manoeuvring areas (runways, taxiways and aprons) and the grass areas to the perimeter fence. “Airport” refers to the airfield plus the terminal buildings, hangars etc…

2. Roles and Responsibilities

The primary responsibilities of personnel involved in the implementation of wildlife control policy at EMA are outlined below:

2.1 Head of Fire & Airfield Operations (HFAO)

The HFAO is responsible for implementing the WHCP, ensuring that adequate resources are provided including line-management of the Airfield Operations Supervisor’s (AOS), and (through the Safeguarding and Wildlife Control Officer (SWCO)) the maintenance of the WHCP / associated guidance documents, including review of its implementation and efficiency.

2.2 Safeguarding and Wildlife Control Officer (SWCO)

The Safeguarding and Wildlife Control Officer (SWCO) reports in to the Head of Fire & Airfield Operations. The SWCO 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. In more detail, the duties are to:

- Assessing hazard level on which to base the WHCP.
- Determining policy and producing the WHCP, making use of the technical expertise from appropriate sources.
- Publishing the WHCP in the Aerodrome Manual.
- Ensure that operational aspects of the WHCP are implemented to the satisfaction of the Airport’s senior management and external auditors.
- Advise HFAO on all matters relating to wildlife and wildlife strike prevention and to assist with the production and development of the WHCP.
- Plan, organise, supervise and monitor wildlife control operations to ensure that the WHCP is implemented and standards maintained.

- Supervise wildlife control record keeping (log, wildlife counts, wildlife strike recording and reporting, shooting and habitat management diaries, etc.) ensuring that standards are maintained.
- Monitor habitats and habitat changes on and around the aerodrome, develop countermeasures and make recommendations to the HFAO.
- Monitor 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.
- Analyse and interpret log records of wildlife control activities and wildlife count data.
- Produce reports on the progress of the WHCP and on specific topics, safety briefs and wildlife hazard warnings as required.
- Ensure that all shotgun and firearms licences and aerodrome-specific licences issued under the Wildlife and Countryside Act 1981 are current.
- Ensure the supply, safekeeping and correct maintenance of wildlife control equipment and consumables.
- Identify elements of airport operations that have a high wildlife strike potential, and brief HFAO, ATSM etc, with proposals and recommendations to reduce the hazard.
- Carry out surveys of wildlife concentrations and movements in the local area and liaise with local ornithological and conservation societies for additional information.
- Carry out aerodrome safeguarding to assess proposed developments with the potential to attract hazardous wildlife notified by the local planning authority.
- Liaise with local landowners, farmers and gamekeepers to obtain intelligence on cropping plans, game conservation, shooting, etc.
- Identify potential hazards from collating local ornithological and other data, disseminate the information to AOS's, air traffic control etc., and liaise with landowners on mitigation action.
- Organise, supervise and undertake control/dispersal action as necessary at breeding, feeding or roosting sites on and off the airfield.
- Seek advice and assistance from outside specialists on matters requiring expertise not available on the aerodrome.

Note: the above duties may be delegated to the Airfield Operations Supervisor (AOS).

2.2 Airfield Operations Supervisors (AOS)

Airfield Operations Supervisors (AOS's) will carry out wildlife hazard control operations as follows:

- Continuous surveillance throughout operating hours of the airfield surface, surrounding land, and the airspace overhead and immediately around the airfield (normally, those fields immediately adjacent to the perimeter fence and as far as practicable into the runway approach and climb out areas) for hazardous concentrations and movements of wildlife.
- 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.
- Where necessary, and within the provisions of the Wildlife and Countryside Act 1981, shooting wildlife and removing nests and eggs.
- Warning ATC whenever a potential wildlife hazard cannot be countered immediately or without making the situation worse in the short term.

- Monitoring the implementation of the habitat management programme to minimise the attraction of the airfield and its environs for wildlife.
- Intelligence gathering, record keeping and reporting to produce a sound and current background of data on which to monitor and develop the WHCP.
- Record wildlife strikes using the CAA online form SRG 2004. These forms will then be submitted to CAA using the online reporting method and checking to ensure all details are present and correct. As part of the role and as described in Section 10 of this chapter, the AOS's will be trained in identification from remains as well as local and national birdstrike reporting procedures.
- Record all developments with potential to affect the efficient performance of the wildlife control task.
- 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.
- Assist with control/dispersal action as necessary at breeding, feeding or roosting sites on and off the airfield.
- 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

2.3 Air Traffic Control

Air Traffic Control are responsible for the following:

- Primary surveillance for hazardous concentrations and movements of wildlife whenever the duty AOS is not on the airfield. This role is initiated when ATC receives an "off airfield" radio call from the duty AOS.
- 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 AOS in an expeditious manner.
- Expediting the movements and operations of wildlife control patrols around the airfield.

3. Risk Identification and Assessment

3.1 Wildlife are 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.

3.2 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 EMA. 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.

3.3 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 birdstrike rate corrected for aircraft movements) can be reduced significantly by proper implementation of wildlife control measures. Keeping birdstrike 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.

3.4 In terms of risk to aircraft, the priority wildlife groups at EMA 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 EMA's historical wildlife strike hazard is unremarkable, and in most respects is typical of an airport in an inland location.

3.5 Local farming practices have the potential to increase the birdstrike 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.

4. Elements of the Plan

4.1 The WHCP consists of a number of elements which are detailed as follows.

4.2 A habitat management programme to minimise the attraction of the airfield and its environs for birds.

4.3 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.

4.4 Active dispersal of birds from the airfield by mobile patrols.

4.5 Warnings passed to ATC from the duty AOS's of hazardous concentrations and movements of birds that cannot be immediately dispersed.

4.6 Shooting birds and removing nests and eggs when non-lethal measures prove ineffective or require reinforcement to retain their effect.

4.7 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.

4.8 A bird hazard safeguarding system agreed with the Local Planning Authorities and arrangements for consultation with planning applicants and other local stakeholders.

5. Habitat Management

5.1 Grass Management

5.1.1 The principle element of habitat management at EMA 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 EMA Airfield Operations SOP81 (Grass Management)

5.1.2 The grassland management audit trail is as follows:

Safeguarding and Wildlife Control Officer
↓
Head of Fire & Airfield Operations
↓
Contractor

5.2 Other Bird Attractions

5.2.1 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.

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

5.2.3 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.

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

5.3 Construction or Earthworks on the Airport

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

5.4 Wildlife Attractants in the Airfield Environs

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

5.4.2 Around EMA, local agricultural activity (particularly ploughing) or, potentially, organised game bird shooting, may cause acute bird hazards in certain areas on occasion.

5.4.3 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.

6. Surveillance and Wildlife Control Patrols

6.1 Surveillance for wildlife is maintained throughout the operating hours of the airfield as follows:

a. Continuous mobile patrols by the AOS during rostered hours
b. Enhanced surveillance from the VCR by ATC (in addition to ATC's continuous duty of care), supported by other airport staff whenever the AOS is not actively patrolling the airfield (e.g. when temporarily tasked with other duties). Any wildlife reporting by ATC will be communicated directly to the operational AOS via radiotelephony or the control room on extension 2973, who will then re-communicate this information to the AOS. Reporting of wildlife activity by a third party is to be done via the control room on telephone number 01332 852973, the control room will then re-communicate this information to the AOS at the earliest opportunity without delay.

6.2 Aims

6.2.1 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 areas. Once this environment is established, wildlife movements (arrivals, transits and departures) are greatly reduced, and in most circumstances this aim is realistic and achievable.

6.2.2 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 Airfield Operations 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 (successive shifts of WCOs, ATC etc…) 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.

6.3 Detailed information on the implementation of wildlife control procedures are contained in EMA Airfield Operations SOP80 (On Aerodrome Wildlife Control).

7. Lethal Control Policy

7.1 Shooting, using the shotgun or air rifle as appropriate, and removal of nests and eggs are carried out by the AOS's or SWCO 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 EMA, there are significant local conservation interests, and 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 efficiency of bird control efforts at the airport.

7.2 Detailed information on the implementation of lethal wildlife control is contained in EMA Airfield Operations SOP82 (Lethal Wildlife Control and Firearms Usage).

8. Intelligence Gathering and Utilisation

8.1 A constant record of wildlife control operations will be kept throughout the operating hours of the airport. Detailed information on the implementation of wildlife control is contained in EMA Airfield Operations SOP22 (Recording of Wildlife Control).

9. Training

9.1 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 EMA. Periodic refresher training will be arranged as necessary.

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

a. Wildlife identification

b. Wildlife control for common species and aerodrome specific procedures

c. Risk assessment for bird control

d. Recording of statistics

e. Reporting of wildlife strikes and remains identification

f. Overview of airfield grassland management

g. Overview of safeguarding with aerodrome specific information

h. Licensing issues

10. Safeguarding

10.1 Aims

10.1.1 Circulars (Safeguarding Directions) issued by the DfT/ODPM (Circular 1/2003) and the 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. The principle aims of the safeguarding policy are as follows:

a. To guard against new or increased hazards caused by new developments.

b. It may be possible to encourage developments that 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 safeguarder 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

10.1.2 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 EMA and, where possible, to reduce existing hazards.

10.1.3 Details relating to the analysis of risk from developments in the vicinity of an aerodrome are contained in EMA Safeguarding SOP 04 (Safeguarding Assessment of Applications that pose a Wildlife Risk).

11. Summary

11.1 The WHCP at EMA 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.

11.2 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.

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

SECTION 3 – WILDLIFE HAZARD RISK ASSESSMENT

1. Background

1.1 EMA is located on a ridge in Leicestershire, near the county's borders with Nottinghamshire and Derbyshire. The river Trent flows to the north of the airport, just over 2km from the perimeter fence at its closest point, and the river Soar passes to the east a similar distance from the eastern end of the runway. Bird populations in the area are significantly higher than average for a UK airport, particularly in the winter months, due to the extensive habitat for wildfowl and wading birds provided by the Trent Valley and its associated flood plains and flooded gravel pits. The fleet mix and movement frequency of aircraft using the airport require that the local birdstrike hazard is assessed and appropriate mitigation measures are put in place. This document aims to achieve this requirement with:

a. An introductory application of Civil Aviation Authority (CAA) risk assessment methodology to the bird hazard to aircraft in general.
b. Assessment of the bird hazard at EMA from historical data.
c. Refinement of the risk assessment with reference to the historical birdstrike 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 EMA.

2. CAA Risk Assessment Methodology

2.1 The procedures applied are described in EMA Aerodrome Manual Part B and CAP 728 "The Management of Safety". 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.

2.2 Safety risk (hazard severity) classifications are derived from principles contained in ICAO D c. 9859 'Safety Management Systems'. Full details located at EMA Aerodrome Manual Part B

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

2.4 Safety risk (hazard) probability classifications are derived from principles contained in ICAO Doc. 9859 'Safety Management Systems'. Full details located at EMA Aerodrome Manual Part B

2.5 Safety risk assessment classification details (including safety assessment matrix) are derived from ICAO Doc. 9859 'Safety Management Systems'. Details located at EMA Aerodrome Manual Part B

2.6 The safety risk (tolerability) matrix utilised at EMA is derived from principles contained in ICAO Doc. 9859 'Safety Management Systems'. Full details located at EMA Aerodrome Manual Part B

2.7 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 principle). 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. The Wildlife Strike Hazard at EMA

3.1 The wildlife strike risk assessment process is fully described in EMA Airfield Operations SOP 85 (Wildlife Strike Risk Assessment).

3.2 The resulting tolerability Matrix for EMA is:

	Catastrophic	Hazardous	Major	Minor	Negligible
Frequent					"Small Birds", Rabbits
Occasional			Gulls, Pigeons, Foxes		
Remote			Buzzards, Ducks	Plovers, Corvids, Kestrels	
Improbable		Geese		Starlings	
Extremely Improbable		Game Birds			

Acceptable	Review	Unacceptable

4. Risk Reduction

4.1 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 or measures. If the residual risk level remains unacceptable, further actions are necessary until the aim is achieved.

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

4.3 Required Risk Reduction Measures

4.3.1 Habitat Management - Long Grass Policy (LGP) as described in detail in CAP 772 “Birdstrike Risk Management for Aerodromes” is essential to reduce the airfield's attractiveness to hazardous birds.

4.3.2 Active Bird Dispersal - 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

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

4.3.4 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.

4.3.5 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

4.4 The potential bird hazards identified fall into several categories:

4.4.1 Those which almost certainly will occur in the absence of ongoing action (e.g. gulls and Lapwings).

4.4.2 Those which may arise and, therefore, require systems in place to detect their development at an early stage and take mitigating action (e.g. Starling roosts, roof-nesting gulls).

4.4.3 Those which may develop as a result of gradual long term changes in habitats and, which, therefore require monitoring of conditions and mitigating action (e.g. growth of trees to the extent that Rooks are attracted to nest).

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

5. Bird Hazard Safeguarding

5.1 The Airport has established a safeguarding consultation system with the three 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 EMA Bird Safeguarding Area Survey, a live document updated with local intelligence as it becomes available.

5.2 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.

5.3 The LPA's 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.

6. Establishment of Liaison with Local Landowners

6.1 Arable Farming Practices - Ploughing, drilling, harvesting and the presence of certain crops can 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 birdstrike 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 birdstrike hazard. Root crops are only significantly attractive for a period after crop lifting. Cereal crops (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 do any stubbles 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.

6.2 Livestock Farming - Livestock farming typically attracts moderate numbers of corvids and Starlings, which may be found 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 were to attempt the invocation of the Air Navigation Order (ANO) 2009 (Part 19, para 137: "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.

6.3 Game Bird Rearing and Shooting - This represents a significant local birdstrike 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.

6.4 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 "Birdstrike Risk Management for Aerodromes". The only anomaly in the bird hazard profile at EMA is the gull flight line associated with Church Wilne Reservoir. The main defence against transiting gulls in the short term must be detection, warning and enhanced patrolling for gulls attempting to settle on the airport.

6.5 Habitat Management - Bird hazard mitigation measures should be considered during any planned development of the airport and, where possible, those of its near neighbours. This should particularly address any new potential bird habitats created e.g. exposed water, planting schemes, building roof design. In particular, the following should be considered:

6.6 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.

6.7 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.

6.8 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) the airport manoeuvring area and this has been implemented in the recent balancing pond construction.

6.9 Landscaping - Any EMA landscaping scheme planned on, or within 2km of, the airport should take into consideration the bird hazard mitigation principles outlined in CAP 772.

SECTION 4 – CONCLUSION AND SUMMARY

1. EMA 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 considered when implementing mitigation measures.

2. Particular local concerns are:

   a. Very large local gull populations, the routing of their daily commuting flights through the local airspace ad their tendency to settle on the airport's paved surfaces by day and by night.
   b. Exceptionally high numbers of wildfowl in the Trent Valley.
   c. A higher than normal level of Fox activity within the aerodrome boundary during certain times of year.

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