



ADVISORY CIRCULAR

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**Aerodromes
No. 05**

Subject: Potential Bird Hazards from Landfill Sites

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1. Introduction

Aerodrome safeguarding ensures the safety of aircraft and their occupants when in the vicinity of an aerodrome by controlling potentially hazardous development and activity around it. An overview of the Safeguarding process is given in the first Advisory Circular in this series. This Circular considers in particular the detailed examination of proposed waste disposal sites due to their likely bird attractant features.

Operators are required to take necessary steps to ensure that the birdstrike risk is reduced to the lowest practicable level. Some of the largest bird concentrations and movements occur when birds exploit man's activities and man-made attractants, particularly landfill sites, but also other waste disposal facilities.

2. Safeguarding Consultation

It is recommended that development that might attract birds be planned within a radius of 13 KM of an aerodrome require consultation with the aerodrome authority.

3. Landfill Hazards

Many bird species visit landfills. Gulls, Carrion Crows, Jackdaws, Rooks (also Hooded Crows, Ravens and Buzzards in some areas) and Starlings do so to feed on the waste food. Other species such as finches, house sparrows, wagtails, pigeons and pheasants are probably incidental because they live close by, or frequent the extensive tracts of weed-and scrub-infested waste ground typically associated with tips. Although a landfill very close to an aerodrome may cause hazardous concentrations of other species, the inevitable hazard from gulls so far outweighs all others that it is normal practice to assess safeguarding hazards in relation to gulls.

Gulls visiting a landfill near an aerodrome can be hazardous in several ways:

- **On the Aerodrome:** large numbers of gulls commute to a landfill daily and spend most of the day in its vicinity, even though they may feed on the site for only a few minutes or, perhaps, not at all. Characteristically, gulls 'wander' on the wing prospecting for potential feeding and resting sites. Consequently, numbers at 'secondary' sites (sports fields, aerodromes, lakes, sewage treatment plants, etc.) in the vicinity of a household waste landfill are increased by the presence of the landfill.
- **Overhead the Landfill:** gulls can soar up to 1500ft or more over landfills in fine weather. Also, soaring gulls may drift downwind. Therefore, aircraft may encounter flocks of gulls regularly if landfills are sited under or close to aircraft arrival and departure flight paths and within the visual circuit.
- **Bird Flight lines:** where an aerodrome is located between a gull roost and a landfill, flocks of up to several thousand gulls can fly across the aerodrome or through the approaches twice daily. This will be at least partly in low light conditions and cannot be influenced by action on the ground.
- Flight heights vary greatly between 'hedge-hopping' in poor visibility or headwinds and up to 1500ft or more in calm, clear conditions. Over-flying flocks will also attempt to alight (usually on the runway) in pre- and post-roost social gatherings. A roost on one side of an aerodrome therefore makes new landfill sites particularly hazardous over a large area of land on the far side of the aerodrome.

4. Safeguarding Strategy

If it is assessed that a proposed landfill will be hazardous a robust and detailed Bird Hazard Management Plan will be necessary is outlined in attachment 1.

Where a landfill for inert wastes only is in a location that would be hazardous if waste food were to attract gulls, a condition might be sought requiring the developer to monitor waste types and bird usage, and to implement remedial action or suspension of tipping in the event of unacceptable bird activity. This condition would be attached to any planning permission that may be granted.

Active bird control systems and netting enclosures have different characteristic breakdown patterns. The former fail frequently but for short periods when, for example, staff are distracted by other duties, arrive late for work, take meal breaks, etc. Gull flocks feed in brief intensive sessions and spend most of the day loafing on inactive areas of the landfill or in nearby fields. Their foraging strategy is, therefore, already adapted to exploit short-term breakdowns in active bird scaring/dispersal systems.

Failures of exclusion nets follow a different pattern. They operate without problems for weeks at a time and fail occasionally but for longer: the netting may be damaged; or a relaxation in operating standards may lead to food wastes being tipped outside the net. Gulls fly many miles specifically to feed on the dependable food source on landfills. Where the food remains completely inaccessible for weeks because it is inside a netting enclosure, it is obviously not worthwhile for large numbers of gulls to fly to the site daily. Therefore, when it eventually does suffer a breakdown, the gulls are not immediately there to exploit it and the breakdown would need to continue for some days before they discovered the 'new' feeding site. Also, the intermittent failures of bird controllers to protect a site are difficult to detect, whereas a mechanical failure of the net structure - or the dumping of food waste outside the net - is immediately obvious.

Netting systems are more reliable and their operation is easier to monitor. Therefore, where it has been determined those birds visiting a proposed landfill would be hazardous; the primary means of controlling the hazard should be a netting enclosure. Where it is judged that a failure of the net would be particularly hazardous, e.g. close to the coast where gulls would be quicker to detect and exploit failures of the netting system, active bird control should be available as a back-up. However, it is important that the landfill operator should never rely on active bird control as a substitute for a poorly managed netting system.

Where netting enclosures, and any back-up active bird control system, are considered appropriate to manage a bird hazard, it will normally be appropriate to secure the netting and control system within the terms of a legal agreement or condition on any planning permission that may be granted. The importance of continued good management is vital. Therefore, it will normally be appropriate for the aerodrome to request in the legal agreement / planning condition that a bird hazard management plan be agreed before development commences and be enforceable in the event of poor ongoing management.

Attachment 1: Landfill Bird Hazard Management Plan

1. Introduction

Where deemed necessary, a landfill bird hazard control system is achieved by:

- ➔ The production and implementation of a Bird Hazard Management Plan by the developer to ensure that, for example, a net does not fail to prevent gulls from feeding.
- ➔ The inclusion of the Bird Hazard Management Plan as a Planning Condition of the planning permission or waste licence.
- ➔ The acceptance of the Bird Hazard Management Plan by the aerodrome and CH&PA.

2. Example of a Landfill Bird Hazard Management Plan

The following paragraphs outline the design and implementation of a Bird Hazard Management Plan for a landfill site.

Content of the Plan

The following statements comprise a typical Bird Hazard Management Plan to ensure that gulls cannot gain access to food at a landfill site:

- No land filling, other than the deposit of inert waste, will take place except under and within the exclusion net.
- The net must enclose the active and uncovered land filling area on all sides and overhead with an unbroken surface of netting, except for a gateway to permit vehicle entry and exit.
- The gateway must be designed and operated in a way that ensures that birds cannot gain access.
- Wastes shall be prevented from piling against the netting and spilling from the gateway (e.g. by internal bunds or limiting deposition to a minimum of 10m from the net and gateway).
- The net shall not be moved or removed until the waste has been covered to a sufficient depth and with an appropriate inert material to deny access by birds.
- Waste, other than inert waste, will only be accepted on the landfill site in enclosed or sheeted transporters and will remain covered until the transporters have entered the netted area.
- Transporters shall only be swept out or otherwise cleaned on the landfill site within the netted area.
- Effective measures must be continuously operated on the site roads and tracks to ensure that any wastes carried from within the net on vehicle wheels or spilt are removed before they become available to birds.
- The haul road must be kept in good consolidated condition so that sweepers can efficiently remove spilt debris.
- There must be effective security arrangements to prevent vandalism, sabotage and access to the net by unauthorized persons.
- In the event of a failure or removal of the netting, wastes, other than inert wastes, shall be deposited under a replacement net or not accepted on the site.
- Active bird control measures to be taken in case of failure of the netting system.

Monitoring of the Plan

The effectiveness of the Bird Hazard Management Plan should be regularly monitored and reviewed by the applicant or developer. Common signs of breakdown are:

- Food waste outside the netting enclosure on the active landfill, on covered and reclaimed areas, or in open waste containers and transporters.
- Damage to the net, its supporting structure or gateway of a type that could permit birds to enter or gain access to food wastes.
- Tipping and handling procedures that could enable birds to gain access to food wastes.
- Flocks of gulls (or, for some sites, concentrations of starlings or other birds) in the netting enclosure or feeding or resting on the landfill site.
- Signs of gulls having visited the landfill site: feathers, droppings, pellets, footprints in mud, etc.
- Flocks of gulls (especially Herring and Lesser and Great Black-backed Gulls, which feed mostly on landfills when inland) resting on adjacent sites (e.g. fields, roofs) for which there is no obvious other nearby attractant.
- Also on adjacent sites: signs of gull presence as above or wastes (e.g. bones, food containers) that are too heavy to have been windblown and must have been carried by birds.

The developer or owner of the site should notify the CH&PA of any departure from the Planning Conditions or of proposed changes to the approved Bird Hazard Management Plan.

Means of enforcement action by the CH&PA if the Management Plan is not implemented.



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