

COPY OF RESPONSE BY LONDON CITY AIRPORT

01 June 2007

Project Manager – Joint Waste DPD for East London
London Borough of Newham
Town Hall
High Street South
East Ham
E6 2RP

**RE: JOINT WASTE DEVELOPMENT PLAN DOCUMENT FOR EAST LONDON –
BUILDING THE EVIDENCE BASE AND IDENTIFYING ISSUES AND OPTIONS**

Dear Sir,

We would like to thank you for your letter dated April 2007 inviting London City Airport to comment on the above documentation.

London City Airport is very supportive of development and regeneration in east London and we welcome the chance to comment on future plans contained within the Joint Waste DPD.

Whilst we would expect to be consulted formally with any planning application relating to a major waste facility, we thought you might find it useful to have an understanding of the considerations we are required to take when safeguarding aerodromes, which may help you in your own deliberations

Please find enclosed a report carried out on our behalf by our habitat management consultant, which we would ask you to take into consideration when developing the documentation further.

We would be very grateful to receive confirmation of receipt of this letter and also any comments you may wish to make on the report.

Kind regards,

Dan Townsend
Operations Policy and Planning Officer
London City Airport



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ELWA JWDPD Issues and Options – Potential Changes to Bird Hazards at London City Airport

This report addresses proposals for Joint Waste Disposal options for the East London Waste Authority specifically with regard to any change in the bird hazard to aircraft at London City Airport.

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Bird Hazards to Aviation

Birds are a significant hazard to aircraft, particularly on approach and take-off. A single bird can cause the loss of an engine or, potentially, the loss of an entire airframe, with resultant risks to passengers, crew and others. Aside from the potential risk to safety, there are significant costs involved in even minor bird strikes or suspected bird strikes, with aircraft needing to be thoroughly checked, involving prolonged down-time and disruption to schedules. Situated as it is, London City Airport has a greater than usual bird hazard, with not only the species which would normally be expected at a United Kingdom land-based airport, but also large numbers of water birds as the airport is surrounded by water. An unusual approach profile for aircraft also means that aircrew distraction on the approach should be minimised.

It is usual to assess these sorts of plans on the basis that airport personnel are effectively unable to deter birds above 1500 feet above ground level. However, as these are proposals for significant new changes in land use, either in methods or in capacity, which may affect bird activity at any height, and thus potentially affect aircraft safety, no upper altitude has been used in the appraisal, although more emphasis has been placed on bird activity up to 1500 feet above ground level.

From the point of view of the bird strike risk to aircraft, birds can be divided into two categories:

Priority Species

Priority Species are those which might usually be expected at an airport location, which are either large enough or flocking in behaviour to cause a significant risk to aircraft and which the airport might be expected to have the ability to disperse. Examples of priority species at London City Airport are Gull species, Canada Geese, other wildfowl and water birds, Starlings, Feral Pigeons and Crows.

Non-priority species

Non-priority species are those birds which are sufficiently small and solitary (i.e. non-flocking) to cause little risk, which would not usually be expected at the airport and which the airport would not be able to disperse easily using currently accepted methods of dispersal. Examples of non-priority species are Wagtails, Tit species, Dunnock and, for larger birds, Red Kite and Green Woodpecker.

London City Airport is frequently advised of planning applications which may affect flight safety, and has always allowed unopposed plans where this would not adversely affect flight safety, or have suggested mitigating options where possible when flight safety would be compromised. Given that the disposal of waste in the East London area has to proceed in some form, it is suggested that a similar approach be taken here.

The JWDPD describes a number of options for East London waste disposal. In compiling this report, several aspects of the options have been taken into account. These are:

1. What increase in bird activity would be expected from the various disposal methods under consideration?
2. Would that bird activity, if it increased, impinge on aircraft using London City Airport?
3. Would the bird activity involve priority species?
4. At what height above ground level would the activity become insignificant?
5. At what height would aircraft be above the proposed site?
6. What method of disposal is being proposed?
7. If birds were to move between sites, or from the site to a likely roosting, bathing and drinking area, would the path taken conflict with aircraft approach and departure routes.
8. The prevailing wind is from the west. Any insects attracted to sites are likely to move eastwards from the site in warm and/or windy weather. Would this movement encourage birds into the approach path for either runway?

In producing this report, consideration has been made of the likely impact of various forms of disposal and of the various types of waste on the bird hazard to London City Airport. These are discussed in the following section.

Waste Processes

Mechanical Biological Treatment (MBT)

An efficient MBT plant need not be too great a hazard. Provided that the waste is transferred without spillage in external areas, there should be only small impacts on bird numbers. If, however, there is significant spillage, it can be an attractant for starlings and carrion eaters (crow and gull species.)

The same comments apply to all methods of enclosed processing involving edible wastes.

Anaerobic Digestion Composting In Vessel

Provided storage of materials prior to the process is enclosed there should be no problem with this process. Environment Agency requirements are that incoming materials should be deposited in a vermin proof building, which would avoid bird problems. End products are liquid fertilizer (in significant amounts) and this should be transported away from the site to avoid similar bird problems to those associated with slurry spraying. If the liquid is used on arable land close to the airport, there is a potential for a serious bird attractant.

Incineration Pyrolysis Gasification

Again, provided that incoming materials are deposited in vermin proof buildings and that the process is managed efficiently, there should be no significant problems with these disposal methods.

Open Air Windrow

This has the potential to cause a serious hazard. Windrow composting can involve elongated piles of compostable material up to 3 metres high. This material is turned frequently to allow the aerobic decomposition to proceed.

Although windrow composting relies to a great extent on bacterial decomposition, insects are also a part of the process. Insect activity at a windrow site is likely to attract (potentially) large numbers of birds. If these insects were to rise on thermals, the hazard to aircraft would be significant.

Transfer Stations

As with Mechanical Biological Treatment, an efficient transfer station need not be too great a hazard. Provided that the waste is transferred without spillage in external areas, there should be only small impacts on bird numbers. If, however, there is significant spillage, it can be an attractant for starlings and carrion eaters (crow and gull species.)

Materials Recycling (MRF)

Generally, this method is 'clean' (as far as the bird hazard is concerned) and no significant problems should ensue from it. There are likely to be very small scale changes to bird activities but these will centre on non-priority, non-hazardous species.

Landfill

The problems of birds at landfill / landraise sites are well known. Even when inert waste is land-filled, there is a potential for bird attractant through disturbed top cover. Deposit of top soil will expose soil invertebrates which will attract birds. However, it is acknowledged that some landfill may be required and this has been considered in this report.

If landfill of putrescible waste is unavoidable at any of the sites numbered 1 to 17, a requirement should be put in to working practices for an end-of-day covering of 9 inches (23 centimetres) of inert material to prevent gulls and crows from establishing a feeding site.

Waste Types

Municipal Solid Waste / Agricultural Waste

These have the greatest potential for impacts on bird activity. It is almost inevitable that some edible waste will be included and that will attract birds, particularly priority carrion eating species such as Crow and Gull species.

Commercial and Industrial Waste

To a lesser extent Commercial and Industrial waste may have an edible content, which will attract similar species to the Municipal Solid Waste.

Construction and Demolition Waste / Mine or Quarry Waste

As mentioned in the JWDPD, much of this waste is dealt with in situ, and will not therefore be overly important to this report. It is assumed that the portion of waste not dealt with in-situ will either be used as part of a landfill plan, will be dealt with as hazardous waste (asbestos etc) or may be recycled / reclaimed.

Hazardous Waste

Special procedures apply to hazardous waste and it will not be considered in this report.

Agricultural Waste

Agricultural waste has been included with municipal solid waste.

Potential Waste Disposal Sites

The JWDPD plan indicates twenty two separate sites for consideration. This report has allocated numbers for these sites to allow reference in the text. Each area is assessed individually, although the possibility of small-scale movement between sites has been taken into account.

The map on the following page indicates the numbers given to the areas, and also shows the area (hatched red) where aircraft could usually be expected to be below 1500 feet above ground level. For the purposes of this report, the topography of the area shown has been treated as a flat plane.

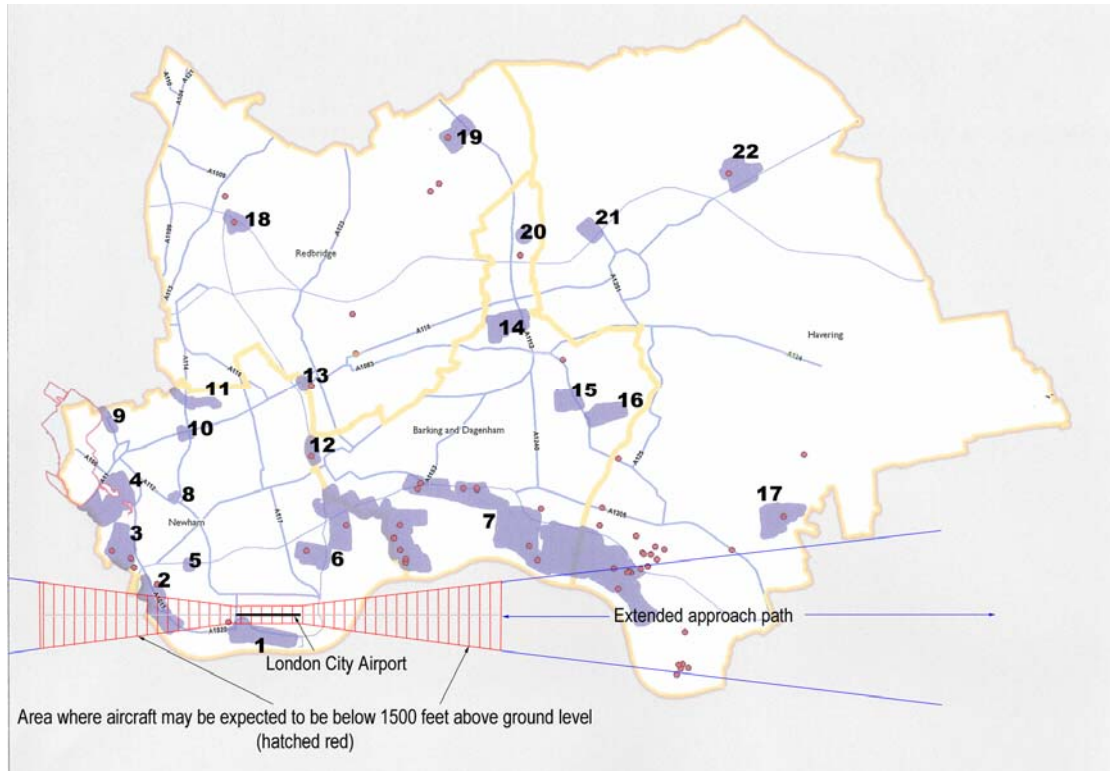
Aircraft approaching London City Airport do so on a 5.5 degree (2%) slope. This means that the area where an aircraft would be expected to be below 1500 feet above ground level is as shown in the following map. This has assumed that the aircraft are on a standard approach as defined in the UK AIP Radar Minimum Altitude Chart.

To calculate the distance from touchdown at which an aircraft would descend below 1500 feet the tangent of 5.5 degrees is used:

$$\begin{aligned}\text{Tan } 5.5 &= 0.0963 = 1500/\text{distance to touchdown} \\ &= 15576.32 \text{ feet} = 4747.67 \text{ metres} = 4.74 \text{ kilometres.}\end{aligned}$$

It may help to think of the hazard area on approach or departure as a cylinder through which the aircraft fly – any bird outside that cylinder can be thought of as either too low or too high to affect the aircraft, or too distant to left or right.

Aircraft will generally land into wind (which reduces required ground speeds) but other considerations may come into play which may require an approach and landing with the wind (noise reduction measures for instance).



Map showing areas under consideration and area where aircraft may be below 1500 feet above ground level.

Area 1

This area lies immediately to the south and west of the airport. As such, it is perhaps the most important area for the purposes of this report. The shape of the parcel of land means that any birds flying between the northernmost part of the parcel and any area to the east of the parcel would cross the airport, or come very close to it. At this point, aircraft are descending to touchdown and can be expected to be below as little as 50 feet above ground level. Any birds moving from Area 1 to other areas are similarly likely to cross inbound traffic. Even small birds, such as hirundines (Swallow, Sand Martin etc) could be a hazard at this point and any activity which may increase their numbers should be opposed.

Any waste disposal method used here should be totally enclosed and use a method which would not increase invertebrate activity (insects, spiders, worms etc). For this reason, it may be unsuitable for use as a transfer station, landfill, or for any external biodegradation (composting etc). Similarly, any process where insects may be attracted, even inadvertently, should be avoided.

Area 2

This area is to the west of the airport, but well within the area where aircraft would be below 1500 feet above ground level. Insects at this site would

significantly increase the bird strike risk to aircraft, particularly those on approach to runway 10.

The prevailing wind means that insects from this site are likely to impinge upon approaches to either runway.

Similar restrictions should be applied here as to area 1.

Areas 3, 4 and 5

Although outside the area where aircraft would be expected below 1500 feet above ground level, birds moving from this site to the Thames either for drinking, bathing or roosting would be likely to pass through the exclusion area. The sites should not therefore be used for anything but totally enclosed processing of bio-degradable materials or the external processing of inert materials (excluding landfill).

Areas 6 and 7

Area 6 lies directly to the north of the airport and area 7 is north east of the airport. Both are outside the 1500 feet level indicated.

As the sites are the largest in area of the 22 under consideration, they would seem to be suited for windrow composting. However, insects generated at these sites could significantly affect bird numbers in the extended approach area of runway 28 if thermals develop (Thermals can reach as high as 15,000 feet above ground level). For this reason, windrow composting at these sites should be opposed unless carried out in internal facilities and under carefully controlled conditions to exclude insects. As insects are beneficial to windrow composting, this may not be possible.

These two areas may also attract gulls and crows if used for landfill and this use should be avoided.

Areas 8, 9, 10, 11, 12 and 13

These are some of the smaller areas involved. However, they are sufficiently close to the airport to be of concern if larger species are attracted. They should not therefore be used for windrow composting, landfill or external transfer stations.

Areas 14, 15, 16 and 17

Although these areas are comparatively small, they all have the potential to significantly affect the bird hazard if larger species are attracted. Any larger species (Gulls and Crows) attracted may very well move between the sites and the Thames to drink, bathe or roost. For this reason, landfill and windrow composting should be opposed at these sites.

Areas 18, 19, 20, 21 and 22

These areas are sufficiently removed from the airport and approach paths to be used for almost any process, although consideration should be given to keeping landfill as distant as possible from the airport.

Other considerations

Throughout this report, it has been assumed that BATNEEC principles will apply (Best Available Technology Not Entailing Excessive Cost) and that any facility would be operated using good working practices. All current facilities in the area (which are reviewed on a monthly basis) are operated to these standards at the moment and there is no reason to expect any decline in standards in the future. Indeed, it is entirely likely that standards will be tightened rather than relaxed.

There are a small number of aspects of waste management which may affect bird numbers, and which are not necessarily addressed in the JWDPD. These are discussed here.

Leachate Pools

Despite the often toxic nature of leachate pools, they can often attract herons or other water birds.

Any leachate pools created should use as steep a gradient as possible on the banks, preferably with a depth of at least one metre. They should also have enclosure netting (netting placed to exclude animals or birds) or fencing. This would prevent Herons using the pool for feeding.

Note: On 30th April 2007, two herons were sucked into a Boeing 757 aircraft on departure from Manchester Airport. The aircraft made an emergency landing and costs involved are likely to be in 6 or 7 figures. Loss of both engines would have resulted in loss of the aircraft.

Landfill Cover

As mentioned earlier, any landfill site should utilise inert covering at the end of each working day. There should be a cover of 9 inches of inert cover on the working face. This is mentioned in this report as this may be a consideration in the decision of which type of facility to place in which site.

Organic Materials Awaiting Processing

Wherever these are stored prior to processing, these materials should be covered in such a manner as to exclude birds.

Composted Materials

Any composted materials which are ready for use on land should be bagged prior to external storage, or covered once stored. This will prevent access by birds to invertebrates.

Composted materials should not be used on land close to the airport. This will add to transport costs but the alternative would be a significant increase in bird activity. This applies especially to liquids.

Conclusion

Each of the sites suggested in JWDPD has different considerations as far as assessment of the bird hazard is concerned. Many of the processes suggested are unlikely to attract significant numbers of birds, but the potential to affect bird numbers in any way has to be assessed. Thus, some of the arguments given may seem pedantic, but are necessary to address for reasons of aircraft safety. A pragmatic approach has been adopted where possible; the JWDPD has to be adopted in some form, and bird hazards are not, obviously, the only concern.

Reasons have been given for the opinions on each of the sites and processes in the sections preceding. As a general indication, open air processes are opposed in the vicinity of the airport, but may be suitable further away. Enclosed processes may be acceptable closer to the airport, but there must be control over insect activity (and hence bird activity) within materials awaiting processing.

Totally enclosed processes may be acceptable at any of the outlying sites.

For ease of interpretation, the conclusions for each area are presented in table form on the following page.

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Area	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
Process																						
Enclosed transfer Station																						
Enclosed Materials Recycling																						
Mechanical Biological Treatment																						
Anaerobic Digestion																						
In-vessel Composting																						
Incineration																						
Pyrolysis																						
Gasification																						
Open-air Windrow																						
Open-air Transfer Station																						
Landfill																						
External materials Recycling																						

Key	
	Not suitable for the named use in the area indicated
	Suitable for the named use in the area provided adequate insect control and/or bird exclusion systems are in place
	Suitable for use in the named area without insect or bird controls

Note: This report has assessed only the bird hazard to aircraft. Indication of a site as suitable without bird or insect control does not imply that these should not be managed or controlled for other reasons.

Note: This report has been produced after visits to each of the areas indicated and is based upon observations during these visits and personal knowledge of the areas and bird activity in the London City Airport area.