

Guidance Document

# **G0233**      **Control of Pests on the Underground**

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**MAYOR OF LONDON**



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## 1 Purpose

- 1.1 The purpose of this Guidance Document is to define the minimum requirements for the control and management of pests on London Underground (LU) property.
- 1.2 It assists designers, specifiers and maintainers to selection the most appropriate type of deterrent for pests. It is not to be read as the sole solution for pest control; each instance will require its own solution, and advice should be sought from a professional body.

## 2 Scope

- 2.1 This guidance applies to all new and replacement pest control systems installed on and about the track, as well as within stations, depots and ancillary buildings, including disused buildings, structures and other operational land, where London Underground (LU), or its suppliers and/or partners, are responsible for the installation and maintenance of pest control systems.
- 2.2 This guidance gives advice on the legal position regarding pests control and the types and use of certain deterrents.
- 2.3 This guidance should be read in conjunction with G1012 Ecology Guidance.

## 3 Guidance

### 3.1 Control of pest bird species

#### 3.1.1 Risks

LU has a duty of care to customers, staff, contractors and other third parties to maintain a safe, clean environment whilst using or working on its property. This includes the prevention of hazards caused by nesting and roosting of pest birds, most notably feral pigeons and seagulls. Fresh and/or dried bird guano build up can:

- create slip hazards on flooring
- affect persons with pre-existing respiratory conditions
- affect persons with pre-existing skin conditions
- cause foul odour
- attract insects
- cause damage to building fabric due to its acidic nature
- block building drainage and increase risk of flooding

#### 3.1.2 Legislation and Code of Practice

When controlling pest birds, LU must comply with:

- 1) **The Wildlife and Countryside Act 1981** states that it is illegal to kill or injure a wild bird or to interfere with a nesting bird, its eggs or nest. The exception to this rule is where the species is listed under the General Licences as a bird that can be taken (killed) and their nest removed by an 'Authorised Person'. The licence can only be acted upon in the circumstances where this person can be satisfied that all non-lethal methods of control will be likely to fail or are impractical and if legally challenged must be able to prove such is the case. Failure to comply with the Licence requirements will result in LU being liable to prosecution.
- 2) **The Animal Welfare Act 2006.** The Act relates to control necessary for building protection. The Act makes it an offence to cause unnecessary suffering to animals (deliberate or unintentional), including culling activities as mentioned above. This

is relevant to the use of netting, where birds may become trapped in or behind the nets.

Both Acts are 'Common Enforcers' Acts, thus anyone can bring an action against LU when a breach of the terms and conditions of the Act has occurred.

- 3) **The Greater London Local Authorities' Code of Practice** for the control of nuisance birds is used as the vehicle for exercising their powers under Section 9 of the London Local Authorities Act 2004. This enables a London Local Authority to serve a bird proofing notice on a owner/occupier of a building or structure (including bridges) fronting upon, crossing or overhanging the highway where habitual nesting; roosting or alighting of birds is causing a nuisance to pedestrians using the highway.

### 3.1.4 Methods of Control

Method of control	Guidance
<b>Prevention</b>	Enclosure should be considered for bridges, or other structures, where there is sufficient headroom over the road below; room for safe access, and the structure has sufficient capacity to withstand the additional weight. Access for inspection; cleaning and maintenance purposes will still be required.
<b>Predators</b>	<p>The use of falcons, hawks or other birds of prey is subject to General Licence WLF 100088 (The Wildlife and Countryside Act 1981) Licence to kill or take certain birds to preserve public health or safety.</p> <p>They can be used successfully in railway depot buildings which are more enclosed, but are not recommended for open areas there is no way of preventing attacks on non-target birds.</p>
<b>Anti-perching devices</b>	<p>These are usually in the form of a 'mat' of spikes that prevent birds from landing. They are simple to install; attaching to most horizontal or vertical surfaces using a silicone gel which does not mark or damage the surface applied to, and can be easily removed should access to the area be required.</p> <p>They trap dust, debris and rubbish and are very visually intrusive and unsightly.</p> <p>Poor positioning will not prevent perching and may actually assist nesting.</p>
<b>Post and wire</b>	<p>Post and wire describes a parallel series of horizontal wires which are threaded and spring-tensioned across vertical pins.</p> <p>Usually a poor performing method of bird control, although less obtrusive than other types. Vertical posts supporting the wires are not robust due to the small area of contact for fixing and easily collapse. Fixing to the substrate is by mechanical means which can cause damage to the building fabric during installation or after due to freeze/thaw action on poorly filled post holes. Poor positioning will not prevent perching.</p>
<b>Netting</b>	<p>Netting is usually the most expensive and intrusive type of bird control system available. The suspension system of retaining wires used to install netting is highly invasive to the building fabric due to the number of fixing holes required.</p> <p>Where the netted area is extensive and access is still required to the areas and equipment behind it. Zips should be considered where frequent access for essential maintenance is necessary. Zips will also need to be cleaned and maintained regularly to ensure access is preserved.</p> <p>If access is required to equipment behind netting, the asset manager must be</p>

	<p>consulted to enable the temporary removal and reinstallation on completion of works.</p> <p>Netting requires re-tensioning to prevent sagging on a regular basis to prevent fixing rings becoming detached from the retaining wires. The netting must be managed to ensure gaps do not allow birds to get trapped and to ensure that rubbish, dust and fluff do not accumulate behind the netting.</p> <p>Netting is difficult to repair once damaged.</p> <p>Bridges - netting is not permitted on the soffit of bridges where the clear distance between the carriageway surface and the underside of the netting would be less than 5.1 metres, the minimum clearance under bridges required to be maintained by the Department of Transport.</p>
<b>Shooting</b>	<p>Shooting must only be used as the last resort when controlling pest bird species. TfL Byelaws state that weapons may not be brought onto or used on LU Operational land or buildings.</p> <p>However, in certain circumstances this may be permissible, namely:</p> <ul style="list-style-type: none"> <li>• when all other non-lethal methods have been used and failed,</li> <li>• where it is impractical to use non-lethal methods and</li> <li>• that there is a demonstrable risk to workforce and public health and safety</li> </ul> <p>The landlord/structure maintainer must confirm in writing permission for the lethal means of control.</p> <p>The pest control contractor must:</p> <ul style="list-style-type: none"> <li>• operate within the strict guidelines of The General Licences managed by DEFRA</li> <li>• be authorised as a competent person to carry out control</li> <li>• not leave remains on LU property; this could cause distress to staff and passengers and become a health hazard</li> <li>• kill the bird outright – no birds should be left injured or dying.</li> </ul> <p><b>Note:</b> Under legislation, leaving the young of birds that have been killed to starve in their nest would be considered as causing cruelty and unnecessary suffering; this could result in prosecution.</p>
<b>Repellent gel</b>	<p>Repellent gel remains soft to the touch and so is uncomfortable to alighting birds. However, it is not recommended for use on LU buildings or structures as it can be ineffective and it can cause severe damage to porous surfaces such as sandstone where the gel leaches into the stone and leaves stains when removed.</p> <p>It has short life and is affected by dust making it ineffective. The gel coat also requires a sealant coat to prevent the gel adhering to birds with fatal consequences.</p>
<b>Poisoning and electric shock devices</b>	<p>The use of poisoning and electric shock devices are not permitted on LU operational land or buildings as required by TfL Byelaws (Byelaw 2).</p>
<b>Sonic, bio-acoustic and ultrasonic</b>	<p>Sonic, Bio-acoustic and Ultrasonic bird scarers can have little effect on target species as they quickly become habituated to the noise or visual effect and ignore the interference.</p>

<b>bird scarers</b>	
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### 3.1.5 Pest bird control system design - summary

Bird control system design should consider the following points

- Location must ensure access for inspection, maintenance and cleaning of the adjacent areas, is possible
- Listed Buildings require Listed Planning consent for bird control installations. The type and design should have as little impact as possible although this will not guarantee permission for installation.
- Provision for access to lighting, communications equipment, cameras and drainage that require more frequent access for maintenance and its location must be considered carefully to prevent unnecessary interference and damage to the bird control system.
- The bird control system must be inspected, cleaned and maintained regularly.

All methods of bird control may impose additional maintenance requirements and costs and may make inspection more onerous. Care should be taken in selecting the most appropriate type and advice should be sought from the landlord/structure maintainer.

- Consultation and advice must be sought from the appropriate stakeholders, such as:
  - I. Client/sponsor
  - II. Project Manager
  - III. Premises Engineer/Lead Premises Engineer
  - IV. Heritage & Design Manager
  - V. English Heritage/Local Authority
  - VI. LU Maintainer

## 3.2 Rodent Control

### 3.2.1 Risks

Rodent infestations may pose a threat to the health of customers, staff, contractors and other third parties health if not managed effectively as they can carry a wide range of diseases and parasites that are potentially harmful to humans and animals. Leptospirosis (Weil's disease) can be fatal to humans and other diseases, such as toxoplasmosis and salmonella, affect both humans and animals.

Damage caused by rodents, e.g. gnawing through cabling may lead to service disruption and additional maintenance costs, as well as potentially increasing the fire risk through damage to insulation and building fabric.

### 3.2.2 Legislation

**The Animal Welfare Act 2006.** The Act makes it an offence to cause cruelty or unnecessary suffering to animals (deliberate or unintentional). This may be caused by the use of both cage and spring traps.

**The Damage by Pests Act 1949.** Under the Act, Local Authorities have the power to require a landowner or occupier, to control rat infestations on their land and if necessary in default they can carry out the control work and recover any costs from such action.

### 3.2.2 Methods of Control

Method of control	Guidance
<b>Prevention</b>	<p>As far as practicably possible, access by rodents into buildings should be prevented by ensuring:</p> <ul style="list-style-type: none"> <li>• access from sewers and drains is prevented by maintaining the integrity of the drainage system</li> <li>• wire balloon guards are fitted to the top of ventilation and rain water pipes to prevent rodents climbing</li> <li>• all openings above 6mm are proofed as mice can gain access through 10mm openings. This includes holes in the floor, joints in brickwork and holes in or around joists. Pipes and pipe sleeves must be tightly sealed</li> <li>• all possible entry points below 900mm are closed; rats can jump to a height of 900mm</li> <li>• all unwrapped food and food debris is removed from the surrounding environment. This includes empty food packaging.</li> </ul>
<b>Poisoning</b>	<p>The location of bait boxes should be carefully considered to ensure that contact by anyone other than the target animal or the pest control operative is not permitted and that bait, or bait containers, are not be placed or disposed near ditches or waterways. These should preferably be positioned out of sight of staff and the public as distress may be caused by the sight of dead animal remains.</p>
<b>Trapping</b>	<p>Cage and spring trapping is an alternative to baiting where resistance to the poison is suspected. Spring traps must be of the type listed by the spring Traps Approval Order 1995.</p> <p>Trapping is time consuming as large numbers of traps are required which must be pre-baited and checked twice daily. This method is not suitable for the operational station environment.</p>
<b>Other methods</b>	<p>Shooting and gassing is not permitted as a control method on LU operational land (TfL Byelaw 2).</p>

## 3.3 Control of foxes

### 3.3.1 Risks

Foxes are only to be treated as pests if they are causing serious asset damage or complaints from the public.

Risks include:

- Foxes tend to live enlarged rabbit warrens or badger setts; these can cause slope instability.
- Damage and interference with dustbins can cause pollution, whilst barking and screaming can lead to complaints.

### 3.3.2 Legislation

**The Animal Welfare Act 2006.** The Act deals makes it an offence to cause cruelty or unnecessary suffering (deliberate or unintentional) to animals. This may be caused by the use of both cage and spring traps, shooting etc.

### 3.3.3 Methods of Control

Method of control	Guidance
<b>Prevention</b>	As far as reasonably practicable, fencing at least 2m high should be used to keep foxes out of LU property.
<b>Shooting</b>	<p>Shooting must only be used as the last resort for controlling foxes. TfL Byelaws state that weapons may not be brought onto or used on LU Operational land or buildings.</p> <p>However, in certain circumstances this may be permissible, namely:</p> <ul style="list-style-type: none"> <li>• when they are causing serious damage to assets and there is a demonstrable risk to public health and safety</li> <li>• when all other non-lethal methods have been used and failed, and</li> <li>• where it is impractical to use non-lethal methods</li> </ul> <p>The landlord/structure maintainer must confirm in writing permission for the lethal means of control.</p> <p>The pest control contractor must:</p> <ul style="list-style-type: none"> <li>• operate within the strict guidelines of The General Licences managed by DEFRA</li> <li>• be authorised as a competent person to carry out control</li> <li>• not leave remains on LU property; this could cause distress to staff and passengers and become a health hazard</li> <li>• kill the fox outright - none must not be left injured or dying.</li> </ul> <p><b>Note:</b> Under legislation, leaving a fox injured and not killed would be considered as causing cruelty and unnecessary suffering; this could result in prosecution.</p>
<b>Poisoning</b>	It is illegal to lay poison baits for foxes.
<b>Trapping</b>	Trapping, in tandem with lethal injection, must not be considered. It is a poor method of control, it is expensive (approximately £500 per fox), and only a vet can administer a lethal injection and most vets are unwilling to put down any healthy animal.
<b>Other methods</b>	Gassing is not permitted as a control method for use on LU operational land (TfL Byelaw 2). The Control of Pesticides Regulations 1986 (amended 1997) has not approved products for gassing therefore gassing foxes is also illegal.

## 3.4 Control of grey squirrels

### 3.4.1 Risks

Squirrels can damage assets by chewing woodwork, stripping insulation from cables and tearing up insulation material within buildings to form a drey (a nest). They can also damage trees, particularly sycamore and beech, by stripping bark.

However, because squirrels are regarded as attractive by many members of the public and action is only to be taken if squirrels are causing serious damage.



### 3.4.2 Legislation

The **Agricultural (Miscellaneous Provisions) Act, Grey Squirrels (Warfarin) Order 1973** (details when poison can be used) and the **Wildlife and Countryside Act 1981** call relate to the control of grey squirrels in the UK. Once caught it is illegal to release a grey squirrel.

### 3.4.3 Methods of control

Method of control	Guidance
<b>Prevention</b>	Squirrel proofing, i.e. blocking holes, will stop squirrels gaining access to buildings but not the track.
<b>Trapping</b>	Trapping is used in tandem with humane methods of killing, such as a single blow to the back of the head with a blunt instrument or shooting at close range through the trap with an air gun. This method is of control recommend for outdoor use.
<b>Poisoning</b>	<p>Warfarin poison is the least expensive method for controlling grey squirrels.</p> <p>Poison may only be deployed out of doors against grey squirrels for tree protection and only between 15 March and 15 August.</p> <p>Poison may be used indoors all year round.</p> <p>A successful poisoning operation will be at least as effective as cage trapping, even though few, if any, dead squirrels will be found.</p>
<b>Shooting</b>	<p>Shooting on its own is generally ineffective at reducing grey squirrel numbers. Shooting may be effective for the removal of occasional 'nuisance' squirrels.</p> <p>Grey squirrels are more visible in winter when there are no leaves on the trees, but animals killed at this time will usually be replaced before the summer damage period. Shooting in late February/early March will have most effect.</p> <p><b>Note:</b> Under legislation, leaving a grey squirrel injured and not killed would be considered as causing cruelty and unnecessary suffering; this could result in prosecution</p>

## 3.5 Control of rabbits

### 3.5.1 Risks

Rabbit burrows can undermine embankments and slopes leading to slope instability; hence increasing the potential for slope failure. They can also damage vegetation; this can lead to erosion and hence eventually an increase slope instability.

As rabbits are regarded as attractive by many members of the public, it is recommended that action is only to be taken if rabbits are causing serious asset damage.

### 3.5.2 Legislation

A number of acts apply to rabbits:

**The Prevention of Damage by Rabbits Act 1939**, where section 4 permits the use of poison gas in rabbit burrows.

**The Agriculture Act 1947** extends the guidance on the use of poison gas.

**The Pests Act 1954** states that every land occupier in England and Wales is responsible for destroying rabbits on his land.

**The Wildlife and Countryside act 1981** prohibits the use of self-locking snares and states that snares must be visited at least once a day.

**The Animal Welfare Act 2006** deals with issues relating to cruelty or unnecessary suffering (deliberate or unintentional), which may be caused by the use of snares.

### 3.5.3 Methods of control

Method of control	Guidance
<b>Gassing</b>	Gassing is the most effective method of control. Gassing must only be carried out by properly trained and equipped operators.
<b>Trapping</b>	Live trapping is used in tandem shooting at close range through the trap with an air gun.
<b>Snares</b>	Snares <b>must not</b> be used under any circumstance because they are unselective, considered to be inhumane.

## 3.6 Control of insects

### 3.6.1 Risks

Insects may cause distress to staff or customers, including stings (e.g. wasps) and bites (e.g. mosquitoes) and disruption to service. Others are linked with the spread of pathogenic bacteria as well as spread various human disease organisms e.g. cockroaches.

**Brown tail moths** infest trees. Its larval hairs are easily detached and blown about in the wind, usually during May and June. These can cause severe irritation and painful rashes to customers or employees who come into contact with hairs. The problem is particularly acute if hairs get into eyes. Treatment of these moths must only be managed by a competent contractor.

**Oak processionary moths** produce similar symptoms but are non native invasive species. These must be managed in line with LU's Ecology Guidance (G1012) during springtime.

### 3.6.2 Legislation

No specific legislation is concerned with the control of insects

### 3.6.3 Methods of control

Method of control	Guidance
<b>Prevention</b>	Prevention is best method with dealing with insects. Good hygiene practice, e.g. the removal of food residues and wastes, cleaning of drains and gullies, along ensuring premises are in good condition, e.g. sealing entry points around window frames and mending broken tiles, are all a must. Faults should be raised to rectify poor condition.
<b>Spraying</b>	Most instances of insects indoors can be dealt with by using domestic aerosols. However, brown tail moths and oak processionary moths require specific treatment with pesticides at defined times of the year by a competent contractor.
<b>Other methods</b>	Aside from spraying brown tails moths, the most effective method to prevent infestation is to cut and burn the over-winter nests between November and the end of March. This must be done by a competent contractor.

## 3.7 Control of invasive and noxious plants

### 3.7.1 Risks

Invasive species, especially non native invasive species, can damage property and be harmful to our staff. For instance Japanese knotweed is capable of growing through concrete, whilst the sap from giant hogweed can cause skin to blister in sunlight.

### 3.7.2 Legislation

The Wildlife and Countryside Act 1981, Schedule 9, list all non native and native invasive species controlled by UK law, and states that it illegal to cause the plants to grow.

### 3.7.3 Methods of control

For methods of control follow the guidance in the:

- [G1012 Ecology Guidance](#),
- [Invasive and Noxious Weeds Product Description](#) in the PMF,
- [Safety, security and environment manager's handbook](#),

and seek advice from Asset Performance Environmental Contracts Managers.

## 3.8 Protect species

3.8.1 Some legally protected species such as badgers and bats, which live on or close to LU property can affect LU's activities, e.g. maintenance and projects.. For instance, extensive badger setts have the potential to undermine the stability of railway embankments. These species must be controlled to ensure that the safe running of the railway is not affected. For information on how to work with or near protected species see [G1012 Ecology Guidance](#) and contact your SQE advisers.

## 4 Responsibilities

4.1.1 LU employees involved in the design, specification and installation of works to any London Underground station or premises – both as a maintenance or a project activity – must follow the contents of this guidance.

## 5 Supporting information

### 5.1 Background

5.1.1 London Underground's Health, Safety and Environmental policy commits the company to supporting the Mayor's Biodiversity Strategy. LU has a duty under the Natural Environment and Rural Communities (NERC) Act 2006 to have regard to conserving biodiversity whilst exercising its functions. In order to meet compliance with the above, LU had developed a Biodiversity Action Plan first launched in 2007, outlining the actions to be taken to protect, conserve and enhance biodiversity within the context of upgrading and running a safe, reliable railway. The Biodiversity Action Plan gives guidance on the ecology and conservation of wildlife and habitats.

5.1.2 Where works are anticipated that will affect wildlife or habitats reference should be made to the current Biodiversity Action Plan and surveys carried out to determine the actions needed to conserve wildlife and habitats. Further advice regarding surveys can be obtained from SQE advisors and PMF products.

### 5.2 Safety considerations

5.2.1 Suitable and sufficient risk assessment must be completed before works, as per LU Standard 1-526 The assessment and management of Health and Safety and Environmental Risk (Cat 1).

5.2.2 Installations or services should be provided by competent contractors preferably with membership of an appropriate professional body such as:

- National Pest Technicians Association (NPTA)
- British Pest Control Association (BPCA)

### 5.3 Environmental considerations

5.3.1 Environmental risk assessment must be undertaken before undertaking works, as per LU Standard 1-526 issue The assessment and management of Health and Safety and Environmental Risk (Cat 1).

### 5.4 Customer considerations

5.4.1 Station Ambience can be badly affected by any evidence of pests. This will not only affect MSS scores but also is not compliant with LU Design Principles.

## 6 References

### 6.1 Abbreviations

The following abbreviations are created:

- a) within London Underground's Glossary of Terms (1-622) (a Category 1 Standard);
- b) from published sources that are clearly identified.

Abbreviation	Definition	Source
BPCA	British Pest Control Association	b
LU	London Underground	a
NPTA	National Pest Technicians Association	b

## 6.2 Definitions

The following topic specific definitions are created:

- a) within London Underground's Glossary of Terms (1-622) (a Category 1 Standard);
- b) from published sources that are clearly identified.

Term	Definition	Source
Pest	Any animal or organism, at any living stage within its life cycle, that by its presence, on or about the track; threatens the safety and integrity of the railway, presents a health hazard or nuisance to customers or staff; or causes unacceptable damage or delay to the railway	b

## 6.3 Subject Matter Expert

Subject Matter Expert
Principal Premises Engineer
Environmental Adviser

## 6.4 Document history

Issue no	Date	Changes	Author
A1	June 2011	As per DRACCT 00418, Cat 2 standard CED-ST-2207 A2 withdrawn and replaced with this Guidance Note, Clauses updated.	Hazel Jessett / John Caves
A2	April 2012	Updated to include reference to G1012 as per DRACCT No. 01370.	Suzie Jackman