The Complete Guide to Pest Control

For Property Managers, Landlords and Letting Companies

By Justin Holloway
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Thank you for taking the time to read this guide. It is designed to help you understand the subtleties of pest control which is perhaps one of the least understood services that you may call on in your management role.

For longer than I care to remember our company has delivered pest control solutions to a variety of business sectors and collected a wealth of information that helps us serve clients in a timely and effective manner.

Mostly, we communicate directly with the person or company afflicted with the pest problem, and can quickly help them resolve their issue by promptly assessing and understanding both the pest and the environment in which we find it.

However, in the property management sector, it is the management or lettings company that is the first point of contact for pest problems. Just as you are experts in your sector, so are we and the purpose of this guide is to provide some useful assistance during that initial contact.

By presenting some basic facts related to various pests, this book will help you navigate the complex relationship between Landlord and Tenant and bring the pest problem
to a conclusion that is properly considered and respectful to all parties.

In writing this guide I have attempted to do so using non-technical language which conveys the essence of the matter in a format that can be understood by all.

Most sections are fully independent of each other, but I do recommend that you read the Rats and Mice section together. Nevertheless, whether you simply dip into the relevant section or consume the entire publication, I hope that it will help you in continuing to serve your clients in the most professional manner.

Happy reading!

Justin Holloway

Prokill Thames West – Part of the Prokill Pest Control Network
Pest Control and The Law

Summary

Research published by Shelter in October 2015 estimated that nearly half a million private rented homes (one in nine) in England had problems with pest infestation.

It can be extremely difficult to ascertain how an infestation has occurred and, in turn, who is responsible for eradication. Where the problem poses a wider risk to public health local authorities may have a responsibility to act. Authorities have various powers at their disposal including the Prevention of Damage by Pests Act 1949; the Public Health Act 1936; and the Environmental Protection Act 1990.

Local authority powers and duties under the Housing, Health and Safety Rating System (HHSRS, introduced by the Housing Act 2004 and related regulations) may also be relevant, but it is rare for a pest infestation to trigger local authority action under the HHSRS.

What is the problem?

Properties infested with pests such as rats, mice, cockroaches, fleas, and bed bugs can represent a risk to occupants and public health in general. Infestations can spread diseases, cause damage, and aggravate certain health conditions including asthma, eczema, and other allergies. Mental health may also be affected.

Who is responsible for dealing with the infestation?

Responsibility for dealing with infestations depends in part on:

- whether there is anything relevant in the tenancy agreement;
- whether the property was already infested when the tenant took occupation, or was caused by a structural defect or disrepair, in which case the landlord may be liable; or
• whether the infestation may have resulted from some act or omission of the tenant, in which case the tenant may be responsible for dealing with the problem.

Where the problem poses a wider risk, local authorities may have a responsibility to act; either by requiring owners or occupiers to deal with the problem, or by dealing with it themselves in which case they may seek to recover their costs. It may not always be clear where responsibility for tackling an infestation lies and in some instances legal advice may need to be sought.

**What does the tenancy agreement say?**

The tenancy agreement may include a specific provision which sets out who is responsible for dealing with any infestation. All tenancy agreements are governed by the “*Landlord and Tenant Act 1985*” and section 11 of this act is probably the most significant section that relates to the relevant responsibilities for short term letting.

**When did the property become infested?**

If the property is already infested when the tenant moves in, it is likely that the landlord will be responsible for dealing with it, although much will depend on the specific circumstances.

With regards to furnished properties, landlords have a contractual duty (implied by common law) to ensure that at the start of the letting there is “nothing so noxious [about the property] as to render it uninhabitable” – this could include vermin infestation.

If the property has become infested during a tenancy, the question of who is responsible for dealing with it will depend on how the infestation occurred. The following sections consider the various circumstances in which an infestation might occur.
Was the infestation caused by disrepair?

Infestations may be the result of, or exacerbated by, structural defects or disrepair, such as holes in external walls. Unless the tenant has caused the disrepair, it will usually fall to the landlord to carry out the repair and deal with the infestation. Landlords are responsible for keeping in repair the structure and exterior of the property and for keeping in repair and good working order the installations in the dwelling for the supply of water, heating, and sanitation. Landlords’ repairing duties are only triggered once they have been made aware of the problem.

Was the infestation caused by the tenant?

The tenant may be responsible for dealing with the problem if the infestation was caused by something the tenant has done or failed to do; for example, not dealing properly with rubbish, not cleaning the property adequately, leaving food around or keeping pets, which have fleas.

Establishing responsibility and taking action.

Anyone seeking to establish who is responsible for dealing with an infestation should consider seeking specific advice from:

- the local authority’s environmental health department; an environmental health officer may be able to identify the cause of the problem and this, in turn, will help to ascertain who is responsible for removing the infestation;
- a certified pest control professional who can establish the chronology of the infestation, the origin and means to resolve.
- a lawyer, a Citizens Advice Bureau, or a housing adviser to establish whether there is anything relevant in the tenancy agreement, and whether the tenant might have any right to sue the landlord and/or to end the tenancy.
Local authorities’ powers and duties

The Shelter report (2015) prompted the following parliamentary question on Government action to assist private tenants with infestations in their homes:

**Asked by Lord Ouseley**

To ask Her Majesty’s Government, in the light of the recent study by Shelter, what steps they are taking to address the problems faced by tenants in privately rented homes infested with vermin.

**Answered by: Baroness Williams of Trafford**

Local authorities have a power under section 4 of the Prevention of Damage by Pests Act 1949 to require owners of premises infested by mice or rats to eradicate the problem and failure to do so is a criminal offence. Infestation by such pests is also a hazard under the housing, health and safety rating system in Part 1 of the Housing Act 2004. Where the infestation is a category 1 hazard the local authority must require the landlord to act to eradicate the infestation or it may prohibit the property (or the affected part) from being occupied until the hazard has been eradicated. Through licensing schemes under Parts 2 or 3 of that Act an authority can impose licence conditions relating to privately rented homes that require landlords to take measures to prevent infestation of pests and a failure to do so would be a criminal offence.

- The Prevention of Damage by Pests Act 1949 places a local authority under a duty to ensure, as far as is practicable, that a district is kept free from rats and mice and to enforce the duties under the Act of owners and occupiers. If an owner or occupier
fails to take steps to get rid of an infestation within the time specified by the local authority, the authority may itself undertake the work and recover the expense incurred.

- The Public Health Act 1936, sections 83 to 85 deal with premises which are filthy and verminous. Under section 83 of the Public Health Act 1936, local authorities are given the power to serve notice on the owner or occupier specifying the works required to eradicate the vermin and the conditions conducive to infestation. This work can be carried out in default.

- The Environmental Protection Act 1990 provides a remedy to tackle poor living accommodation which amounts to a statutory nuisance, i.e. “any premises in such a state as to be prejudicial to health or a nuisance.”

The Housing, Health and Safety Rating System (HHSRS)

The housing health and safety rating system is a risk-based evaluation tool to help local authorities identify and protect against potential risks and hazards to health and safety from any deficiencies identified in dwellings. It was introduced under the Housing Act 2004 and applies to residential properties in England and Wales. When an environmental health officer is asked to inspect an infested dwelling, they will look for any risk of harm to an actual or potential occupier of a dwelling, which results from any deficiency that can give rise to a hazard. They judge the severity of the risk by thinking about the likelihood of an occurrence that could cause harm over the next twelve months, and the range of harms that could result. An HHSRS score is calculated following an inspection. Officers use the formal scoring system within HHSRS to demonstrate the seriousness of hazards that can cause harm in dwellings.

If there are risks to the health or safety of occupants that the officer thinks should be dealt with they have various powers at their disposal to
ensure that owners and landlords take corrective measures. If the officer finds a serious hazard, referred to as a Category 1 hazard, the local authority is required to take one of the courses of action outlined in the enforcement guidance.

Category 2 hazards are those that are judged to be less serious. Authorities can still act to tackle these hazards where it is believed necessary. The operating guidance lists 29 potential hazards under four hazard profiles, including: hazards which can result from:

   a) poor design, layout, and construction such that the dwelling cannot be readily kept clean and hygienic;
   b) access into, and harbourage within, the dwelling for pests; and
   c) inadequate and unhygienic provision for storing and disposal of household waste.

However, it is rare that a pest infestation would amount to a hazard which would give rise to local authority action under the HHSRS.

**Conclusion**

Understanding the origin and cause of a problem is key to defining responsibility and subsequent action. If a tenancy agreement places the responsibility for pest issues with the tenant, such an agreement may not supersede the statutory obligations that the law places upon the Landlord.

As an Intermediary between both parties, the information provided to you by your pest controller can help guide you to a reasoned position that is evidence based. Whilst most pest issues do not escalate to legal action between the parties, due diligence and professional attention to pest problems can only be to the long term good of all.
The Role of Professional Pest Control

Pest control has for many years existed as a poorly understood profession with little or no regulation. Access to environmentally damaging pesticides and poor practice by untrained operatives is all too often encountered. Price is often seen by the consumer as the most important factor and drives the opportunity for service providers who operate without regard for the law or other regulatory requirements. By inviting such operatives into a property, commercial or residential, it may expose the commissioning company to liability for their actions and the consequences of poor practice.

What Can I do to Minimise Risk?

Whilst not an exhaustive compilation, the following checklist contains some of the prime features of a professional service provider.

- That the company is an accredited member of a trade association. In the pest control sector, the principal organization is The British Pest Control Association. The BPCA membership are all trained to RSPH Level II or higher, work in accordance to regulatory standards and are audited by the association to monitor compliance. Other bodies such as the National Pest Technicians Association (NPTA) also exist to drive up standards.
- Are part of a Continual Professional Development (CPD) Scheme.
- Carry appropriate liability insurance.
- Can provide you with comprehensive Risk Assessment & Method Statements for each type of task performed.

The BPCA and NPTA provide links on their web pages to search their membership to find a service provider in your locality and validate their credentials.

www.b pca.co.uk  www.npta.org.uk
Rats

In the property sector Rats are one of the most troublesome pests that you are likely to encounter. The problems that give rise to internal rat infestations are often deep seated and therefore unlikely to be resolved with a simple program of baiting. All too often a property will have a history of periodic treatment that creates inconvenience for tenants and cost for the property owner.

Investing time in a proper analysis of the issue can payback many fold over the longer term and avoid a lot of stress for all concerned.

A Brief Description

There are 2 species of rats that can be found in the UK, the Black Rat, and The Brown Rat. However, given that the Black Rat populations are insignificant and restricted to dockside areas and sea ports, we will not discuss them further. The Brown Rat is the larger of the rats in Britain, often weighing over half a kilo and measuring about 23cm, without counting the tail. It has a blunt muzzle, small hair-covered ears and a tail that is shorter than its body.

Lifecycle

Left uncontrolled and equipped with limitless food and shelter, rats can multiply quickly to astronomical numbers. Fortunately, these conditions rarely prevail. However, in a domestic situation a pair of breeding rats can quickly create a substantial infestation. Rats will produce 7-8 young per litter and will have 3-6 litters per year. The gestation period is around 3 weeks and it takes as little as 10-12 weeks to reach sexual maturity. To make matters worse, the female rat can conceive again almost immediately after birth. If you care to do the sums, it becomes apparent that leaving a rat infestation uncontrolled is a rather bad idea.
Associated Risks

Rats and property simply do not mix well. The range of infrastructure issues caused by rat infestations is vast and at times can cause great financial loss. Problems include:

- Electrical fires. An estimated 24% of domestic fires can be attributed to damaged wiring.
- Water leaks. Damage to water tanks, plastic and lead pipework, washing machine and dishwasher water feeds, internal grey water drainage systems.
- Damage to and defecation upon loft insulation materials.
- Rats carry many nasty diseases which they can spread to humans, normally through their urine. These include; Leptospirosis or Weil's disease, Salmonella, Listeria, and Toxoplasma gondii.
- Buildings Insurance. In the aftermath of damage such as that mentioned above, it is worthy of note that many building insurance policies have specific exclusion clauses that relate to pest damage.

Causes of infestation

It is probably better to break this down to external and internal infestations.

External Activity

We are often called about rats being seen in the garden or living under the shed. The plain fact is that rats are part of our wildlife and they are going to be present for ever and a day. Therefore, if rats are spending time in a communal/private garden area or have been reported in the bin store, the most important thing to understand is why. By controlling the “why” you stand a much better chance of resolving the problem.
Common issues that attract rats to an environment are:

1. Residents that regularly throw bread and food scraps into the garden to feed birds, foxes, and other wildlife.
2. Bird tables and feeders that allow ready access to rats or that create food debris below on the ground. Bird feed often contain a variety of nuts some of which contain a rich source of vitamin K which can work against the effects of rodenticides!
3. Compost bins where vegetable waste is deposited. Rats will burrow in via an unprotected base or chew their way through the walls of the cheaper plastic variety.
4. Communal Wheelie Bins that have lost the bin bung in the base or whose lid is left open. Rats take advantage of the open hole in the base or open lid and have a large and regularly replenished food source always available.
5. Poorly managed and overflowing bins.
6. Pet food bowls being left out overnight.
7. The keeping of poultry combined with poor feed management.
8. Defects in the local sewer system that allow rats to exit into the general environment and exploit surface level feeding opportunities.

If some of the above issues are noted, it will be important to remove them before effective pest control can begin. Simply asking a pest controller to bait the site to control rats is unlikely to have the desired effect where the primary food sources remain present or accessible.

**Process of control**

In the early stages of an infestation it may be enough to simply tackle the various food sources that have attracted the rats. However, in more established infestations, a program of control may be required that involves the placement of rodenticides in safe and secure control stations. This is always a multi-part treatment program involving 3 or more visits to
bring about effective control. Your pest controller will need the cooperation of residents to address matter such as 1-7 above.

Pest controllers have many treatments and techniques available to them but, in the majority of cases, will rely of rodenticides to bring about control. If alternative and preferable food sources are available to the rats, the treatment will likely fail.

It is worthy of note, and to set the expectations of residents, that rats are neophobic (wary of unfamiliar things in their environment) and will avoid the bait stations for a short period of time before feeding inside them.

**Internal Activity**

By far the largest percentage of our work is related to activity within the internal structures of a property.

The most important thing your pest controller can do is to identify the underlying causes of the problem and help you avoid the inconvenience of frequent call backs.

Some of the common underlying causes include:

- Broken or chewed out air bricks
- Foundations where exposed lintels reveal access to cavities and sub floor areas
- Holes left in the outer and inner walls where grey water pipework has been removed
- Collapsed sewers
- Sewers modified by builders during extension works
- Vegetation overgrowth
These faults can create issues that will not only affect the complainant but also conjoined properties. It is therefore important that your pest controller considers the wider environment in the search for the source of the infestation. Each property type brings its own challenges and the more interconnected it is to others the greater the challenge can be. To keep it simple, let’s break it down into 3 basic property types.

**Detached/Semi-Detached**

These types of property provide the greatest chance of a full conclusion to the problem. In the case of a detached property the only real issue that the pest controller will face is an issue originating within the property itself. At worst, should the problem originate next door in a semi-detached it is a relatively simple task to encourage the resident to cooperate.

**Terraced or town house**

If you’re operating a lettings business in a town or city centre it is likely that a greater percentage of your properties are terraced. From the tenant’s perspective, they have a problem and you are now in the front line trying to resolve it. What they may not appreciate is just how often issues with rats originate within other connected but distant properties in the terrace. Given that rats can move through wall cavities, sub floor voids and roof spaces it is often the case that the root cause of the problem originates elsewhere. Unfortunately, this is where it can become difficult
to resolve the problem as many stakeholders suddenly become potentially involved in the resolution. The mix of owner occupied and rented properties in the terrace have a direct effect on the likely outcome as do landlord/tenant attitudes. Initially, as per a semi-detached property, the pest controller can attempt to speak with adjoining neighbours to see if they are experiencing issues and, if they do this carefully and respectfully, they may get a better insight into the origin of the problem.

However, as the agent or landlord of the property, you may be faced with a situation where the property is periodically afflicted with rat activity if the pest controller is unable to gain both the co-operation and financial backing to explore further afield. Faced with this scenario what options do you have?

Firstly, you need to be sure that you have empowered the pest controller to investigate all areas within the property that could cause an infestation. Failure to do so may impact your case should you request the local council Environmental Health team to investigate neighbouring properties. If your pest controller is telling you that there are no visible structural faults that allow rodent ingress, you would need to be sure that the sewer system that is connected to the property is without fault. In many longstanding and problematic cases that we are called in to resolve, the local sewer connection is often the culprit. It is for this reason that we took the step to invest in sophisticated sewer camera systems to aid our investigations. If your pest control provider is not able to provide such a service, you may need to rely on a specialist drain company to work alongside the pest controller to carry out the required investigations.

**Apartment blocks**

The challenge posed by rat infestations in this environment is like that described for terraced properties, albeit with a significant three-dimensional component thrown in for good measure. The other issues are
the added complexity of the additional layers of management such Block Management companies who administer the communal areas of the block for the benefit of all.

However, if an issue is affecting the block, the presence of a Block Management company can be a significant benefit as they will hold a common fund to resolve such matters and can communicate readily to all with authority. So, one of the key pieces of information you need from the pest controller is guidance on the origin of the problem to correctly identify the party who will ultimately pick up the associated costs.

As will be obvious from the above, the task of pest control is often interleaved with many other factors that influence the outcome. A professional pest controller will always do their best to resolve the situation, but a degree of patience can be called for as residents and neighbours often fail to follow the requirements of the treatment.

**Process of control**

Unless the pest controller is dealing with an intrusion from a solitary rat that can be quickly trapped, the control program will likely be a multi-part treatment program involving 3 or more visits to bring about effective control. Pest controllers have many treatments and techniques available to them but, in most of cases, will rely of rodenticides to bring about control. If alternative and preferable food sources are available to the rats, the treatment will likely fail. It is worthy of note, and to set the expectations of residents, that rats are neophobic (wary of unfamiliar things in their environment) and will avoid the bait boxes for a short period of time before feeding inside them. This will naturally influence the time to bring about control. In other areas where bait boxes are not required, such as secure loft spaces and sub floor areas, more naturally presented baits will be quickly consumed. During the treatment, and certainly at the end, the pest controller should review all accessible areas to locate and remove any dead bodies.
Real Life Stories

At Prokill we love a challenge, and nothing makes us happier than being called in to difficult jobs that have gone unsolved. Beyond obvious rodent access points visible to the trained eye, less obvious drain issues can go undetected for years and the resulting impact on the Landlord and tenant can drive everyone to desperation. Such was the case at a 1900's terraced property in central Swindon.

Having checked the house and neighbouring properties for the more obvious and typical issues there was nothing to be found. As Arthur Conan Doyle wrote "Once you eliminate the possible, whatever remains, no matter how improbable, must be the truth".

So, the drains were inspected with our CCTV system and all looked good. However, never accepting defeat, we gained access to the neighbouring property and the camera revealed an unused junction around 1 Meter underground. So, armed with a shovel and spade we dug, and dug and, well you get the idea. As you can see in the picture below, the "Builder" simply smashed off the end of a redundant pipe and left it open. Then, over many years, the rats living in the sewers excavated a vast cavern that had burrows extending under both properties. Happily, the property is now rat free but clearly Bob the Builder has a lot to answer for!
Mice
Like Rats, Mice are likely to be high on the list of pests that may give concern to tenants. Unlike the cute image portrayed in movies and children’s books, mice can cause real havoc and the end results are anything but cute.

A Brief Description
The House Mouse body length ranges between 60-90mm and the tail can add an additional 100mm. Weighing no more than 25g, their fur colour varies between light brown and grey. Often the first a resident will know about an infestation is finding small dark droppings or damage to stored foods in the larder, packaging, or woodwork. We often see a peak in calls for mice around Christmas time as residents retrieve decorations from loft spaces and damage or droppings are discovered.

Mice live in nests that they build out of cloth, wool, and paper so a loft space often affords them all the materials required. Mice are mainly active at night and can often be heard running about as they search for food and, in turn, feeding from many sources of food rather than taking repeated meals from any one item.

Lifecycle
The typical litter size is 5 to 7 pups. A female can have 6 to 10 litters in her lifespan of 1 to 2 years. The gestation period is 18 to 21 days, so new generations can arrive every month or less! Juveniles can be weaned from their mother in 21 days. Mating can begin anywhere from 6 to 10 weeks from birth. In an indoor environment, breeding can occur all year round.
Associated Risks

Like Rats, Mice and property do not mix well. The range of infrastructure issues caused by Mice infestations is considerable and at times can cause great financial loss to the landlord. Problems caused include:

- Electrical fires. An estimated 24% of domestic fires can be attributed to damaged wiring.
- Water leaks. Damage to water tanks, plastic and lead pipework, washing machine and dishwasher water feeds, internal grey water drainage systems.
- Unlike Rats, Mice are incontinent and will urinate and defecate upon all areas through which they travel.
- Mice have been known to spread some nasty diseases to humans such as Salmonella and Listeria which can cause food poisoning.
- Buildings Insurance. In the aftermath of damage such as that mentioned above, it is worthy of note that many building insurance policies have specific exclusion clauses that relate to pest damage.

Causes of infestation

As per rats, it’s probably better to break this down to external and internal infestations alongside species.

External Activity

In the residential property sector, infestations are likely to manifest themselves in garages, out-buildings, and sheds. The culprit here is more likely to be field mice who have taken advantage of the ease of entry that these buildings afford, nesting materials and food sources contained therein such as seeds and bird food.
**Process of control**

Where non-occupied outbuildings and sheds are concerned, it is mostly sufficient to simply remove the various food sources and nesting materials that have attracted the mice and let any remaining mice depart the area. Following this, any measures that can be taken to prevent re-entry should be undertaken.

In cases where attached garages are concerned, it is advisable to commence a control program as there are often many ways that a mouse can penetrate the main structure of the house. This is always a multi-part treatment program involving 3 or more visits to bring about effective control. Methods used may involve trapping, baiting or both.

**Internal Activity**

The most important thing your pest controller can do is to identify the underlying causes of the problem and help you avoid the inconvenience of frequent call backs. Some of the common underlying causes include:

- Exposed lintels revealing access to cavities and sub floor areas
- Failed ventilation outlets
- Holes left in the outer and inner walls where grey water pipework has been removed or that have a poor fit
- Broken or chewed out air bricks
- Vegetation overgrowth

![Pic 1 Broken Vent Outlet](image1)

![Pic 2 Poorly fitting pipework](image2)

![Pic 3 Broken or Chewed Airbrick](image3)
These faults can create issues that will not only affect the complainant but also conjoined properties. Conversely, these faults may exist in conjoined properties and mice may be travelling to the complainants’ property by way of wall cavities, loft spaces or under floor gaps.

Therefore, it’s important that your pest controller considers the wider environment in the search for the source of the infestation.

As with rat infestations, each property type brings its own challenges and the more interconnected it is to others the greater the challenge can be. Please read pages 10 & 11 in the Rats section as the property types apply in a similar way to Mice. However, the size and scale of mice in relation to rats often brings a far more distributed infestation. This can be particularly evident in large apartment blocks or towers.

**Process of control**

As was mentioned in the description, mice are sporadic feeders and any control method will need to be distributed throughout the whole environment. The available control methods comprise rodenticides of various formulations and trapping systems. If the pest controller decides to use a baiting program it will likely end with the death of the rodents. The body mass of an adult mouse in relation to a rat is considerably less and the consequences of strong and long-lasting odour from a decaying body are much reduced. Whilst this can be a real concern for the resident it needs to be viewed in proportion to the risks from the infestation such as damage to property and health.

As a counter argument, we have heard many untruths uttered to placate the resident such as; “Don’t worry, the baits we use cause the rodent to mummify and there will be no smell” or “they will return to their nest to die and we will collect them from there”. Both these statements are fundamentally untrue as there is no treatment or bait available that causes a mummification effect and the rodent does not have any foresight as to when the rodenticide will cause its final demise.
As an alternative to using rodenticides there are a variety of trapping systems ranging from snap traps to glue board systems. The obvious benefit of these systems is that trapped mice are readily retained and easily removed.

However, trapping also has a down side in that mice, like rats, become shy of trapping systems and will learn to avoid them. The issue comes about as the rodent quickly associates the trapping system with the demise of its species. From a pest controller perspective, trapping systems will require regular inspection and, in the case of glue board systems, inspected every 12 hours to comply with codes of practice.

As you might imagine, it is often more economical and efficient to use rodenticides.

**Real Life Stories**

It can be both astonishing and amusing when you see what our rodent friends get up to when they get the chance. We had a call out during the Christmas break and the client, who lived in a semi-detached property, had been fighting both rats and mice over the past 5 years and events had reached a tipping point.

4 hrs of investigation followed, and the conclusion was “Nothing is wrong with your house sir”. So, we continued our investigations next door and, as is always the way, the very last section of decking that we removed revealed a defect below a patio door that could allow both rats and mice into the property.

This was duly proofed up and to conclude the investigation we checked out the neighbour’s garage. The garage, like a lot of the properties, had been re-developed and the floor that had been laid was not properly completed leaving holes into the cavities.
However, as we were pulling out shelf units to get a look at the floor edges we found the impressive harvest of the rodent lodgers.

This harvest consisted of several hundred walnuts and every nut had been carefully opened and consumed. By the time we had cleared the debris it mostly filled a large bin bag! The moral of this story is that the job isn’t done until you have checked everywhere.
Squirrels

In the UK we have two species known as the Grey and Red Squirrel. The Red Squirrel is our native species and is under imminent threat of extinction. Since the introduction of the Grey Squirrel from North America in 1876, it has out competed the Red Squirrel for food and territory and carries a disease known as squirrelpox which is deadly to the Red Squirrel. Today, the only location that you will find red squirrels is remote areas of Scotland, Wales, Cumbria and the Isle of White. Therefore, it is unlikely that a Red Squirrel will ever be the source of a residential problem.

A Brief Description

As its name suggests, the grey squirrel typically has a grey coat with white undersides, though the coat colour can also be quite brown. It is up to 30cm long with a bushy tail almost as long as the body. The hind legs are bigger and more powerful than the front legs. Grey squirrels are mainly herbivorous, eating acorns and hazel nuts, berries, fungi and even bark, buds, and shoots. However, on rare occasions when plant food is very scarce they will eat insects, smaller rodents, bird eggs and nestlings.

Lifecycle

Grey squirrels breed twice a year, December to February and May to June. The first litter is born in February to March, the second in June to July. There are normally two to six young in each litter. The gestation period is about 44 days. The young are weaned at 7 weeks and leave the nest after 10 weeks.
**Associated Risks**

The main issue that you will have to deal with is Squirrels entering the roof space of properties. Squirrels would normally make their home in a hollow or in the upper branches of a tree. However, the typical roof void is perfect environment that offers shelter, warmth, and nesting material. They will leverage existing defects such as missing tiles or rotten facia/soffit board to gain entry or, as is often the case, they will chew out sections of the guttering and facia board to gain entry.

Whilst all rodents like to chew, the damage caused by squirrels can be unbelievable. It is not unusual to find electrical wiring so badly damaged that the entire wiring system in the roof has needed to be replaced. Other examples include collapsed ceilings following damage to water pipes and in more serious cases, devastating fire. In the aftermath of damage such as that mentioned above, it is worthy of note that many building insurance policies have specific exclusion clauses that relate to pest damage.

**Process of Control**

The threat posed by the Grey Squirrel is such that it is classed as an invasive alien species and the importance of this classification is what it means for the process of pest control. The Trouble with squirrels, also a member of the rodent family, is how the wider public perceives them. They are the focus of children’s story books and portrait as cute and friendly. However, the Wildlife & Countryside Act requires that any grey squirrel trapped by a professional or amateur is humanely despatched as it is an illegal act to release alien species into the environment. Should residents request they are humanely trapped and released elsewhere, it will be necessary to explain that this is not a legal action.
The general process of control would be to first ensure that the roof void is free of squirrels. This can be hard to determine by observation alone as Squirrels are adept at hiding. Therefore, a program of trapping would commence until such time there are no more catches and the resident is content that there are no more movements in the roof void. As soon as this is determined it is important to carry out the repairs to block the entry points without delay. In most cases this is something that the pest controller can organise. In higher rise blocks it may require the use of a cherry picker to safely reach the work area.

Having dealt with the infestation it is also important to consider the external environment too. In many cases the squirrels will take advantage of overhanging or nearby branches to gain access to the roof level, so a program of pruning may be required to reduce risk.

**Other Control Methods**

In addition to trapping, other legal methods of control include shooting and poisoning. In a residential area, it may be problematic to shoot owing to the implied risk and residents aversion to seeing rifles in the vicinity. Despite taking all the necessary legal steps and informing the local Police office, issues can arise that cause embarrassment for all. Shooting is likely to be a last resort unless it can be performed discretely and without risk.

As with rats and mice, squirrels have been historically controlled with rodenticides. The use of rodenticides to control internal infestations may result in squirrels dying in inaccessible areas of the property. The body mass of the squirrel is such that any decay and putrefaction is likely to create substantial issues related to odour, maggots and subsequently flies. Therefore, the use of a poison needs to be fully thought through prior to use.

In the recent past, it has also been possible to bait externally to control squirrels but as of September 2015 this has been outlawed as a means of control.
Fleas

Fleas can be a rather difficult pest to eradicate owing to the little understood lifecycle and the importance that the lifecycle plays in the control process. They are a frequently reported pest and one that need a carefully controlled treatment if a successful outcome is to be achieved.

A Brief Description

The most typically encountered species of Flea is the Cat Flea, which also readily targets humans. Next comes Bird fleas followed by the rare Dog Flea, although other species may become temporarily attached to dogs if the host of choice is unavailable. There is also a Human flea, but it is so rarely encountered we can forget it for the purposes of this book.

Adult fleas are small at around 2mm and are wingless insects, their body is flattened vertically to aid passage through hair and coloured red-brown. Their rear legs are designed for jumping incredible distances, relative to their tiny size, and it is this ability that allows them to rapidly attach to passing hosts.

All adult Fleas are parasitic on warm-blooded animals. The females lay their eggs after feeding on the infested animal. Female Fleas can live up to two years, during which time they can lay up to 1000 eggs. The eggs drop onto the floor and the animal's bedding. After several days, the eggs will develop into larvae. When fully grown, the larvae spin well camouflaged silken cocoons. When fully developed the adult waits within the cocoon until it detects the vibrations caused by a passing host. Only then does it
emerge. In a warm climate, the cycle of life from egg to adult is about 4 weeks.

**Associated Risks**

There is no evidence to support that fleas in the UK carry any disease or parasitic organisms that are harmful to humans. However, the bite can cause extreme irritation and the subsequent scratching may give rise to an infection.

**Causes of infestation**

There are many potential ways in which a home can become infested with fleas. Here are just a few:

1. The pet brings them into the property from an outside source or through mingling with infested pets elsewhere.
2. By looking after other people’s pets during holiday periods.
3. By exposure to fleas at a place of work or school.
4. By free ranging cats who like to spend time close to or even within the afflicted property.
5. Purchasing second hand furniture, especially sofas, that come with added extras.

**Who is responsible**

This is always going to be a contentious issue as the tenant will mostly seek redress from the landlord. This is where a good understanding of the lifecycle is important as it will help you determine the likelihood that the property was let with a flea problem or if the problem developed during their tenure.
The issue normally arises in one of 2 ways:

1. The resident calls in to complain that they are getting bitten.
2. The resident moves out and the property is unoccupied for a lengthy period. During the subsequent re-let or viewing an infestation is encountered.

Let’s look at these 2 examples in comparison to the lifecycle below.

1 - The resident calls in to complain that they are getting bitten.

The important thing to consider here is the time that has elapsed since the resident took occupation. If the complaint is made within say a month or so, and it is proven to be fleas that are biting, it is entirely possible that
they have occupied a property that has a pre-existing problem. This may suggest that the previous occupant has had a pet with a flea infestation and that all adult fleas departed with the pet leaving just the eggs and larvae behind. Even though a complaint was not made in the first couple of weeks, it is entirely possible that the lifecycle had not been completed and it has taken that long for the biting adults to emerge. If, however, a complaint is received a few months into occupation it is highly unlikely that the property was occupied with an infestation present.

2 - The resident moves out and the property is unoccupied for a lengthy period. During the subsequent re-let or viewing an infestation is encountered

The lifecycle of the flea follows a predictable timespan within a typical domestic environment. It is the last stage, pupation and emergence as an adult that can vary dramatically. The biggest influence is the opportunity to feed upon a host. In an unoccupied property, the lifecycle continues right up to the point of emergence as an adult from the cocoon. With no detectable host upon which to feed, the adult flea simply remains in the cocoon until the vibration of a passing host triggers the final emergence. Once they have emerged they will also seek out a host by following the CO₂ and heat signature of a living creature. Walking into an infested property following a period of vacancy can be quite shocking as literally hundreds of fleas target the visitor within seconds. Clearly, the infestation was present during the previous tenure and has been in stasis awaiting a visitor to arrive.

Process of Control

There are only 2 phase of the lifecycle that are susceptible to pest control products with the egg and cocoon (pupation) phases providing protection from insecticides. Quite often, at the first sign of fleas, a resident may purchase a self-treat product from the vet or other source. These products may satisfactorily kill emerged adult fleas and larvae but are
rarely applied to the whole house and have little residual life. Therefore, fleas at the egg and pupation phases often survive this first attempt at control and the infestation continues.

The correct process is as follows and requires a residual insecticide available to professional pest control providers:

1. Prior to treatment all floor areas should be cleared as much as is possible to aid the application of the treatment and obtain good coverage.
2. The whole house should be vacuumed as thoroughly as possible and the contents of the vacuum emptied into an outside bin thereafter.
3. A residual insecticide is applied to all areas of the property at ground level and, if accessible or appropriate, the undersides of chair and sofa cushions.
4. Once the solution has dried, the residents can return, but any vacuuming should be avoided for 10-14 days whilst the residual insecticide targets the emerging adults and larvae.
5. For more deep-seated infestations, a second treatment 14 days later may be required.

**Setting Expectations.**

Having treated the property with insecticides it will not immediately end the biting, nor will it end the siting of fleas. This is normal as the insecticides do not have an immediate effect and will take time to do their job as pupating fleas continue to emerge as adults. It is also critical that the client resists the temptation to vacuum as they will remove a majority of the active insecticide and destroy the control process.
Bed Bugs

Of all the pests that you and your clients are likely to encounter, the Bed Bug can be the most problematical. In conversation, Bed Bugs and Bed Mites are often confused with each other. No matter how much we dislike the thought, we all have bed mites and they are not visible to the naked eye and their only impact can be to trigger allergenic reactions. The Bed Bug however, is fortunately large enough to be seen in all its stages of life, but its presence can go undetected owing to its ability to hide away in secluded areas of the bed frame and nearby furniture and is often unobserved owing to its nocturnal feeding habits.

A Brief Description

Like the flea, the Bed Bug is an ectoparasite that survives and breeds by taking blood from warm blooded animals. The Bed Bug has evolved to specialise in targeting the human species and there is a resurgence in their numbers which, when combined with a growing resistance to chemical treatments, can pose serious challenges in controlling their spread.

An adult Bed Bug is around the size of an apple seed and will take on a different appearance depending upon when it has fed. It lays eggs that are the size of pin heads and the female will “stick” the eggs to a safe and secure area typically out of site in dark or shaded areas. Once hatched, the “nymph” will seek out a blood feed and then retire to a safe area to digest the feed. With each feed comes a growth phase that leads to a skin shed that allows the new and pliable exoskeleton to expand. This will happen several times until the final adult phase is achieved.

The evidence of a Bed Bug infestation can be hard to track down in the early stages but, as an infestation takes hold there are several pieces of evidence that will confirm it.
1. Blood spotting on the bed sheets emanating from the bites.
2. Skin sheds from moulting bed bugs.
3. Small black spots in clusters the size of a pinhead (fecal deposits from bed bugs)

However, you should not rely on the client to satisfactorily identify the infestation as we have been called out to treat bed bugs that have turned out to be the skin sheds of varied carpet beetle grubs and other miss-identified insects.

Always let the professional make the final identification. Whilst they may be called Bed Bugs, the areas in which they may dwell in between feeds can be wide ranging. They may include:

- Headboard, curtain valance, drawers, bed frame, mattress, chairs, sofa,
- Edges of carpet, corners of walls, lifting wallpaper, shelves, bedside electrical appliances
- Around and within power sockets, door and window frames
- Books, magazines, items near the bed.

Whatever the area, it will always be close enough to access the victim quickly. With bed bugs, you need to think beyond the word “Bed” and simply think about areas in which the human will be sedentary for a reasonable period.

**Associated Risks**

Like fleas, there is no evidence to support that Bed Bugs carry any disease or parasitic organisms that are harmful to humans. However, the bite can cause extreme irritation and the subsequent scratching may give rise to an infection.
Causes of infestation

There are many potential ways in which a home can become infested with Bed Bugs. They are the World’s best hitch-hiker, so here are just a few examples:

1. A visit to a hotel that has an infestation.
2. A journey on an infested public transport vehicle (plane, train, bus).
3. A trip on cruise liner.
4. A visiting guest.
5. Buying second hand furniture such as Sofas and Beds.

What Does an Infestation look like?

Once an infestation gains a hold on a property it will quickly exhibit clear evidence such as that illustrated in the pictures below. In the first picture, you can see a series of black spots that are the fecal deposits from Bed Bugs. In the second picture, you can see a cluster of Bed Bugs and skin sheds along with some small white eggs. Bed Bugs tend to aggregate together in clusters and many such clusters may develop as an infestation gains hold.
**Who is responsible**

Often, the resident will look towards the agent or landlord for a solution and may suggest that the problem pre-existed the tenant’s arrival. As with flea infestations, a good understanding of the reproductive cycle of bed bugs will aid you in deciding on responsibility for the infestation.

Properties are let in both furnished and unfurnished condition and you are most likely to encounter issues with furnished properties. However, it is no guarantee as bed bugs can occupy small gaps that are part of the property itself and will remain even after the furnishings have been removed. Irrespective of the type of let, a bed bug infestation should quickly make itself known as the bed bugs hunt down a blood feed having likely been deprived during the gap in tenancy. However, it may be the case that the resident delays reporting the issue until it becomes evident that there is a repetitive issue. If you look at the lifecycle diagram below, the key stages of their evolution are shown. Let’s consider this in relation to your tenant’s complaint.
Scenario 1 “We moved in 2 weeks ago into an unfurnished property and have been bitten at night”

Considerations

- Can any trace of prior infestation be found in the property (curtain valence, skirtings, floor boards, power sockets and other permanent fixtures). If signs of skin sheds from nymphal stages are present along with fecal staining it will certainly pre-date their arrival.
- If not, can any evidence be found on the furniture brought into the property? If so, anything beyond the first nymphal stage and associated fecal staining and skin sheds will be evidence that they have most likely brought the infestation with them.
- If no evidence is found that suggests bed bugs, then it may be possible that another pest or even an allergic reaction is responsible. Other pest that may be responsible are, for example, fleas, mites or perhaps mosquitoes.

Action: Get you pest controller to carry out a thorough inspection to determine the facts.

Note: As mentioned earlier, an adult bed bug can survive for up to a year without a blood feed. Therefore, even if the property has remained unoccupied for a considerable time, it does not discount the possibility of bed bugs being present.

Scenario 2 “We moved in 2 weeks ago into a furnished property and have been bitten at night”

- If there has been a prior infestation there will almost certainly be evidence to support this and, given that the major furniture items have been landlord supplied, it will most likely be present on one or more item.
Any other items that have been tenant supplied, and previously present in a bedroom or living room area, should be inspected too.

**Action:** Get your pest controller to carry out a thorough inspection to determine the facts.

**Scenario 3** “*We moved in 3 or 4 months ago into a furnished/unfurnished property and have been bitten at night*”

Following the elapse of a similar period, or longer, it would be considered very irregular for a resident not to have been seriously troubled by the alleged infestation and is more likely to have been brought into the property by the resident themselves. As with the afore mentioned scenarios, the pest controller should be able to assess the relative timeline of the infestation from the available evidence.

**Action:** Get you pest controller to carry out a thorough inspection to determine the facts.

**Bed Bugs are present, what can we do?**

If there was ever a pest that demands a professional and systematic approach, then the bed bug is that pest. There are many methods employed by professionals such as heat treatments, steam treatments, chemical treatments and sometimes all 3. Your pest controller will advise on the most appropriate methodology based on the infestation revealed during the initial inspection. However, as a word of caution to the Landlord or lettings company, if the issue is traced back to a problem introduced by the resident and the resident takes care of the issue by their own means, it would be advisable to insist upon an inspection prior to the end of lease and certainly prior to releasing any deposit payments.
Cockroaches evolved many millions of years ago and will likely outlast humans. Of all the estimated 4000 species thought to exist there are principally two varieties that are regularly encountered throughout the UK, namely the German & Oriental Cockroach. Allowing for a few “Hot Spots”, the German is the most commonly encountered variety.

An adult German Cockroach (picture one above) is around 1-1.6 cm long, golden brown in colour and it will feed upon almost anything, including leather, books, and plastic. In ideal and uncontrolled environments, a pair of German cockroaches can produce many thousands of offspring in a year and infestations accelerate in the summer months. An adult Oriental Cockroach (picture two above) is somewhat larger and is typically around 1.8-2.9cm long. Whilst both species readily invade the home, the Oriental Cockroach is a hardier species and highly adapted for surviving in the natural environment. Unlike the German Cockroach, they can thrive in cool, damp areas such as basements, drains and are known for their preference for feeding on garbage and decay.

Associated Risks

The biggest risk that accompanies a cockroach infestation is one related to infection. They feed on just about anything, even deceased cockroaches, but they do have a sweet tooth and prefer to eat sugary and starchy items. Included in their diet is the consumption of human detritus such as excrement, sputum, toe nails, and other bodily residues.
These unpleasant dietary choices subsequently lead to contamination of food, utensils and surfaces for food preparation and have direct consequences on human health in three interrelated ways – their arbitrary feeding habits, eating both human excrement and human food; their indiscriminate defecation habits; and the fact that they regurgitate digestive fluids in the process of eating.

Roaches also serve as a significant source of infectious pathogens. They further serve as a transport system for the microbiological world ferrying bacteria, viruses, fungi, and parasites into the human environment thereby exposing the recipient to risks from Salmonellosis, Gastroenteritis, Dysentery and Campylobacteriosis to name a few.

**Causes of infestation**

The origin of an infestation can be hard to determine and in most cases, will never be 100% identified. Common means of infestation involve the purchase of pre-infested goods from shops, a guest bringing goods from their infested home into the property or the migration from apartment to apartment in larger developments by way of service ducting and ventilation systems.

**Who is responsible**

In simple terms of negligence, it can be a complex discussion at every level for many reasons. Questions raised include:

1. Did the landlord rent the property in an infested condition?
2. Did this begin after occupation of the property?
3. Did it transfer from a neighbouring property within a terrace or block?
4. Are the hygiene standards of the resident contributory to the sustenance of the infestation?
Collecting evidence to form an opinion is an area that your pest controller can assist with. However, in the case of a Landlord/Tenant relationship, it is likely that the terms of the lease will determine the responsibility unless it can be shown that the property was pre-infested. Please refer to the section “Pest Control and the Law” for the legal position.

**Process of Control**

Several components come together to bring about a successful treatment. First are the local hygiene conditions. It is imperative that the resident ensures that access to food is restricted. This requires that all food particulates are removed nightly from the cooking and dining areas, that hidden areas such as the sides of cookers and refrigeration units are initially cleaned and kept clean going forward and that all waste food is placed in a bin that affords protection from cockroaches and, if this is not possible, that the bin is emptied daily into an external bin. Other areas often overlooked include the toaster and breadbin where many crumbs build up inside and provide a ready feast for scavenging cockroaches.

Secondly, any food that can’t be stored away must be covered over or placed in sealed containers before the resident retires for bed. Once reminded of cockroach feeding habits it is often enough to keep this requirement high in their priorities!

Thirdly, the resident must declutter as much as is practical to remove areas in which cockroaches may hide and thoroughly vacuum the areas to be treated. Once completed, the contents of the vacuum should be bagged and sealed and placed in an external bin.

**Setting Expectations.**

As the treatment proceeds it is critical that the resident maintains the required hygiene standards as failure to do so could substantially delay or completely undermine the treatment program.
The most common method of control used by professional pest controllers is a gel based bait that is placed in areas of known activity. The gel is formulated to be attractive to cockroaches and, if the resident has complied with the hygiene requirements, will be quickly found, and fed upon. The more sophisticated gel formulations provide time delayed effects that allow the cockroach to return to a common harbourage point. Once the cockroach dies it is consumed by other cockroaches and a beneficial secondary poisoning effect takes place.

Cockroach treatments are delivered as a multi-visit program as the progression of the treatment needs to be monitored to ensure that it has been effective. Pheromone traps will be set to monitor the declining population and, when catches cease, confirm success.

**A few cautionary comments.**

1. Of the two species mostly encountered, German and Oriental, there is an important difference in the way in which the eggs are distributed that complicates control. For the German variety, the egg case that contains the young cockroaches (around 30 or so) is deposited by the female just prior to the hatch. Therefore, once the pest controller begins the control program, the numbers will quickly decline.

For the Oriental variety the egg case is deposited prior to its maturity and typically takes around 45 days to hatch. Local environmental issues may extend this period.

As you can see from the above, there could be a long delay in the hatch of the oriental variety which may lead to a false assumption that all cockroaches have been exterminated. Therefore, it is advisable to extend treatment and monitoring for a suitable period to cover the possibility of a late hatch.
Shown to the right, an Oriental Cockroach egg case known as an “Ootheca”. Alternatively, a ticking timebomb!

2. As discussed earlier, cockroaches can travel through residential blocks by way of service ducting and ventilation systems. With this in mind, it is important to contain the infestation rather than spread it further into the block. On many occasions a failed self-treat by the resident, landlord or inexperienced pest controller leads to a rapid exodus of cockroaches into neighbouring apartments. This not only creates a wider issue but may cause a repeat infestation of the treated apartment a few months later.

Treatments based on devices such as “Smoke Bombs” are often the underlying cause of the exodus as exposure to the chemicals in the smoke can be limited and may act as an irritant rather than a control.

So, in summary of the above it is important that treatments are undertaken with regard to the species and risk of spreading the infestation.
Cockroach Math

Why control them? Well, if the introduction to this section doesn’t concern you then consider the reproductive maths:

A female German Cockroach lays a single egg case containing 30 nymphs in an environment with an ample food supply.

The egg case splits open in 8 weeks and 50% of these nymphs turn out to be female giving us 15 females in total. Once matured in 8 weeks, these females then lay 1 egg case each.

This will give us 15 egg cases containing 30 nymphs which is 450 nymphs in total. Assuming a 50% male/female split and sufficient food supply, these 450 nymphs achieve maturity in another 8 weeks providing a further 225 productive females.

If all the females then produce an egg case, we will have 225 egg cases containing 30 nymphs making the next hatch produce 6750 nymphs.

So, after several months we get 6750 third generation, 450 second generation, 30 first generation and the original cockroach making 7231 in all.

Whilst this sum doesn’t account for mortality it also doesn’t account for the fact that the original and first-generation cockroaches are already at it again!

So, leaving an infestation to go uncontrolled is a particularly bad idea that will eventually multiply not only the population but the cost to eradicate it.
Bird Mites

When we talk about mites, it’s important to distinguish this pest from the microscopic dust mite that lives in all our beds. The Bird Mite is, as the name suggests, normally associated with birds and inhabits their nests and bodies and feeds upon their blood.

A Brief Description

The mite is rather small and a description in any detail is worthless. However, their size is like a full stop on this page and they can vary in colour from near white to black depending upon their age and whether they have fed recently. Owing to their tiny size, they can be very hard to spot.

Associated Risks

There are no known health issues that arise from the bite itself, but the irritation that the bite may cause, may lead to excessive scratching and an infection may follow because of this. The troubling thing with a bird mite infestation is the sheer quantity of mites that can quickly appear and engulf the victim.

Causes of infestation

The normal sequence of events begins with a bird nesting in the roof area above bedroom windows. Birds carry this mite and live with it as part of their normal life cycle and, in some cases, the infestation can become so severe that the more defenceless chicks will die as a result. As the chicks fledge and leave the nest, or die because of the infestation, the primary food source ends leaving many thousands of mites looking for an alternative host.
Given that the period in which the birds fledge tends to be in the warmer months, it is usual for the resident to leave windows open. As you can imagine, it may not be that far to travel from the roof edge through the window and find an unwilling victim fast asleep in their bed. Like fleas, the bird mite can target its victim by following the heat signature of the body and CO$_2$ trails from breath.

**Who is responsible**

Generally, the issue develops from birds nesting internally in the roof space. Therefore, the infrastructure of the building is defective in some way as to allow the birds to enter. It is therefore fair to expect the landlord to make repairs to prevent the ingress of birds. In a few examples we have seen, the nest is in vegetation that is growing close to or upon the building. In such cases it might be a more complex discussion that follows!

**Process of control**

The roof line and roof void will need to be inspected for a potential nest site and, if found, removed. This area will need to be treated with an insecticide to target the mites. Only certain insecticides are effective against mites, so be sure the pest controller is fully conversant with the specific requirements for a mite treatment.

If the mites have remained in the room it will be necessary to treat the room as well.
Ants

Common Varieties

There are two varieties of ants that are widespread throughout the UK, namely the Red and Black Ant. Of the two, you are more likely to have issues with the latter as it is the culprit behind kitchen invasions and the source of flying ant phenomena that can reach distressing levels.

Mating takes place in the summer when the winged males and females are seen in large swarms. When mating has taken place, the males die, and the females remove their wings and dig a cell in the ground where they spend the winter. A new nest is started the following spring. The eggs are laid in April and the larvae hatch in 3-4 weeks. The queen feeds them until they pupate. The first worker ants then emerge.

There is little that can be done to stop a determined army of ants finding their way into the home if foraging ants detect an attractive food source.

Who is responsible

It is rare that any specific blame can be apportioned but the onus is on the resident to keep food sources secure from access.

Associated Risks

There are no known health risks associated with Black or Red ants, although residents will probably not enjoy the bite of a red ant!

Process of control

Treating the occasional issue related to foraging ants is a simple task but more persistent issues may require that the nest site is located and destroyed. A very common nest site location is to be found under paving slabs laid around the perimeter of properties. The slabs offer protection
from harsh weather and absorb warmth during the day and emits it like a storage heater during the night. Your pest controller will be able to administer spray or powder treatments to sub-slab areas depending upon local conditions.

Pharaoh’s Ants

When a client calls you about an ant problem, especially in an apartment block or similar, it is important to understand if you are dealing with Pharaoh’s ants.

Description

Pharaoh’s ants are a common species of ant that can be found in urban environments around the globe. It originated in Central and West Africa though has managed to spread over the last century mainly due to the increase in international trade. It has now established itself as one of the premier ant pests in urban environments. The ant is smaller than the regular black or red ant that we are familiar with and is pale and “straw” coloured in appearance.

Habitat and associated risk

The main concern with these species is their potential as a vector for disease as well as the general nuisance factor. They prefer warm areas for nesting. Nesting sites include dark voids such as walls, cracks in woodwork, stacks of paper, envelopes, under appliances, carpets and in airing cupboards. They are often found near moisture such as kitchens and bathrooms. They travel from room to room within the walls along the plumbing pipes or electrical wiring. Pharaoh’s ants are found where food is available. They will eat almost anything and can easily get in to unopened packages. Pharaoh ants trail each other and are attracted to greasy or fatty foods, meats, sugary foods, and other dead insects. They are also attracted to freshly used bandages or soiled nappies. Because of their eating habits, they can contaminate food by wandering over it.
Who is responsible

If you are dealing with a Pharaoh’s ant infestation it is highly likely that the situation has developed in a multi-occupancy building. Determining where the issue originated is improbable and will likely affect more than one dwelling. Given the variety of stakeholders in a block environment (owner occupiers, tenants, landlords, letting agencies and block management companies) it can be a challenge to co-ordinate a satisfactory response. In these scenarios, the block management company has the widest brief and, given that the ants will leverage the buildings common infrastructure, are probably best placed to co-ordinate the proper response such as the initial surveys and subsequent treatments.

Process of control

It is vital that methods of control associated with common ants are not replicated for the control of this species. It is a highly polygynous species i.e. there are many queens within a single colony. Colonies are also polydomous (live in multiple nest sites) forming a network of trails between nests. These two aspects of pharaoh's ant biology mean that colonies can reach mammoth proportions, for example being spread throughout the entirety of a multi-story building. This also makes an infestation very hard to eradicate and enables pharaoh's ants to spread prodigiously. An inappropriate treatment can cause the colony to splinter and spread the infestation to new areas.

To ensure a truly effective treatment it is important that the entire property or apartment block is surveyed to map out the extent of the infestation. Once this has been assessed a treatment program can be commenced that targets the colonies with a protein based bait that carries a juvenile growth hormone. This treatment does not “kill” ants but rather stops the reproductive cycle allowing a natural decline in numbers. By treating the infestation in this way, it prevents a defensive “splinter” reaction and contains the infestation.
Wasps

In the summer months, wasps are one of the most common pests that afflict properties. They will make their home in the ground, in tree hollows, in sheds, roofs and pretty much anywhere that affords protection.

From a pest control perspective, they are relatively easy to deal with and a single treatment is all that is normally required. Today’s pest controller is equipped with long reach poles that enable them to reach to the roof line of a typical two storey property. For heights beyond that, it may be more challenging and sometimes there is no alternative other than to leave the nest untreated or hire in an access platform such as a cherry picker.

Who is responsible

Given that there is no effective way to deny a wasp entry to a property or influence the nest site the queen chooses, there can be no suggestion that the resident has committed an act that has lead to the formation of a nest. Therefore, the responsibility will be one which is defined in the tenancy agreement.

Associated Risks

Beyond the annoyance of their presence, wasps can cause specific damage to a building that often leads to a failed ceiling and a hastily evacuated room! In the process of building and maintaining the nest structure throughout the season, wasps will typically harvest wood fibres from local resources which are subsequently chewed to a pulp and used as the primary building material. However, wasps also find the plaster in ceilings an attractive material and will often carve out complete sections of it. We have seen many cases where either the wasps simply break through into the room below or the resident prods and penetrates a strange looking section of the ceiling, from where scratching noises are
emanating, only to find a swarm of wasps exiting the hole looking for a victim.

People can take a cavalier attitude towards wasps and often attempt control themselves. There are specific risks associated with a sting from wasps such as anaphylactic shock for those who have become hypersensitive to the antigens in the sting. The author is particularly aware of this condition. Other risks involve falls from height when unexpectedly attacked whist working off a ladder.

**Process of control**

Control is typically established through the application of an insecticide into the nest or main entry area. The application of the insecticide can quickly bring the nest to an end within hours. Once the nest is controlled it can be safely removed if desired. However, the main body of the nest is made of wood pulp and poses no threat to the property, so it is often left in place if access to it is challenging.

It is possible that a resident will call you in the Winter months to inform you of a wasp nest they have found in the roof space. However, the temperatures we experience in the UK throughout our Winter period cause the nests to die off with the only surviving wasps being fertile queens who will leave the nest to find a secure area of the neighbouring environment in which to hibernate through to spring time. Even in spring, the discovery of a large nest will be one that is redundant from previous years, as a wasp nest is never re-inhabited.

Such a nest will not require treatment and poses no risk.
Bees

Bees of all varieties are one of our most valuable natural assets. It is our collective duty to help them survive through what are challenging times for the species. Without a sufficient wild bee population, our food supply chain would look very different and many of the foods we take for granted would not be available.

When we talk about bees we talk about two different groups: social bees and solitary bees.

**Social Bees - The Honey Bee**

Social bees work in organised colonies for the collective good and, whilst there are hundreds of varieties of social bees, we will consider them simply as “Honey Bees” and “Bumble Bees” for this section.

Activity from honey bees, as far as property is concerned, can sometimes have serious consequences in areas such as ceilings and chimneys. Unlike wasps, the bee colony does not die off in Winter unless it has suffered some environmental issue such as a lack of food resources or a mite infestation. Successful colonies can become very large and be home to many thousands of bees. However, bees in general are less aggressive than wasps and it is more the risk associated with the weight of the honey laden combs and the seepage from the combs into the fabric of the building that should be of concern, as illustrated in this picture from a house in Leicestershire.
Swarms

As the hive grows, it is normal for a great percentage of the bees to swarm in spring and go in search of a new home accompanied by the original Queen. This is how the colony replicates itself and maximises the chance of survival. Seeing a swarm land on a property or vegetation may give rise to a call from the resident expressing their concern. In such cases it is very likely that the swarm will move on within 24-48 hrs of landing. Rainy conditions may delay departure.

The advice for the resident is to stay away from the swarm, even though it poses little risk, and allow it to move on naturally. In cases where the swarm is seriously impeding access or has even entered the property, then a bee keeper may be required to capture and re-locate the swarm. Given the value of a captured swarm, bee keepers are mostly very grateful for the chance to acquire a new colony.

The British Bee Keepers Association is your best partner in resourcing an appropriate keeper and can be found at www.bbka.org.uk where there is a local member “look-up” facility. However, it is unlikely that their members will be able to assist you where access is a challenge such as a chimney.

Who is responsible

Given that, like wasps, there is no effective way to deny entry, the responsibility will be one which is defined in the tenancy agreement. However, for the sake of the structural integrity of the property it is not recommended that a colony is allowed to persist, and the landlord should be encouraged to take an active involvement to protect their asset.

Process of control

For small and settled nests, the process of control can be very similar to the treatments applied to wasp nests.
However, there is an added complication that is very important for you to consider from a legal perspective. Unlike wasps, bees produce honey and honey can be foraged by other bee colonies such as those that form part of a commercial or hobbyist collection. If the pest controller does not take suitable measures to secure the entry point after treatment, it is possible for foraging bees to access the treated areas and to come into contact with the insecticides. If these insecticides are subsequently carried back to their hive it is possible to seriously compromise that hive.

Prosecutions have been brought and fines levied in recent years for the such contaminations.

**Social Bees - The Bumble Bee**

The bumble bee, like the honey bee is also a challenged species. Unfortunately, as it does not produce any commercially viable quantities of honey, it is of no interest to bee keepers and it is not something that they will attend to. The bumble bee has a similar lifecycle to that of the wasp insomuch as the nests are not reused and that all drones die off leaving the Queens to hibernate until spring.

In the season when Bumble Bees and Wasp become active again it is the Bumble Bee that is well ahead of the game and residents often call into to the managing agents complaining of a wasp nest. In April and May it is almost guaranteed to be a Bumble Bee nest.

Like wasps, the Bumble Bee is opportunistic and will nest in any convenient and sheltered environment. This is typically a roof space underneath the insulation, a hole in a tree or a redundant bird nesting box. When bees select a roof space to create the nest, typically from 50-150 occupants, it is common for resident to report a droning noise at night that disturbs their sleep and sometime a pungent “fishy” smell in the room.
In this situation there is little that can be done other than to remove the nest. Unfortunately, owing to the fragile nature of the nest it is not practical or even possible to successfully remove it without causing fatal damage. Therefore, for nests that are causing serious inconvenience, the only treatment is a destructive one.

For all other cases there are practical choices to be made. Bumble Bees are not aggressive, and it is easy to co-exist if the resident is prepared to make changes to accommodate their presence. By mid-summer, they will disperse, and it will no longer be an issue.

In scenarios where they have made a nest in a bird box close to the home, it is possible to relocate the entire colony to another part of the environment. This is done in the hours of darkness when all bees are within the box and should be undertaken by a pest controller who has experience of this process and who also has the appropriate personal protection equipment. In the years that we have run our business we have relocated many bird boxes full of bees to our garden and most have survived.

Who is responsible

As with honey bees, the responsibility will be one which is defined in the tenancy agreement. However, unlike honey bees it is unlikely that any serious structural issues will develop from a Bumble Bee nest.

Process of control

Very similar to that used for Wasps and Honey Bees. However, it is recommended to remove the nest from a roof void wherever possible as it can leave an unpleasant odour that leaches into the ceiling.
Solitary Bees - Mortar or Digger bees

As the name suggests, the solitary bees are not a social bee and do not live in a social structure like the Honey and Bumble bee species. Their significance in regards property is their ability to dig into and excavate mortars. They do this to create a nest chamber in which to rear a small brood. They will also do something similar in the ground if the conditions are suitable.

Wherever the conditions are suitable, it is likely that many other solitary bees will also want to take advantage of the soft mortars and this can give the illusion that there is a single nest. These bees are not aggressive and, with a very weak stinger are very unlikely to cause an issue for humans.

Who is responsible

An issue of this nature is not something that the resident can have any control over and it can be considered a structural defect. Whilst the infestation of these bees is of no consequence to human health, the progressive damage caused over the years by way of water ingress can be serious.

Process of control

It is not practical to attempt control by way of insecticides. The best solution is to be found by employing the services of a builder to rake out all loose and soft mortars and re-point the brickwork in late summer.
Silverfish

Common silverfish are small (10-12mm), wingless insects that wriggle as they move. They are interesting little creatures, but they can also be very destructive.

A silverfish has an elongated and flat body that tapers at the end. It has a segmented surface and is covered with shiny, silvery-grey scales. There are two long antennae at the tip of its head and three long bristles at the end of its body. The bristles are responsible for the alternate name "bristletail", which is used for both the silverfish and its relatives like the Firebrat.

As silverfish wriggle and move rapidly along the ground, it’s sometimes hard to see their thin, light-coloured legs and appendages. This creates the illusion of little silver fish swimming on land and makes their common name very appropriate. The insects tend to move for a short interval, pause, and then move again. Residents will often find the insects in damp areas with high humidity, such as basements, laundry rooms, bathrooms, and kitchens. They may be found in large numbers in new buildings if the plaster or wood in the buildings still contains moisture.

Silverfish are nocturnal creatures and the extent or presence of the infestation may go undetected. During the day, they hide unnoticed in cracks and crevices. At night, they become active and search for food rich in carbohydrates such as paper, photographs, wallpaper paste, starch in clothes, fabrics such as cotton and linen or human foodstuff such sugar, flour, bread, rolled oats, and other cereals. The insects even feed on starches in the glue found in book bindings.

Silverfish also eat mould, dandruff, and body coverings from insect moults. In addition, they eat high-protein foods such as meat and dead insects and can survive for several months without food.
Associated Risks

There is no known health risk associated with a Silverfish infestation. The most likely issue will be one of a resident distaste towards the infestation.

Who is responsible

The origin of the prevailing infestation is unlikely to be determined but, once established, it may require co-operation from both landlord and tenant to resolve.

Process of control

A small to moderate infestation may be solved by eliminating the insect's food sources, preventing moisture build-up, and reducing humidity. In addition, the following house cleaning and maintenance steps will help bring about an end to the problem and may eliminate the pests completely without further intervention. Advisory actions for landlord and tenant are:

- Repair any leaky pipes or taps.
- Improve ventilation.
- Use a dehumidifier to reduce moisture in the air.
- Perform regular tidying, cleaning, and vacuuming to remove silverfish eggs and crumbs, scraps of paper, debris, and mould.
- Remove any uneaten pet food.
- Clean under sinks.
- Clean crevices such as those around the base of ovens and refrigerators and along skirtings and kickboards.
- Fill any cracks that you notice.
- Seal any areas where wallpaper has become detached from the wall.

A larger infestation may require professional assistance from your pest controller who is likely to require that the above steps are completed as part of the program of control.
Woodlice

Woodlice are known by many names throughout the UK. In Berkshire you may get a call about “Cheeselogs”, in Kent a “Peasie-bug” and in Scotland a “Slater”. Whatever the regional name, they are present throughout the UK and range in size from 10 to 15mm in length. Woodlice may be found anywhere in the property, but most commonly will be found on the ground floor. In the hierarchy of pest that cause serious issues they do not rank highly.

The main reason that I have included them in this guide is due to the significant amount of calls property managers receive from tenants about them.

Woodlice are not a home dwelling pest by choice and will die in most home environments as they are damp lovers and dehydrate quickly within our warm indoor environments. The exception to this is when the property has significant areas of damp internally that allow the Woodlice to maintain hydration. Such issues may indicate a more significant matter that would benefit from investigation before greater damage is done to the structure of the property.

Associated Risks

There is no known health risk associated with Woodlice. The most likely issue, as with Silverfish, will be one of a resident’s distaste towards the infestation.

Who is responsible

There are two main factors that generally promote issues with Woodlice. The first of these is persistent damp conditions around the exterior of the property and the second is poorly fitting or decaying doors and door frames. In general, structural issues tend toward the landlord as far as responsibility is concerned, in the case of localised and persistent damp
areas it may be attributable to littering and storage of the tenant’s items directly around the property perimeter.

**Process of control**

Woodlice can penetrate a property by way of very tiny holes or gaps, so it can be difficult to fully eliminate all the access points. Therefore, the best place to start is to ensure that the entire perimeter of the property is kept free of vegetation and organic matter. This might be old decaying cardboard boxes, a pile of timber, damp door mats, flower pots or any item that might create and sustain damp areas. It may also relate to failed guttering that allows rain water to saturate areas of the perimeter.

Having excluded the above, the next areas to pay attention to are the lower edges of exterior doors and the door frames. For uPVC constructed doors the most likely issue will be gaps between the frame and brickwork, especially under the sill. A swift application of mastic to any holes will remedy the issue.

For wooden frames, any similar gaps should be closed but areas of decay, which act as attractants to the Woodlice, should be treated or cut out and replaced.

A typical entry point for Woodlice shown below. Once the above scenarios have been considered and remedial or clearance work undertaken, pest control is probably the only remaining option for an ongoing issue.
Textile Moths

There are two species of moth that cause most of the issues within properties. These two varieties are called the Case Bearing Clothes Moth and Common Clothes Moth. Both can significantly damage the occupants clothing and the carpets throughout the property.

What is going on and why do they eat clothes and carpets? The answer is to be found in a protein that is found in your hair, nails and the outer layer of skin called Keratin, a structural protein also found in the wool of sheep.

Products that contain keratin will be located by moths and put to good use by the larvae of the moths. The female moth will glue her eggs directly onto the target in dark secluded areas. Once hatched, the tiny larvae steadily munch it way through woollen clothes and wool or wool/synthetic mix carpets.

As the larvae hatches directly upon the food source in a secluded area, it doesn’t need to travel far to consume enough wool to reach maturity and pupate. With a female moth laying around 50 eggs in a short period, the resulting damage from a single generation can be significant. If the reproduction cycle continues several times, the resulting numbers of moths can be shockingly high. As shown above, moth larvae have been busy under the base of a plant pot base without detection and ruining a woollen carpet in the process. You will also note
some brown staining around the edge of the circular depression, this is from water damage and areas of damp promote accelerated consumption of the carpet.

As pupation approaches, the larvae will wrap itself in a small white cocoon approximately the size of a grain of cooked rice and await adulthood. During this phase it is not unusual for the grubs to climb walls and attach themselves to ceilings.

This often gives rise to calls from the tenant complaining that they have maggots crawling up the walls and around the edges of the carpet. If such a call is received it may be wise to get an inspection to thoroughly check for a moth infestation. The few pounds spent on this may prevent a lot of consequential damage to carpets if moths are the real culprit.

Associated Risks

There is no known health risk associated with moths. The most likely issue will be one of a resident’s distaste towards the infestation.

Causes of infestation

Moths can come and go at leisure as the gaps required to enter are minimal and most properties will have windows open for periods of time allowing easy access. However, the female moth mostly crawls and hops around the environment and may simply enter the property from a neighbouring property across the communal corridor in the block. It is often the case, just like bed bug and cockroach infestations, that the infestation radiates out from a common source.

Loft spaces or under stairs cupboards are often used to store carpet offcuts or woollen rugs no longer in use. In their rolled-up state they make a perfect breeding ground that will go largely undetected allowing the infestation to reach shocking levels, spreading out to infest other areas of the property.
Who is responsible

It is highly unlikely that the tenant has caused the infestation through negligence or a careless act. Even in a clean and tidy property, the areas used by the larvae to feed are often well hidden the tenant may be unaware of their presence until adult moths start to fly around the property. Even then, unless the significance of the sighting is understood, the root cause of the infestation may go undetected.

There may be clauses in the tenancy agreement that stipulate the specific responsibilities but failure to deal with moth infestations quickly can lead to significant damage to the carpets resulting in the need to replace them. Pragmatism on the part of the landlord may be the sensible option before their asset is eaten!

Process of control

Dependent upon the level of infestation, it may simply require a thorough vacuuming followed by the application of a residual insecticide to the affected area including the perimeter of the room and under carpet and skirting edges.

In larger infestations, whole house treatments may be required that target both the larvae at floor level with residual insecticides and flying adult moths by way of aerosols. In extreme cases it may even involve the removal and disposal of the carpets.

If the carpets are removed, it may be wise for the landlord or property manager to select a fully synthetic alternative to avoid future problems.

Your pest controller will be able to assess the scope of works required and advise accordingly.
Varied Carpet Beetle

This small but colourful beetle can be a serious residential pest. Pictured to the right, it is typically around 3-4mm long and has a variety of patterns similar to that shown. Like moths, the adult beetle causes no damage and mostly feeds upon flower pollen during its short life.

The larvae of the beetle are known as a 'Woolly Bear' and feed upon natural fibres including carpets and clothing from which they extract keratin. They also consume dead insects and spiders from which they extract chitin.

The adult beetle commonly enters houses and lay eggs under carpets, skiting or in cupboards, with the resulting larvae taking up to three years to develop into adults depending upon environmental factors.

Associated Risks

There is no known health risk associated with Carpet Beetle infestations but, in large infestations, the hairs of the larvae may cause mild skin irritation.

Causes of infestation

As mentioned earlier, the adult beetle feeds upon flower pollen which is quite naturally found around properties and, by way of open or poorly fitting windows, readily enter the home. Once inside, the female beetle will search out a dark and secluded area in which to lay her eggs. Pictured above is the resulting “Woolly Bear” which grows to around 5mm in length.

The beetle will also frequent bird nests and surrounding areas where an ample supply of keratin can be found in feathers littering the nest site.
Therefore, the origin of an infestation may sometimes be traced to the roof space where birds have nested.

**Who is responsible**

The answer here is the same as discussed in the moth section. There is little a tenant can do to prevent the entry of carpet beetles and prompt action by the landlord, once advised of an issue, will be in their best interests.

**Process of control**

The standards of hygiene in difficult to reach areas can have a significant bearing on the growth of an infestation as the larvae can consume a more diverse range of food sources than moth larvae.

Routine vacuuming effectively removes carpet beetles which are already present, as well as hair, lint and dead insects which could support future infestations. As with moth infestations, attention while vacuuming should be paid to the edges of carpets, skirtings, underneath furniture (especially below beds) and similar "quiet" areas where larvae prefer to feed.

Once the infested areas have been cleaned, it is generally sufficient for the area to be treated with a residual insecticide. If substantial numbers of adult beetles are present at various heights in the property, it may also require the application of an aerosol to complete the treatment.
Birds

Introduction

Birds are unlikely to be one of the primary pests that you will have to deal with in your profession. Nevertheless, there is a hidden complexity in law that you need to be aware of when dealing with issues.

The Wildlife & Countryside Act 1981 is law that governs the protection of flora, fauna, and habitat. It provides protection of wild birds, their eggs, nests, and protection of other animals too. This act is regularly updated and changes to the species that can be legally controlled along with how you may control them are often made. Your pest controller should stay abreast of changes to ensure that you are operating in a legal way. However, ignorance of the law will not be a useful defence if illegal acts are carried out under your instruction.

Whilst the Act is too complex to detail within this publication, it is important to know how it applies to birds that may cause a nuisance to your clients. If you really want to learn more details can be found via www.legislation.gov.uk

Within the Act is something called the “General Licence” and this section defines which birds can be controlled and how you may do so. If a bird is not specified within the General Licence, then it is considered a protected species and any control of it must be granted under a special licence issued by Natural England.

In the world of property management, the birds most likely to cause problems are listed below and specific information is provided to help you stay the right side of the law including the risks associated with their presence in the property.
Pigeons (Feral)

Feral pigeons, also called city doves, city pigeons, street pigeons, or flying rats are pigeons that are derived from the domestic pigeons that have returned to the wild. The domestic pigeon was originally bred from the wild rock dove, which naturally inhabits sea-cliffs and mountains. It can be found inhabiting almost every part of the UK and, given its shared DNA with the rock dove, has happily colonised high sided buildings and is often found nesting in precarious and inaccessible locations.

Who is responsible

If we first consider the infestation of birds within the property, then it can be fairly assumed that a significant defect must exist for a bird of this size to be able to enter the building. Where building construction guarantees have been provided then it is likely that the property owner can call upon the builder to remedy the defect. In buildings where defects have occurred over a longer timescale, such as missing tiles or failed soffit/facia sections, then you would normally expect the landlord to resolve the matter. It is very rare for any act on the part of the tenant to have caused the issue.

Process of control

Feral Pigeons are to be found on the general license and culling is legal if certain criteria have been met. These criteria require that you can demonstrate their presence is causing damage to property or risk to human health or safety. Having established either or both, you are further required to demonstrate that all practical proofing measures have been undertaken to mitigate the problem. Once all the requirements have been fulfilled methods such as shooting and trapping may commence.
As an alternative to the above control methods, a range of scaring devices exist based on visual or acoustic mimicry. Devices such as artificial eagle owls and hawks can be mounted on buildings or poles to create a visual threat. Speaker systems that emit the distress call of a chosen species can also be deployed near the area of concern. However, it should be noted that such systems may not provide long term control as the pigeons will eventually realise that there is no actual threat associated with the systems. Be mindful that after a short passage of time it might be a little embarrassing to find the birds roosting on the devices!

An alternative to artificial systems is to fly live birds of prey such as Harris Hawks and Falcons in proximity to the problem area. The initial reaction to the sight of a live predator is a flight response and the area will clear of pigeons rapidly. However, the pigeons will return soon after the bird of prey has departed. It is only after many months of repeated visits that the flock may depart the area completely. However, it is far more likely to simply reduce the levels of activity as opposed to completely ridding the area of pigeons. Such a program of control will run into several thousands of pounds and will only remain effective whilst the program continues.

Where access and planning considerations allow, the most effective and commonly used solution to bird roosting problems is to affix defensive systems to the building and prevent access to the roosting areas.

The technologies available to the pest controller for bird control are many fold and include:

1. Netting systems. Used to restrict access to large areas of sheltered space.
2. Spike systems that provide protection against roosting in areas heavily blighted by pigeons.
3. Post and Wire systems that deter roosting on narrow ledges where the visitation is infrequent; beneficial where aesthetics is considered highly important and spiking is considered intrusive.
4. Electrified tracking. Comparable to systems employed to control livestock. Provides a very unobtrusive solution that is especially useful in protecting signage such as that found at shopping centres.
5. Gel based systems designed to dissuade roosting by way of optical distress or presenting an unpleasant tacky and tar like surface.
6. Visual threat systems such as artificial and live birds of prey.

To avoid duplication, a pictorial illustration of these systems is shown in the Gull section.

Each building will have its own requirements and your pest controller will advise the most appropriate solution based on their observation and planning considerations.

**Associated risks**

Pigeons can create an enormous quantity of faecal deposits within a short space of time. It is a very slippery substance when wet and may give rise to a slip hazard upon pedestrian walkways. In loft spaces or sheltered areas, where it has a chance to dry, it can become a serious health risk. Contained within the faeces are several pathogenic organisms such as bacteria, virus and fungus that may expose residents and contractors to health risks.
If you are planning to investigate an area known to harbour roosting pigeons, it is advisable to obtain the necessary personal protection equipment before doing so. At a minimum, you should consider a half face respirator, vinyl gloves and a disposable suit.

A typical scene from a pigeon infestation is shown below.

Another risk related to birds nesting within the building is Bird Mites and you should read the section in this book relating this pest.

Aside from the impact to human health, the long-term build-up of faecal deposits in a roof space can lead to structural damage. The more common issues are areas of damp in the ceiling followed by its eventual collapse into the room below.

Remedial works to clear the build-up of pigeon faeces should only be undertaken by professionals with access to the appropriate biocides and personal protection equipment.
Starlings and House Sparrows

Starlings and House Sparrows are protected under the Wildlife and Countryside Act 1981, which makes it illegal to intentionally kill, injure or take a starling, or to take, damage or destroy an active nest or its contents.

Preventing the birds from gaining access to their nests may also be viewed as illegal by the courts. It is therefore important to check for active nests before any repairs to roofs and soffits are carried out during the breeding season which ranges from April to June for Starlings and April to August for House Sparrows. Be aware that House Sparrows have been found to sometimes breed all year round in ideal situations, so an inspection is necessary for this species.

Who is responsible

The gaps required to allow access into the roof space of a building for these species in considerably less than that of a pigeon. It is often the case that holes suitable for access have been built into the property from its original construction. Given the roof areas that these birds typically access, it is highly unlikely that the resident will have contributed to or caused the problem.

Associated risks

There are no significant risks associated with these birds. The issue reported by the resident will likely relate to sleep disturbance early in the morning as the birds begin the daily task of feeding the young.

Control

During the breeding season no attempt can be made to interfere with the birds, their young, their nest or access to it. At the end of the breeding season an inspection to ensure that they have departed will need to be
undertaken and, if all is clear, the access points can be closed to deny future access.
Urban Gulls

As with all other birds in England, it is the Wildlife and Countryside Act 1981 that governs the actions that can be taken to deter Gulls from the property you manage. The two Gull species that can cause issues, and that are named in the General Licence (see introduction section) are the Herring and Lesser Black-Backed gulls.

Within the property management sector, Gulls are most likely to cause issues in the larger industrial developments where significant areas of flat or shallow roofing is to be found. Colonies tend to build gradually over several breeding seasons (March to August) and can give rise to a range of issues.

Who is responsible

Given that the Gull only require a shallow pitch or flat roof area upon which to breed, there is little if any blame to apportion. The responsibility will come down to the terms of the lease and what it defines in terms or repair and maintenance. In some instances, the issues caused by Gulls has been so severe it has created a situation in which the lessee is unable to conduct business at the premises during the breeding season.

Associated risks

- Noise - Gull noise can be significant especially during nesting season.
- Nesting - Gull nesting debris can block downpipes and guttering giving rise to significant water damage to internal and external structures.
- Aggression - Gulls can often attack people during nesting season to protect their nests and will often dive and steal food from unsuspecting victims below
• Fouling - Seagull guano is not only unsightly but poses a health risk especially near rooftop ventilation systems and AC heat exchangers.
• Vehicle or building damage - caused by acidic nature of seagull guano

Control.

The best method of control is to permanently exclude them from the area you wish to protect. The method used will be influenced by the architecture of the building, planning considerations and budget.

Examples – for both Gull & Pigeon protection.

The first of the permanent systems is netting and, once fitted, should give years of reliable service with minimal maintenance.
Bird Spikes are also a common placement on building ledges, ridges and sills and come in a variety of sizes to suit species and building profiles.

Post and Wire systems provide a discreet solution where spikes would be inappropriate owing to architectural or aesthetic considerations.
Electrified Tracking can also be used and provides a very low profile and inobtrusive solution. It is particularly useful for protecting shop front signage. The system is comparatively expensive when compared to the spike or post & wire systems but offers a dramatic aesthetic improvement.

**Other methods of control**

Beyond the installation of permanent defence systems, there are a range of alternative methods to reduce or limit Gull activity such as:

**Acoustic Systems** - Generate artificial soundscapes featuring distress calls that scatter roosting birds. These systems are often very effective for a limited time. However, in most cases, the Gulls eventually recognise that
there is no actual threat associated with the distress call and eventually fail to react to it.

**Egg Oiling** - Prevents the eggs reaching maturity and limits population growth. To carry this out a trained operative will need to visit all the nest sites on the roof area and apply a treatment to the eggs. This requires regular inspection throughout the breeding season and is dependent upon safe access to the roof area and a roof structure that is safe to walk upon. The program of control needs to be run every year to create the decline in population and to create an understanding in the Gull population that this roof is an unproductive breeding site.

**Nest Removal** - A similar process to egg oiling insomuch as it promotes a decline in population and reduces interest in the site for breeding.

**Flying Raptors** – The flying of Hawks or Falcons is often employed to lift birds from their feeding or roosting areas. The effect of this is immediate and will last for the period in which the raptor is flown. A few hours after the flying program is completed the Gulls will mostly re-settle and continue as before.

For a raptor-based control program to be effective it must be reinforced on a very regular basis throughout the breeding period. However, like all the above alternative control methods, it is not a total solution but more of a reduction program that needs to be continued year on year.

**Culling** – In the United Kingdom the bodies responsible for the General Licence vary throughout the UK. There are also specific regional variations to the general license that account for the local environment and population status. The general license is regularly updated and it is imperative that any actions taken are in accordance with the latest release of the licence in that region.
To ensure that you are operating within the scope of the relevant General Licence it is advisable to visit the following regional bodies and download the latest release.

**England**  
Natural England  

**Ireland**  
Department of Agriculture, Environment and Rural Affairs  
[www.daera-ni.gov.uk](http://www.daera-ni.gov.uk)

**Scotland**  
Scottish Natural Heritage  
[www.nature.scot](http://www.nature.scot)

**Wales**  
Natural Resources Wales  
[www.naturalresources.wales](http://www.naturalresources.wales)

Culling is always a last resort and, if undertaken, evidence to support your prior efforts with alternative methods will need to have been documented.
Real Life Stories

The Highways Agency found over 200 dead crows on the M4 near Bridgend recently, and there was concern that they may have died from Avian Flu.

A Pathologist examined the remains of all the crows, and, to everyone's relief, confirmed the problem was NOT Avian Flu.

The cause of death appeared to be from vehicular impacts. However, during analysis it was noted that varying colours of paints appeared on the bird's beaks and claws.

By analysing these paint residues, it was found that 98% of the crows had been killed by impact with lorries, while only 2% were killed by cars.

The Agency then hired an Ornithological Behaviourist to determine if there was a cause for the disproportionate percentages of truck kills versus car kills.

The Ornithological Behaviourist quickly concluded that when crows eat road kill, they always have a look-out crow to warn of danger. They further discovered that while all the lookout crows could shout "Cah", not even one could shout "Lorry".

Yes, I know that was bad....sorry (Ed)
Other Pests

The content of this guide focusses upon pests that will most likely feature in your property management role. It is not exhaustive and there are other pests that occasionally are brought to your attention such as Foxes, Badgers, Moles & Rabbits.

Just like all the pests that you will encounter, they fall under the protection of the Wildlife and Countryside Act 1989 and special attention will needs to be paid to how you control the specific pest.

In the case of highly protected species such as Badgers, most pest control companies will not have dealt with the detailed legal processes required to provide control, so be sure that Natural England have been approached and specific licences granted for the intended works.