Chartered Institute of Environmental Health

The role of pest management in protecting public health

Foreword

The Chartered Institute of Environmental Health (CIEH) is the professional body for all environmental health practitioners (EHPs) whether employed by government, local authorities, industry or working in private practice. The CIEH is the leading environmental health charity campaigning for improvements in environmental and public health.

In 2001 the CIEH set up the National Pest Advisory Panel (NPAP) to provide specialist advice and solutions on the problems caused by pests. Its members are pest management experts from within the environmental health profession, industry and academia who have been selected for their individual expertise. The work of the NPAP highlights the CIEH's continued commitment to emerging public health issues and its determination to overcome these issues effectively.

To date NPAP has undertaken a number of projects which have been designed to not only raise awareness among environmental health practitioners of the importance of pest management but to also provide them with the information they need to translate this awareness in to successful and effective pest practice.

Introduction

Environmental health practitioners today tackle an increasingly wide range of issues in protecting public health. While many of the issues associated with 19th century environmental health, such as a basic lack of sanitation have been overcome, new challenges lay ahead.

The problem and consequences associated with poor housing and pest control persist in the 21st century. Poorly constructed and maintained properties can often be infested with rats, mice, flies, fleas, bedbugs and cockroaches.

The consequences of climate change are increasingly evident, as are new problems caused by rapidly developing urban sprawl. The threat from pest infestations is only likely to accelerate unless we manage the pests which are threatening our public health and recognise the need for better monitoring, in particular at airports and ports, to prevent the spread of pest-borne diseases.

The preparations for the 2012 Olympic/ Paralympic Games are already underway in many parts of the country. NPAP is working with colleagues at the Olympic Delivery Authority (ODA) and London Organising Committee (LOCG) to advise the London Olympic/Paralympic organising body on any public health issues associated with the 2012 games.

The role of local authorities and EHPs is fundamental in monitoring emerging incidents at a national and local levels and ensuring that efficient control measures to protect public health are in place to tackle these issues.

However, if the relevant authorities are to fulfil their role properly, they must have the political will to provide the necessary resources to carry out the work, as well as the commitment to enforce the existing regulations. Without these, the actions necessary to protect public health will not happen.

Public health significance of urban pests

As a leading player in protecting and improving public health the CIEH has commissioned a major new book: *Public health significance of urban pests*. This book, due to be published in late 2007, outlines the problems caused by urban pests and draws a number of important conclusions.

The book provides sound evidence that urban areas are being exposed increasingly to pests and through them to pest-related diseases.

Evidence given during the preparation of the book has highlighted that:

- Public health authorities would benefit from improving their capacity to identify pest-related risks
- A well-trained public health force is needed to protect the public from the threats to public health associated with urban pests
- There is a need for planners to take into account the risks of pest infestation and disease transmission to new developments and that buildings are pest-proofed so that they do not create conditions conducive to pest infestations
- Information should be developed for the public to raise awareness of how to protect themselves through simple sanitary and behavioural measures

Food safety and public health

Everyone has the right to wholesome food and to live in pest free conditions. Yet food-borne illness spread by cockroaches and flies can pose a major problem for food premises. Research has shown that living in pest infested premises can be instrumental in causing a number of adverse medical conditions.

Insects and rodents carry a wide variety of disease causing organisms. They move from filth to food indiscriminately and are therefore implicated in the transmission of pathogens such as those causing food poisoning.

The LARES survey into health and housing, carried out by the World Health Organisation (WHO) in eight European cities covering 3,800 households and 8,400 inhabitants, found that residents are:

- Over three times more likely to suffer from migraine or frequent headaches when their apartment blocks are infested with cockroaches
- Nearly twice as likely to suffer from asthma when their dwellings are infested with flies
- Over twice as likely to suffer from the trends of depression if premises are infested with mice
- Over eight times more likely to suffer from headaches and migraines if the dwellings are infested with mice and are flats

Allergies and asthma

Evidence presented to the WHO during the preparation of the new report *Public health significance of urban pests* highlighted the problems of allergies and asthma presented by urban pests.

In western countries, asthma has emerged as one of the most common chronic diseases of childhood. In the USA and other countries it is the leading cause of hospital visits for children. The WHO has estimated that 300 million people worldwide have asthma.

It is therefore a major disease of the urban environment and a substantial burden from the standpoint of both the quality of life for the many suffering from the disease and the economics of health care.

The evidence that relates asthma and domestic exposure to cockroaches, rodents and dust mites is clear.

These pests are common in urban environments and play a significant role in urban asthma. Removing them and other allergens is a logical step in preventing disease and reducing the symptoms of disease.

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Emerging diseases

An important role of all environmental health departments is to monitor the effects that pests have on the local population. Recent experience from emerging diseases such as West Nile Virus, SARS and Avian Influenza has shown how easily and quickly these diseases can be transported from country to country. Another concern centres on the desire for UK holiday-makers to visit new places and often areas where life threatening diseases are epidemic.

Over 750 cases of malaria where reported in the UK in 2005 by the Health Protection Agency and provisional figures show over 600 cases in 2006.

While the disease would have been contracted outside of the UK, provisional figures for April to June 2007 show 341 cases. Of these cases 69 percent was of the most serious and potentially fatal form of malaria.

Dengue and chikungunya fevers are both serious diseases spread by mosquitoes. Although the instances of the diseases are low in the UK their presence requires monitoring. An outbreak of chikungunya, a debilitating illness, has been reported in Italy.

Reports of Lyme borreliosis confirmed by the HPA Lyme Borreliosis Unit have continued to show increases (a 55 percent increase in the second quarter of 2007 compared to the same period 2006). The majority of infections continue to be acquired in the UK, particularly in southern England, the Yorkshire moors and the Lake District.

Indirect problems can also result from the remedial measures undertaken following an outbreak of disease. For example, rat populations can be driven from affected areas to neighbouring housing estates after official intervention has taken place.


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Birds

Nobody would want to live in a world without birds and in the UK we have a wonderful range of birdlife. Equally nobody would want to live in an environment where pest birds regularly spread disease, make pavements slippery and unsafe and damage buildings through their droppings.

Cases of human disease acquired directly from urban birds or from their habitats have been reported for ornithosis, histoplasmosis, salmonellosis, campylobacterosis, mycobacteriosis, cryptococcosis and toxoplasmosis.

Noise from flocks of birds, especially gulls, can become a major nuisance in urban areas, affecting the local residents' quality of life and health.

Urban pest species, especially pigeons, produce droppings that harm historical monuments, buildings, statues, fountains and cars. They can also create unsafe conditions for pedestrians by making pavements and steps slippery.

Urban sprawl

As the distinction between town and country becomes more indistinct, new pest problems will emerge which planners need to recognise.

In particular, rat infestations are becoming more prevalent in affluent suburban areas and non-commensal animals, such as foxes and deer, will bring problems from ticks to suburban housing estates near wooded areas.

Research carried out by local authorities in the west of England shows that urban sprawl is creating conditions in which rat populations will increase in suburban areas of towns and cities.

The prime reasons for this increase are changes in residents' behaviour rather than their housing conditions. According to the Western Pest Liaison Group, the feeding of birds in gardens; the provision of rodent friendly harbourages by setting up compost bins; and the keeping of domestic birds and animals account for 59 percent of infestations.

The development of housing projects on the outskirts of towns and cities will also increase the risk of Lyme borreliosis as wildlife is encouraged to enter gardens and residents increasingly take advantage of visiting local areas of natural beauty.

The change in the behaviour of local residents will cause significant problems in future for pest managers.

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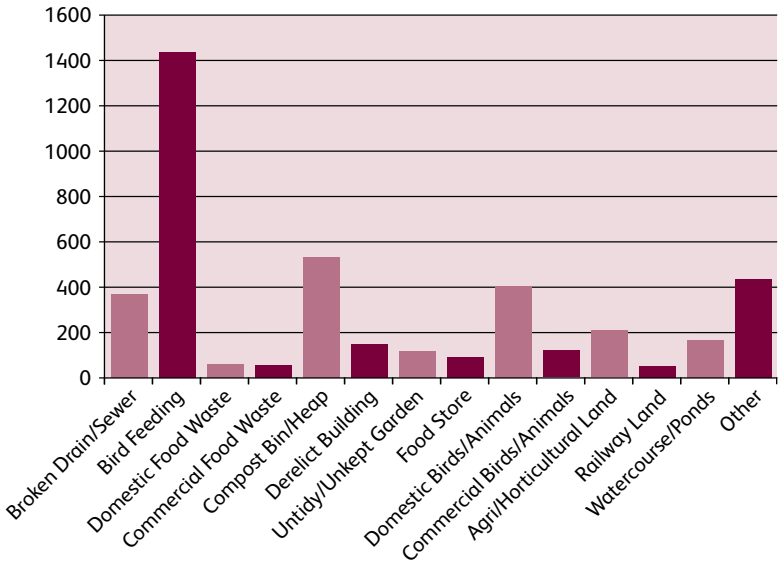
Western Pest Liaison Group Causes of Rats Survey 2005



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