

## Control of Feral Monk Parakeets in England

### 1. Summary of key points

- Invasive non-native species (i.e. species introduced outside of their native range that spread and cause detrimental impacts) constitute one of the leading threats to natural ecosystems and biodiversity, and also impose an economic cost on a range of human enterprises, including agriculture, forestry, fisheries and infrastructure as well as posing a threat to human health.
- History has repeatedly demonstrated that the potential threats associated with invasive non-native species have often not been fully evident at the early stages of a species becoming established outside of its natural range. By the time the impacts are properly understood, the populations have usually become so large and well established that removal is often technically unachievable or financially unaffordable.
- This is illustrated by the few successful cases of control. For example the removal of large, well-established populations of muskrats in the 1930s and coypus in the 1980s cost in excess of £1.5 million and £2.5 million respectively. More recently, eradication of mink from the Uists, in the Western Isles of Scotland cost £1.6 million and the removal of ruddy duck £3.3 million. In contrast, the far more rapid response to the removal of a very small, newly-established population of porcupine during the 1970s, following the escape of a pair from a wildlife park in 1969, cost an estimated £80,000. This is a global issue and not confined to the UK, for example Italy has spent several million Euros removing 220,000 coypus but still the species remains a damaging problem. Similarly, whilst a century or so of establishment has demonstrated the devastating effect American grey squirrel can have on native red squirrels in Britain, eradication of a small establishing population of grey squirrels in Italy were thwarted by animal rights campaigners resulting in long term concern now for the future of the native European red squirrel on the continent.
- Under the global Convention on Biological Diversity, invasive alien species is recognised as a key threat to biodiversity. The Convention is concerned with the conservation of all species **within their natural range** but recognises that some species when artificially introduced into other ecosystems without their co-evolved natural checks and balances, can in time become dominant, damaging and largely an irreversible problem. The Convention therefore advocates prevention of introductions of invasive/potentially invasive alien species in the first place and where that fails, rapid action to stop a problem from establishing, preferably by eradicating small populations in the early stages.
- In an independent public survey carried out for Defra, the Scottish Government and Welsh Government, there was broad support for lethal control of invasive non-native species. This was especially true from a large majority where they pose a threat to human health. A clear majority also gave at least qualified support to killing invasive non-native species if they threaten British species or where they threaten to do significant economic damage.

- The Invasive Non-native Species Framework Strategy for Great Britain sets out the broad policy framework agreed between all three administrations and implements the international commitments on this issue. The monk parakeet is one of several species against which action is being taken, others include plants, fish, crustaceans and amphibians.
- Whilst the current population of the non-native monk parakeets in Borehamwood and elsewhere in London is currently small and has given rise to some relatively minor concerns in these areas, the real impacts that we are concerned about and real costs will be faced outside their immediate confines. By allowing a population to establish in discrete urban settings we are effectively permitting their expansion, unchecked over larger areas including into more rural locations.
- The decision to remove monk parakeets from the wild was taken after considering all the evidence on the threat they pose to economic interests (primarily utilities and agriculture both in their native range and areas where they have been introduced) and taking a precautionary approach to any potential threat to biodiversity. The evidence base for the decision included advice from key agencies and principally, a peer-reviewed Risk Assessment for the species. The Risk Assessment made clear that this species is capable of causing severe local damage to crops and of causing damage to artificial structures as a result of colonial nest building.
- The objective of the exercise is to attempt to remove the feral breeding population of monk parakeets from the wild and the guiding principle is that the most humane method appropriate to each situation should be used. This will involve a range of techniques including trapping, nest removal and shooting. To date, for the monk parakeet removal programme overall, 18 out of 23 adult birds taken from the wild have been transferred into holding facilities before they are re-homed.
- The exercise has been carefully planned and was preceded by trials to identify the most effective, practical and humane techniques to deploy. Whilst there is nothing novel in shooting birds in the UK, the approach to the parakeets was species specific and included meticulous field trials of firearms using different weapon and ammunition combinations to ensure wounding rates would be minimised as well as different types of trap. The birds are being removed by highly experienced wildlife management operatives and an independent veterinarian is being consulted throughout, including to determine whether birds are suitable for being re-homed. All despatch will be by accepted humane methods appropriate to the species and approved by an independent veterinary surgeon and Fera's Ethical Review Process. All members of staff involved in despatch are fully trained and assessed as competent.
- Much greater potential long term costs of control and potential damage will be incurred if the birds are allowed to establish in large numbers. If successful, the current removal programme will also result in far fewer birds being killed. If in the future it becomes a widespread species, regular culling and nest removal, with the associated costs, may become a permanent management burden for utility companies and agricultural interests. The best way to ensure that future control costs for this species are avoided or kept as low as possible for as long as possible, and that fewer birds have to be killed

or re-homed is for property and land owners to co-operate with their removal from the wild while the population is at its current low level.

## **2. Actions to Date**

Feral monk parakeets are known to occupy three locations in London: Borehamwood, Isle of Dogs and Southall.

During 2008-10 feasibility trials were undertaken that investigated options for the potential management of feral monk parakeets in England. These trials focused on elements of the Borehamwood population and on the Southall population.

Following these trials and ministerial approval an attempted removal of the entire feral population was initiated in February 2011, with control activities directed at all three local populations.

### **2.1 Feasibility trials (2008-10)**

Field trials of control techniques involved the evaluation of trapping (cage traps and whoosh nets), nest removal and shooting.

**Trapping** attempted in residential gardens was ineffective. No monk parakeets were observed to approach a ladder/crow trap when it was provisioned with either food baits, playback of recorded monk parakeet vocalisations, live decoys or nest material. Similarly, no parakeets approached a baited (food or nest material) whoosh net.

**Nest removal** was successfully achieved using two different methods ('cherry-picker' and free-climbing). Birds either built new nests in the same tree or relocated to existing vacated nests in an adjacent tree.

**Shooting** proved relatively successful with 15 birds killed using an air rifle in Borehamwood and two birds killed using a shotgun and bespoke cartridges in Southall, with no apparent dispersal of remaining birds.

### **2.2 Removal programme (2011)**

A programme to attempt the removal of all feral monk parakeets was initiated in February 2011. Prior to the commencement of the removal programme the total number of feral monk parakeets was estimated to be around 78-87 birds.

As of July 2011, a total of 23 adult monk parakeets have been removed using cage traps and whoosh nets. Eighteen of these birds were transferred to temporary holding flight pens whilst appropriate premises for re-homing were identified and the birds' suitability for re-homing assessed. Seventeen of these birds (one bird died in captivity) are scheduled to be transferred to new facilities by the end of October. Of the five birds not transferred to captivity, four were humanely despatched and one died during capture (all in Borehamwood).

In addition to the removal of 23 adult birds, a total of 19 nests, 35 eggs and 18 nestlings have been removed across all three sites.

### **3. Proposed next steps**

Further control activities will be undertaken at each of the three locations using non-lethal and lethal techniques as appropriate. The facility to use shooting however remains an option.

## **Annex A**

### **Background**

#### ***Population***

The population of monk parakeets in Borehamwood (and other locations in London) is not in decline. It has shown a sustained overall growth over the years. Unlike other smaller colonies which have died out the Borehamwood population has proved very resilient. Information suggests that the source of the present Borehamwood monk parakeet population was six birds in 1989. The population is reported to have increased to 15 birds by 1995, 24 birds by 1999, a minimum of 45 birds by 2003. Subsequent growth in the population to numbers present prior to the removal programme (initiated in February 2011) was inevitably constrained by the removal of 15 adult birds during feasibility trials in 2008. In other countries where monk parakeets have been introduced, such as Spain and the USA, their population has grown exponentially once they have become established. In Barcelona, for example, following the first observation of feral breeding birds in 1974, the population reached 2,700 birds in 2010. During this 35 year period, population growth was relatively slow over the first 20 years (80 breeding pairs in 1995) but numbers dramatically increased over the latter 15 years. Subsequently, the city council made the decision that the population needed to be controlled (scheduled to commence in December 2011).

A 'lag' period prior to significant population growth is typical during the establishment of non-native species. Numbers can remain at low levels or increase slowly (subject to short term fluctuations) for many years before reaching a point at which the population has the 'critical mass' needed to significantly increase in size and the area occupied. In the UK, the ring-necked Parakeet is an example of this – a family group of ring-necked parakeets was recorded in 1969 in Kent. It was not until 1983 that the British Ornithologists Union accepted the ring-necked parakeet as an established exotic species, i.e. having an estimated population of 500. In 1999, numbers were estimated at around 6,000. The most recent estimate in 2010 by Imperial College put the population at around 30,000. Ring-necked parakeets are now in sufficient numbers to make any prospects of significant control extremely difficult and very expensive.

#### ***Impacts***

The action being taken to remove monk parakeets from the wild is not based on impacts they have already had in the UK at their current low population levels. It is being taken on a precautionary basis, using what we know about the impact the species has had in other countries it has been introduced to as well as in their native range, to prevent the species causing problems in the UK in the future. It is internationally recognised that one of the key sources of evidence about the potential invasive impacts of introduced non-native species is to look at their effect in other areas where they have been introduced. This recognises that by the time impacts are demonstrable in the subject area, it is usually too late to then solve the problem.

The evidence base for the decision included advice from key agencies and principally, a peer-reviewed Risk Assessment for the species which concluded that based on current knowledge, the species posed a medium overall risk. It stated that there is little doubt they are capable of causing severe local damage to crops and of causing damage to artificial

structures as a result of colonial nest building. It also stated the potential for disease transmission to wild native birds, poultry and theoretically to humans. Monk parakeets have shown their propensity for crop damage in the UK in the past. A population of monk parakeets were kept at liberty in Whipsnade Park, Bedfordshire, for some time before 1958 but had to be recaptured due to them causing "...so much damage in orchards for some distance around...". Although the numbers of birds were not recorded in the reference, another source recorded thirty-one monk parakeets being released at Whipsnade in 1936.

Some key known impacts are summarised below.

### **Agriculture**

- Implicated in causing over one billion dollars per annum in damage in native range.
- Capable of causing severe local damage in their introduced range: Dade County Florida, more than 30 fold increase in damage where monk parakeets present and estimated revenue loss of \$477 per agricultural acre attributed to monk parakeet.

In Spain, monk parakeets have damaged tomatoes, fruit trees and maize. During 2001, damage to tomato crops in four municipalities was estimated at 7,800 euros (2001 prices).

### **Disease transmission**

- Potential for disease transfer both to livestock (e.g. poultry flocks) and humans. In Barcelona, a number of pathogens have been detected in the faeces of feral monk parakeets - *Chlamydoiphila*, *Psittacosis*, *Salmonella*, *Campylobacter*, *E.coli* and a number of viruses.

### **Utilities**

- Frequently nest on electrical structures which can cause frequent power outages. This behaviour is observed in every state in the USA where the birds are breeding. Costs for repair estimated to be \$566,000 annually in South Florida or \$551 per incident. Total costs associated with power failures attributed to the Monk Parakeet in 2001 were \$585,000, or \$570 per incident. **NB This impact was not anticipated when the birds first started to breed.**
- As birds are very effective at rebuilding their nests, power companies must remove the nest and capture the bird. The cost to remove both a nest and the birds inhabiting it is estimated at \$1,500 per nest.
- In the USA the cost of nest removal alone to reduce the risk of power outages was estimated to be \$1.3 million to \$4.7 million over a five year period.

### **Biodiversity (impacts as yet unknown)**

Although there is unlikely to be competition with native birds for nesting sites, competition for food may be an issue since Monk Parakeets are known to dominate feeding areas and act aggressively to competitors. Researchers at Imperial College, London, have recently discovered such an impact on feeding behaviour by another, far more abundant, feral

parakeet, the ring-necked parakeet, whose presence at garden feeders suppresses feeding by native garden birds.

## **Annex B**

### **Policy context**

A comprehensive GB-wide policy framework on invasive non-native species has been developed following extensive consultation with stakeholders. The GB strategy was launched in May 2008.

The strategy develops the concept set out in the second guiding principle of the “Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species that Threaten Ecosystems, Habitats or Species” annexed to Decision VI/23 of the Convention on Biological Diversity.

In line with that principle, it is internationally agreed that the most effective approach towards tackling threats posed by invasive non-native species is first to take preventative measures to reduce the risk of introduction, secondly to detect threats early and eradicate the species rapidly to prevent establishment and thirdly, to undertake appropriate long-term management and mitigation of more established invasive species.

Parties to the Biodiversity Convention should also adopt a precautionary approach towards invasive non-native species and threats they pose. It should be noted that lack of full scientific certainty about the precise nature of the threat posed by a species should not be a reason to delay effective action, especially because by the time harmful effects are clearly evident, the species may be too well established for effective and affordable eradication or control.

The policy framework does not condemn all non-native species. We are well aware that many introduced species are beneficial or benign. The policy is concerned with the minority that have the potential to cause harm to our wildlife or environmental/economic damage, in other words those that would be considered “invasive”. History has repeatedly demonstrated that the potential threats associated with invasive non-native species have often not been fully evident at the early stages of a species becoming established. That is because in small numbers, any harm done is virtually imperceptible or there simply aren't enough of the animals yet to begin to have significant effects. By the time the impacts are properly understood, which can be decades later, the populations have usually become so large and well established that removal is often technically unachievable or financially unaffordable. The issue then becomes a permanent and on-going management cost to landowners, utilities and any other affected interests to regularly control many more animals.

### **Risk assessment process**

The Convention on Biological Diversity (CBD) emphasises the need for a precautionary approach towards non-native species where there is often a lack of firm scientific evidence. It also strongly promotes the use of good quality risk assessment to help underpin this approach. The GB risk analysis mechanism has been developed to help facilitate such an approach in Great Britain. It complies with the CBD and reflects standards used by other schemes such as the Intergovernmental Panel on Climate Change, European Plant Protection Organisation and European Food Safety Authority to ensure good practice.

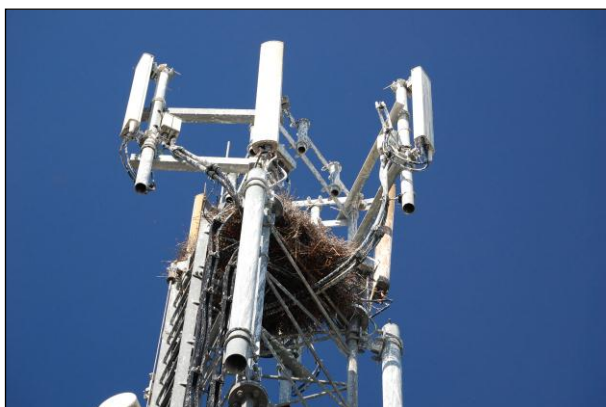
Risk assessments, along with other information, are used to help support decision making in Great Britain. They do not in themselves determine government policy. The Non-native Species Secretariat (NNSS) manages the risk analysis process on behalf of the GB Programme Board for Non-native Species. Risk assessments are carried out by species-relevant independent experts from a range of organisations. As part of the risk analysis process risk assessments are:

- Completed using a consistent risk assessment template to ensure that the full range of issues recognised in international standards are addressed.
- Drafted by an independent expert on the species and peer reviewed by a different expert.
- Approved by an independent risk analysis panel (known as the Non-native Species Risk Analysis Panel or NNRAP).
- Approved for publication by the GB Programme Board for Non-native Species.
- Placed on the GB Non-native Species Secretariat (NNSS) website for a three month period of public comment.
- Finalised by the risk assessor to the satisfaction of the NNRAP.

## Annex C



**Monk parakeet nests on electric utility poles in the USA.**



**Monk parakeet nest on mobile phone mast in England.**