

# ASIAN HORNET (*Vespa velutina*) RESPONSE PLAN

## Background and purpose

1. This plan sets out the government's response to the potential arrival and spread of the Asian hornet (*Vespa velutina*) in England and Wales. This is a non-native species and a known predator of honey bees. Although not yet been confirmed in the UK, this pest has spread rapidly within France following its accidental introduction in 2004 and was confirmed in Spain in 2010 and Belgium in 2011. Where present, large nests housing several thousand hornets can be seen from May onwards in trees and man-made structures in rural and urban areas.
2. The main potential impact from this species are honey bees losses from predation. However, if disturbed, this species may also pose a risk to people from its sting which in some cases may lead to potentially serious shock symptoms as sometimes observed with other wasps and bees.
3. The plan covers how we would seek to prevent establishment of this pest and, in the event that it becomes widespread, how the response would change to longer term management. It identifies the roles and responsibilities of government, beekeepers and other stakeholders in achieving the plan's aims and objectives.
4. The plan was developed by the Food and Environment Research Agency (Fera), given its responsibilities for honey bee health, in consultation with Defra and its Non-Native Species Secretariat (NNS). It takes into account advice on this pest from the GB's Non-Native Species Programme Board (NNSPB).

## Aims and objectives

5. The aims and objectives of the plan are to protect as far as possible the honey bee population from the Asian hornet by:
  - i. early detection;
  - ii. intercepting and preventing its establishment;
  - iii. nest destruction to eradicate localised outbreaks (if within a limited geographical area or areas);
  - iv. establishing long term management of the pest where eradication is no longer possible due to the number and extent of outbreaks; and,
  - v. providing advice to the beekeeping sector including guidance on control methods at the apiary and identification information.

## Legislation

6. There are no legal requirements to control the Asian Hornet either through domestic or EU legislation. For example, it is not designated as a statutory pest of honey bees and there is no requirement to notify government if it is detected or suspected. Consequently, the response plan relies on actions undertaken on a voluntary rather than a statutory basis. For example, destruction of nests would be through voluntary cooperation with landowners rather than on a statutory basis.

## Biology and risk assessment

7. The NNSPB commissioned Fera's National Bee Unit (NBU) to undertake a Non-Native Organism Risk Assessment for the Asian hornet. This peer reviewed assessment is available at <https://secure.fera.defra.gov.uk/nonnativespecies/index.cfm?sectionid=51>.
8. A summary of the main points of the risk assessment including biology and potential pathways of introduction is at Annex 1.
9. The report concluded that Asian hornet is a medium impact and medium risk overall. The Risk assessment summary is as follows:

Entry	Very likely
Establishment	Very likely
Spread	Rapid
Impacts	Moderate
Conclusion	Medium

10. Based on the NBU's risk analysis, the NNSPB concluded that it was unlikely that methods could be deployed to reduce the risk of the Asian hornet's entry to the UK and recommended instead that measures be put in place to initially intercept and prevent establishment of the hornet moving to longer term management if this is no longer possible.

## Activation and implementation of response plan

### Detection

11. To improve the likelihood of early detection government will continue to raise public, beekeeper and other stakeholder awareness about this pest through a species alert ID/Identification sheet issued in 2011 by the NNSS which requested the public to report sightings to them via [alert\\_nonnative@ceh.ac.uk](mailto:alert_nonnative@ceh.ac.uk) providing a photograph and details of location. The public are also invited to send a suspect sample to the NBU laboratory for examination. If the evidence supplied by the public or a beekeeper suggests that the pest is likely to be an Asian hornet, a NBU Bee Inspector will investigate the sighting. An ID sheet and Alert poster have also been prepared have been/will be distributed to all relevant stakeholders.

12. The NBU will liaise with beekeepers managing sentinel apiaries in high risk areas on the design and use of traps. Sentinel apiaries are managed by local beekeepers who, due to their location, voluntarily screen their colonies for statutory exotic pests and submit samples to Fera for testing.
13. BWARS (the national society dedicated to studying and recording bees, wasps and ants in Britain and Ireland) and Hymettus Ltd (a source of advice on the conservation of bees, wasps and ants in Great Britain and Ireland) have produced and distributed an information leaflet about the Asian hornet which is also available on the NNSS species alert pages.  
<https://secure.fera.defra.gov.uk/nonnativespecies/alerts/index.cfm>

#### Interception to prevent establishment

14. If the Bee Inspector's investigation of a suspect sighting confirms the presence of the Asian Hornet in England and Wales, the NBU will inform Fera's Policy Programme who will notify Defra's Non-native Species Policy team, Ministers, Fera directors, press offices and stakeholders as appropriate. The response plan would be activated by the NBU with the aim of interception to prevent establishment. The following steps will be taken:
  - i. the Bee Inspector will attempt to establish the location of the hornet's nest. If the Inspector is not able to access the land on which the nest is situated, he/she will refer the matter to the NBU office for advice;
  - ii. the NBU will commission the destruction of the nest by pest controllers or Fera's Wildlife Control Officers (subject to availability and costs);
  - iii. the NBU will undertake any other appropriate measures, such as advice to beekeepers about traps and other measures to protect their apiaries; and
  - iv. the NBU will provide advice and encourage the use of spring trapping targeted at mated queen hornets as they emerge from hibernation, to limit numbers of new nests established.
15. These steps will be repeated as often as necessary for further confirmed sightings and will continue until, based on the NNSPB's advice, preventing establishment is no longer assessed to be effective due to the number and geographical spread of the outbreaks.
16. The criteria which will guide the NNSPB's advice on whether to stop the policy of preventing establishment are as follows:
  - i. number of nests detected;
  - ii. trend in number of nests detected;
  - iii. geographical distribution of nests;
  - iv. any increase in range; and
  - v. time taken to detect nests.

### Longer term management

17. In the event of a decision by Defra/Ministers to change the response from interception and preventing establishment to longer term management, Government's role will be to advise and provide information to beekeepers, land owners and other stakeholders on how to manage and control this pest.
18. Beekeepers will be advised to introduce traps (including spring trapping) into their apiaries and restrict access points to hives. The destruction of any nests will be the responsibility of the land/property owner or other responsible body. As the destruction of Asian hornet nests is a potentially dangerous activity due to their size and location (often some distance from the ground), it should only be undertaken by a trained professional. Chemical destruction is considered to be the preferred method as other options such as fire or rifle shooting are potentially hazardous to the operator and the environment and are also less effective and will cause surviving hornets to move to a new site requiring a further eradication attempt.

## **Roles and responsibilities**

### Fera Policy Programme (Bee Health)

19. Fera's Policy Programme will:
  - i. develop the response policy in consultation with Defra's NNSS and the Welsh Government (WG), seeking advice from the Non-native Species Policy team, NNSPB and Ministers as necessary;
  - ii. liaise with the NBU on implementing the response measures;
  - iii. set up and chair outbreak coordination meetings as necessary with the NNSS, WG, NBU, Non-native Species Policy team and others as appropriate;
  - iv. liaise with key stakeholders in the apiculture and any other affected sectors and keep them informed of policy decisions; and
  - v. keep the Non-native Species Policy team, Ministers, Fera's Directors, the Devolved Administrations in Scotland and Wales and Defra Press Office up to date on policy decisions to manage the outbreak(s) and providing briefing as appropriate.

### GB Non Native Species Secretariat

20. The NNSS will:
  - i. raise awareness about the pest amongst local authority pest controllers via the National Pest Advisory Panel and their communication channels, and with private sector pest controllers;
  - ii. keep the NNSPB informed about the pest and its spread and seek its advice on changing the response from interception to prevent establishment to longer management; and

- iii. work with the NBU to coordinate the response to intercept and prevent establishment once the pest is confirmed to be present.

## NBU

### 21. The NBU will:

- i. review the network of sentinel apiaries to incorporate Asian hornet monitoring;
- ii. produce guidance on:
  - o Design and use of Asian hornet traps for beekeepers
  - o Monitoring sentinel apiaries for beekeepers and NBU Bee Inspectors
  - o Nest detection for NBU Bee Inspectors
  - o Chemical control of Asian hornet nests for pest controllers
- iii. work with the NNSS to co-ordinate the response arrangements in England and Wales and attempt to establish whether the outbreak is isolated or widespread;
- iv. commission the destruction of the nest by pest controllers or Fera's Wildlife Control Officers (subject to availability and costs);
- v. undertake any other appropriate measures, such as advice to beekeepers about traps and other measures to protect their apiaries;
- vi. inform beekeepers located in the area where Asian hornet has been confirmed; and,
- vii. record details of outbreaks and provide details on the NBU's BeeBase website ([www.nationalbeeunit.com](http://www.nationalbeeunit.com))

## Beekeepers

### 22. Beekeepers are encouraged to:

- I. work in partnership and closely with the NBU, Fera and WG;
- II. register their apiaries on BeeBase;
- III. make available all facilities and to provide NBU Bee Inspectors, on request, with accurate information relating to their own bees and bee colonies;
- IV. allow NBU Bee Inspectors access to their bee colonies;
- V. (beekeepers managing sentinel apiaries) follow NBU advice on the use of traps and monitoring for the Asian hornet;
- VI. check their hives for the presence of Asian hornet and inform the NBU if this pest is found;
- VII. follow NBU advice on the introduction of traps (including spring trapping) and restriction of access points; and
- VIII. (longer term management) arrange for the destruction of Asian hornet nests by a suitably qualified person.

## Communications and information management

23. Fera's Policy Programme/NBU will keep all interested parties informed of developments of the outbreak as they emerge. All beekeepers registered on the NBU's BeeBase website will be alerted of the location of the Asian hornet's and advised what action to take. The precise nature of any communication will depend on the circumstances at the time. They will also have direct and regular contact with regional and local experienced beekeepers from beekeeping associations, who can then rapidly disseminate advice and information to local beekeepers.
24. Fera's Policy Programme will liaise with the Fera Media Officer on the issue of any News Releases through the Defra Press Office and in the case of an outbreak in Wales, the WG Press Office who will take all respective national media enquiries and organise press briefings if considered necessary.
25. The NBU's BeeBase website will be a key source of information in the event of an outbreak of Asian hornet. It will be used to disseminate information, and be updated when there are significant developments to report. The website information will include:
- The location of the outbreak area(s)
  - Advisory and technical information on the Asian hornet and detection and control methods.
  - General advice for interested parties, e.g. press.
  - Links to relevant websites for further technical information.
26. The communication activities, including awareness raising are set out at Annex 3.

## Biology and risk assessment

### Biology

The Asian hornet is a wasp native to parts of eastern Asia and is an aggressive predator of honey bees and other beneficial insects. Large nests housing several thousand hornets can be seen from May onwards in trees and man-made structures in rural and urban areas. Worker hornets attend to the needs of the growing colony and predate a variety of insects to obtain the protein rich diet required by the developing hornets. As with other social wasps, the colonies last one season and only the fertilised queens hibernate. These queens overwinter singly or in groups in various natural and man-made harbourages such as under tree bark, in soil or in ceramic plant pots. A single fertilised queen is capable of founding an entire colony.

### Non-native Species Risk assessment

The NBU conducted a Non-native Species risk assessment, which identified several pathways for the introduction of the Asian hornet into England. The main pathways of importance are:

- **Natural spread of pest.** In recent years at least one social wasp (e.g. the Median wasp) has entered the UK from mainland EU and become established, possibly after crossing the Channel in a single flight. It is theoretically possible for the Asian hornet to do the same. Research into the flight capacity of Asian hornet queens is ongoing which is particularly important as hornets are now present in at least one coastal region of Northern France.

A number of commodities which are imported into the UK also provide suitable harbourages for hibernating inseminated Asian hornet queens -

- **wood, wood products and bark**
- **man-made goods (e.g. ceramic pottery associated with garden trade)**
- **soil associated with plant trade**
- **freight containers and transport vehicles**

Fruit imports (e.g. grapes) could also transport adult hornets using fruit as food source.

Given the wide range of commodities and pathways involved, it is unlikely that it will be possible to intercept all potential incursions of the Asian hornet into the UK. Areas where winters are milder (in particular Southern English counties), open areas near water, near ports and airports are the most likely locations for harbouring overwintering queens.

Current researchers predict that many countries in Europe including the UK are climatically suitable for establishment of the Asian hornet. Spread within France and into Spain has been very rapid. Asian hornets have been present in Brittany since 2008 – this region immediately abuts Basse Normandie, the coast of which is comparatively close to southern England.

## Identification

- Asian hornet queens are up to 30 mm in length; workers up to 25 mm (slightly smaller than the native European hornet *Vespa crabro*)
- The only hornet or wasp that has an entirely dark brown or black velvety body, bordered with a fine yellow band
- Only one band on the abdomen: 4th abdominal segment almost entirely yellow/orange
- Legs brown with yellow ends
- Head black with an orange-yellow face
- Asian hornet is a day flying species which, unlike the European hornet, ceases activity at dusk

Further information, including an identification sheet are available on the NBU's BeeBase website and the NNS website.

<b>Communication activities</b>
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**Before arrival**

<b>Action</b>	<b>Responsibility</b>
Develop key contacts list	NNSS and Fera Policy Programme NBU (for beekeepers)
Develop FAQ's	NNSS and NBU
Develop guidance notes on detection and control	NNSS and NBU
Develop Press lines	Fera Policy Programme with Fera Media Officer
Alert key contacts, including presentations to pest control groups, etc.	Fera Policy Programme (Beekeeping associations, stakeholder groups) NBU (beekeepers) NNSS (others)
Distribute posters/leaflets	NNSS
Alert sentinel apiary beekeepers with specific trapping guidance	NBU
Draft text for pest controllers	NNSS/NBU

**Suspected arrival**

Increase communications in the region as follows:	
Re-issue alerts	NNSS/NBU
Trapping advice to beekeepers	NBU
Advice to pest controllers	NNSS
Advice on locating nests to pest controllers and Bee Inspectors	NBU

**Confirmed sighting**

Agree and issue Press Release	Fera Policy Programme with Fera Media Officer and Defra Press Office
Re-issue alerts as above	NNSS/NBU

**Moving to longer term management**

Agree and issue Press Release	Fera Policy Programme with Fera Media Officer and Defra Press Office
Provide advice to beekeepers, other stakeholders	NNSS and NBU as appropriate

<b>Key Contacts</b>	
<b>National Bee Unit (NBU)</b> Food and Environment Research Agency Sand Hutton York YO41 1LZ	Tel: 01904 462510 Fax: 01904 462240 General email: <a href="mailto:nbu@fera.gov.uk">nbu@fera.gov.uk</a> Web: <a href="http://www.nationalbeeunit.com">www.nationalbeeunit.com</a>
<b>Bee Health Policy Programme</b> Food and Environment Research Agency Sand Hutton York YO41 1LZ	Tel: 01904 465636 Email: <a href="mailto:beehealthinfo@fera.gsi.gov.uk">beehealthinfo@fera.gsi.gov.uk</a> Web: <a href="http://www.fera.defra.gov.uk">www.fera.defra.gov.uk</a>
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