



Department  
for Environment  
Food & Rural Affairs

# Pest Specific Contingency Plan

## Asian Hornet (*Vespa velutina nigrithorax*)

September 2017



Llywodraeth Cymru  
Welsh Government



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# Introduction

1. This plan sets out the role of the Department for Environment, Food and Rural Affairs (Defra) and the Welsh Government as Lead Government Departments (LGD) and the actions that will be taken in response to a suspected or confirmed outbreak of the yellow-legged hornet or Asian hornet within England or Wales. For ease, the pest will be referred to as the Asian hornet in this document.
2. The plan provides the details of the organisations that will be involved in the response, alongside the governance, roles and responsibilities. It also describes how these teams and organisations will work together, and the actions that will be taken as part of the phased approach to any response. It is for the use of staff from Defra, the Welsh Government, the Animal and Plant Health Agency (APHA) and Natural Resources Wales (NRW) in the event of an outbreak.
3. Serious or significant pests require strategic level plans developed at a national level describing the overall aim and high level objectives to be achieved and the response strategy to either eradicate or contain an outbreak to minimise the impact on this important sector.
4. The purpose of a Pest Specific Contingency Plan is to ensure a rapid and effective response to an outbreak of the pest described.
5. This plan fits into the Government's wider role on preparing for emergencies. Further information is available on the gov.uk website <https://www.gov.uk/guidance/preparation-and-planning-for-emergencies-responsibilities-of-responder-agencies-and-others>. Our plan follows the principles laid down for the government response to emergency situations and joins up with Defra's own overarching emergency response procedures.
6. Contingency planning and outbreak management starts with the anticipation and assessment of potential threats, includes preparation and response, and finishes with withdrawal of specific response procedures.

**Prepare: Anticipate**

- Collating and appraising sources of information and intelligence about the pest.

**Prepare: Assess**

- Identifying concerns and the preparation of plans.
- Setting outbreak objectives.

**Prepare: Education and awareness**

- Ensuring staff and stakeholders are familiar with the pest.

**Response**

- Working to either contain or eradicate, including work to determine success.

**Response: Review**

- Assessing the outbreak response to ensure that the plan remains the best option and on-track to deliver the agreed objectives.

**Recovery to new normal**

- Establishing business as usual, either when the response strategy has been effective or when the response is not considered feasible, cost effective or beneficial.

## Scope

7. This Contingency Plan describes how Defra, the Welsh Government, the APHA, the Non-native Species Secretariat (NNSS), NRW and Fera will respond if the Asian hornet is discovered in England or Wales. Bee health policy is a devolved area and therefore an outbreak in Scotland or Northern Ireland would be the responsibility of the Scottish Government and the Department of Agriculture, Environment and Rural Affairs, Northern Ireland respectively. Similar plans to this one are available in Scotland and Northern Ireland. Defra, the Scottish Government and WG are committed to working together to tackle animal and plant health diseases under the animal and plant health concordat and to share information during an outbreak openly and co-operatively. Similarly we would keep the Bee Health Team in Northern Ireland informed of developments.

## Objectives

8. The aims and objectives of the plan are to protect the English and Welsh honey bee population from the Asian hornet by:
  - Detecting its presence as soon as possible;
  - Intercepting and preventing establishment;
  - Eradicating any outbreak if considered practicable;
  - Containing and controlling an outbreak, if field evidence suggests that it is well established in a defined but limited geographical area;
  - Establishing long term management where eradication and control is no longer possible due to the number and extent of outbreaks; and
  - Providing assistance to the beekeeping industry, pest controllers and local authorities in the form of training and pest and disease control.

## Prepare: Anticipate, Assess and Educate

9. Details of the work undertaken to anticipate, assess and prepare for Asian hornet are given in [Annex 5](#).
10. The National Bee Unit (NBU) and the NNSS have carried out a [pest risk analysis](#) on this pest based on the evidence available, particularly from the outbreak in France. The NBU also carry out a risk-based Exotic Pest Survey (EPS) to check hives for the presence of exotic pests, such as the Asian hornet and Small hive beetle. Sentinel apiaries are sited at high risk points (such as ports and airports) and at other points throughout the country and their beekeepers regularly check for the presence of pests.
11. The NNSS provide [information about the Asian hornet](#) on their website and have a [contact point](#) for reporting sightings including via a new mobile phone app (Asian hornet watch). The NBU also presents bee health advice at training courses for beekeepers including advice on how to spot bee pests such as the Asian hornet. Information on the distribution of Asian hornet, its lifecycle and how to monitor for it is given in [Annexes 6 and 7](#).
12. The Asian hornet is a non-native species and subject to the powers and controls in the Wildlife and Countryside Act 1981.

# Response

This section sets out how the response to an outbreak will be managed, initial actions following a suspect sighting, actions on confirmation, how we review the on-going response and how we recover to the new business as usual (either after eradication or on the introduction of a management plan).

## Command and Control

13. The response to Asian hornet (like any other bee pest) incursion will be controlled using a Strategic, Tactical and Operational Command Structure.

- **Strategic Command** – Lead Government Department (LGD)  
The LGD is responsible for overall policy of command and control.
- **Tactical Command** – National Disease Control Centre (NDCC)  
The NDCC is responsible for planning and coordination of actions determined at a strategic level.
- **Operational Command** – Local Disease Control Centre (LDCC)  
The LDCC is responsible for implementing inspections in the field and Operational Guidance.

14. Flexibility and proportionality in the delivery of the response is important. For a small outbreak it may not be necessary to establish all the structures required for a major outbreak. Most of the activities and functions described in the response structures will still need to be delivered, but there may be variations in the way this is achieved.

## Official action on suspicion

### Identification information

15. Information on how to identify an Asian hornet is available in [Annex 3](#) and at:

<http://www.nonnativespecies.org/alerts/index.cfm?id=4>

16. Sightings should be reported to the NNSS, ideally using the report form on the website ([http://www.brc.ac.uk/risc/alert.php?species=asian\\_hornet](http://www.brc.ac.uk/risc/alert.php?species=asian_hornet)) or the Asian hornet watch app (available from this website:

<http://www.nonnativespecies.org/alerts/index.cfm?id=4>). You can also send a photo by email to [alertnonnative@ceh.ac.uk](mailto:alertnonnative@ceh.ac.uk) with as much detail as possible.

## Triggers / Alerts

17. Suspected sighting / alerts might be generated from a number of different sources including from industry or the public and might be received through a number of routes, including:

- Members of the public can report suspected sightings of Asian hornet through the NNSS alert mailbox and app. The Centre for Ecology and Hydrology (CEH) monitor this mailbox and assess each suspect sighting, reporting credible sightings to the NBU and the NNSS within 1 working day.
- Potential sightings may also be reported directly to the [National Bee Unit](#) (including through appointed bee inspectors, telephone or email).
- If sightings are reported to other contacts (Press Office, Defra/WG helpline, policy mailboxes), the details should be passed to [alertnonnative@ceh.ac.uk](mailto:alertnonnative@ceh.ac.uk) as soon as possible and no later than one working day after the notification.

## Initial investigation/reporting

18. In the event of a credible suspected finding, the CEH will email the NBU mailbox. Details of the credible sighting will be held by the NBU on BeeBase along with subsequent inspection reports and analysis. The NBU will take the following immediate investigative actions:

- a. Bee Inspectors (National Bee Inspector (NBI) and/or relevant Regional Bee Inspectors (RBI) and Seasonal Bee Inspectors (SBI)) closest to the site of the reported finding will travel to the location.
  - i. If adult insects are present, these will be used to confirm or rule out the identification of Asian Hornet, both by the Inspectors on site and by the diagnostic team at Fera. If a partial nest, larvae and/or dead insects are found these will be sent to Fera bee laboratory by courier for next day delivery.
  - ii. If no insects or nests are present at the time of arrival on site, the inspector will conduct a survey of the immediate vicinity of the

sighting (radius 500m) to seek out suspect insects on the wing and/or nest(s).

- b. To consider circumstantial evidence that the suspect sighting is likely to be genuine, the NBU will use the BeeBase database to establish proximity of the suspect sighting to beekeeping activities and proximity to entry risk points (e.g. freight depots, airports, seaports). However, given the number of pathways and the experience from the 2016 outbreak, reports would not be discounted solely on the absence of an entry risk point.
- c. Wherever possible the person(s) who made the report will be interviewed in order to obtain additional circumstantial evidence to allow the report to be confirmed or discounted (e.g. level of expertise in identification and quality of evidence (e.g. photos) submitted)

19. The Head of the NBU will also put elements of National Disease Control Centre (NDCC) on standby; as a minimum this will be:

- NBI
- NBU Contingency Planning and Science Officer
- All RBIs
- NBU Office manager

20. The NBU will report all investigations to the head of bee health policy in the relevant government and the head of NNSS within 1 day.

21. The head of policy in Defra and/or the Welsh Government, depending on the location of the suspect sighting, will alert members of the Lead Government Department (LGD) Meeting. The head of policy will also alert policy team members involved in the strategic response. Ministers will be informed and press lines prepared.

## Official action on confirmation

On confirmation of an Asian hornet finding, the actions described below will be undertaken and the following command structures and procedures will be put in place.

### Strategic

#### Confirmation of finding in England

22. Defra's Bee Health Policy team (following advice from the NBU) will set up an LGD Meeting.
23. The LGD meeting will be chaired by the Senior Responsible Officer (SRO) – usually the CVO/Defra Deputy Director for Plant Health Bees and Seeds. The Strategic Incident Commander will be responsible for preparations for the meeting and acting upon recommendations arising from it. The SRO for the incident will appoint the Strategic Incident Commander, who will normally be the Defra Policy lead for Bee Health, and communicate the appointment to all persons and agencies involved in the outbreak. The Strategic Incident Commander will take responsibility for managing all the strategic activities related to the outbreak. The SRO for the outbreak will attend CONOPs (Defra's operational meeting) and COBR (the Cabinet Office meeting) on the outbreak if these are required.
24. The LGD meeting will also include the Defra Press Office, head of the NBU, head of policy for Non-native Species, head of NNSS, finance and others as appropriate. Specific activities for the LGD meeting will include:
- Establishing a battle rhythm for the outbreak;
  - Developing recommendations as necessary for Ministers on strategic direction of response and control policies based on scientific advice from the NBU and Defra's Chief Scientific Adviser and Plant & Bee Health Evidence Team;
  - Considering impacts of the outbreak;
  - Agreeing communication and stakeholder engagement plans;
25. A Strategic Incident Team will be established (the Defra Bee Health Policy Team and, where necessary additional policy volunteers) – co-located in Sand Hutton and London. The Bee Health Policy Team will form the foundation of the Strategic Incident Team and will be led by the Strategic Incident Commander.
26. The roles of the Strategic Incident Team include:
- Maintain outbreak records/documents (e.g. action list, core brief, event brief, lessons identified);
  - Provide updates to the Press Office (Defra and WG) and APHA Media Officer and agree media handling plans;
  - Set-up and provide the secretariat for LGD meetings, circulating agendas, taking a note of the meeting, circulating and commissioning actions, etc;
  - Liaison with the NDCC;
  - Monitor impacts.

Immediate actions:

- Once established the Strategic Incident Team will liaise with the NDCC, NNSS, and with the Defra Government's Legal and Communications Directorates regarding legislative requirements, commissioning expert advice and the dissemination of information to the public, beekeeping associations and other stakeholders.

### **Confirmation of finding in Wales**

27. Welsh Government's Bee Health Lead (Strategic Incident Commander) (following advice from the NBU), will set up a LGD Meeting.
28. The LGD meeting will be chaired by the Senior Responsible Officer (SRO) (Deputy Director, Land, Nature and Forestry Division, Welsh Government). The Strategic Incident Commander will be responsible for preparations for the meeting and acting upon recommendations arising from it. The SRO for the incident will appoint the Strategic Incident Commander (Welsh Government policy lead for bee health), and communicate the appointment to all persons and agencies involved in the outbreak. The Strategic Incident Commander will take responsibility for managing all the strategic activities related to the outbreak.
29. The LGD meeting will also include the Welsh Government Press Office, head of the NBU, head of policy for Non-native Species, head of NNSS, Natural Resources Wales, finance and others as appropriate. Specific activities for the LGD meeting will include:
  - Establishing a battle rhythm for the outbreak;
  - Developing recommendations as necessary for Ministers on strategic direction of response and control policies based on scientific advice from the NBU and Defra's Chief Scientific Adviser and Plant & Bee Health Evidence Team;
  - Considering impacts of the outbreak;
  - Agreeing communication and stakeholder engagement plans;
30. A Strategic Incident Team will be established. The WG Policy Team, and where necessary additional policy volunteers, will form the foundation of the Strategic Incident Team and it will be led by the Strategic Incident Commander.
31. The roles of the Strategic Incident Team include:
  - Maintain outbreak records/documents (e.g. core brief, event brief, lessons identified);

- Provide updates to the WG Press Office and APHA Media Officer and agree media handling plans;
- Set-up and provide the secretariat for LGD meetings, circulating agendas, taking a note of the meeting, circulating and commissioning actions, etc;
- Monitor impacts.

Immediate actions:

- Once established, the Strategic Incident Team will liaise with APHA, the NDCC, NNSS, NRW and with the Welsh Government's Legal and Communications Directorates regarding legislative requirements, commissioning expert advice and the dissemination of information to the public, beekeeping associations and other stakeholders.. The LGD meeting will be chaired by the Senior Responsible Officer (SRO) for the incident.

## Tactical

32. The Head of the NBU will fully activate the NDCC (based in Sand Hutton) and initiate actions to rapidly establish whether the outbreak is isolated or widespread. The head of NBU will also notify the NBI and RBIs to enable deployment of NBU staff and NBU Bee Inspectors to the Local Disease Control Centre(s) (LDCC) at the outbreak area(s). A summary of the initial actions to be taken during an outbreak is illustrated in [Annex 2](#).

33. Specific Activities for the NDCC will include:

- Providing daily information reports and technical advice to the LGD as the outbreak develops;
- Securing and deploying appropriate staff resources, equipment and facilities in the LDCC and field and laboratory service;
- Co-ordinating information about the outbreak and dissemination of technical and advisory material to stakeholders/ beekeeping associations and other interested parties;
- Liaising with stakeholders, national beekeeping associations on operational matters and local associations who may be able to contact keepers to facilitate inspection arrangements;
- Implementing beekeeper training programmes through the NBU inspectorate and other staff and using appropriate trainers in local associations;
- Financial management and recording of resource (though APHA finance); and
- Ensuring all NBU staff have the required training, including media training where appropriate.

## **Operational**

34. The NBI (or RBI as appropriate) will establish an LDCC near the site(s) of the outbreak and, where necessary because of logistics, a Forward Operating Base (FOB).
35. The LDCC's primary role will be to:
- Direct and co-ordinate response measures, including determining areas and apiaries on which to concentrate surveillance, allocation of apiary searches and use of appropriate pest controls in line with NDCC decision making;
  - Provide regular local contact and support for personnel working in the field;
  - Maintain telephone contact with and provide incident progress information to the NDCC;
  - Provide information to local beekeeping associations;
  - Liaison with Wildlife colleagues responsible for nest destruction and
  - Provide reports on outcome of searches to the NDCC.

## **Planning**

36. The Tactical Commander will set out specific actions for the outbreak taking into account where the hornet was found (urban, rural, wooded), responsibilities for taking forward the action and local battle rhythm (taking into account the battle rhythm set by the LGD). The actions will be agreed by the LGD.
37. On receipt of the report(s) from the LDCC, the NDCC will make an assessment on whether it is an isolated outbreak which may be contained. It will then make a recommendation for the SRO and LGD meeting who will then confirm if eradication should be attempted. Isolated means that Asian hornets have only been found in a very limited number of sites in a restricted geographical area (and data from the searches shows a high probability of success in eradication).

## **Surveillance and inspection**

38. The NDCC will define the size of the search areas and priorities.
39. Teams of NBU Bee Inspectors and Wildlife officers deployed to the outbreak area(s) will be based from, and their work coordinated by, the LDCC. They will rapidly establish the extent of the outbreak and, if possible, its source. They will also establish if there are further nests in the restricted area and the likelihood of any nests further afield. Other APHA officers may be called upon to help locate nests.
40. The initial response is likely to concentrate on visiting food sources (apiaries for protein and nectar forage sites such as ivy or Russian vine) to gauge the extent

of the outbreak and narrow the search area for the nest(s). Where no hornets are seen at apiaries, traps may be left to check that Asian hornets are not visiting the hive(s).

41. Follow-up inspections will be completed based on any information gathered by this process. Risk analysis and modelling will be an integral component of the emergency searches to predict potential spread from the point of entry and assist with targeted inspections.
42. An inspection report (forms are in BeeBase) will be submitted to LDCC & NDCC after each inspection. Each nest, when identified and destroyed, will be notified to the NDCC who will update the LGD.

### **Establishment of demarcated areas (surveillance area)**

43. On confirmation of an outbreak, an infected area around the location of the original outbreak site will be agreed by Defra/Welsh Government. The boundaries of the surveillance area will be precisely defined by the NBU and it will be published on the NBU's BeeBase website and elsewhere (e.g. NNSS/gov.uk websites) as appropriate.
44. Based on current knowledge of the dispersal of Asian hornet, the surveillance area will initially cover a minimum 20km radius and may be altered and enlarged as circumstances change. Inspections will initially be prioritised as agreed in the action plan. The surveillance area will remain in place until a decision is taken on the extent of the outbreak and whether or not eradication has been successful and should continue. If necessary, depending if/where further nests are found, the area will be extended.

### **Movement restrictions**

45. There will be no restrictions put on the movement of bee hives during an outbreak.

### **Trace forward/backwards**

46. Asian hornet is unlikely to spread within the UK from movements of bees during the beekeeping season. The policy on tracings will be decided as part of the actions agreed by the LGD meeting.

### **Pest management procedures**

47. To aid detection of further nests, a number of registered beekeepers within the 5km area (as identified through the NBU's BeeBase database) will be supplied with suitable traps to deploy in their apiaries, along with guidance on trap use and instructions on how to report Asian Hornet sightings. ([See Annex 7 – Guidance note 'Monitoring for Asian hornets in Sentinel Apiaries'](#)).

## **Decontamination/disposal**

48. On discovery of any Asian hornet nest this will be destroyed and removed. NBU Inspectors will be responsible for overseeing this process; APHA wildlife officers (who have been trained in Asian hornet nest destruction and who are equipped with necessary specialist equipment including long poles to access nests at height and thermal imaging devices to reveal active nests in concealed locations) will be responsible for the chemical destruction of each nest and its subsequent removal. Powers of Entry are available to Natural England under provisions in the Wildlife and Countryside Act (1981).

## **Laboratory Diagnosis**

49. Suspect Asian hornet samples or photographs of suspect Asian hornet from Bee Inspectors, beekeepers, the NNSS alert team at the CEH, or other members of the public, will be sent to the NBU for confirmatory identification by the NBU and, if necessary, Fera entomologists. All reports will be recorded and collated by the CEH.

## **External Communications and Correspondence**

50. The official spokesperson for interviews with the media will be agreed at the first meeting of the LGD meeting. Any request for a press interview will be sent to the Press Office

### Notification

51. Asian hornet is notifiable under the Invasive Alien Species Directive Regulation 1143/2014: NNSS will make the required notification.

### Stakeholders

52. The Bee Health Advisory Forum (BHAF) and Bees Wasps and Ants Recording Society (BWARS) will be informed and consulted for advice as required by the LGD meeting. Other stakeholders will be kept informed of developments.

Academic institutions, specialist pest control experts or government departments overseas with specific expertise in Asian hornet, will also be consulted if necessary.

### Devolved Governments

53. In line with the concordat between Defra, Welsh Government and Scottish Government, the Scottish Government will be provided with regular updates on the situation. For cross-border outbreaks, all relevant devolved governments will be included in the LGD meeting. Similarly, regular updates will be provided to the Northern Ireland Government.

### Communications with beekeepers

54. The NBU train beekeepers to help them manage incidence of Asian hornet in their apiaries. In the event of a confirmed Asian hornet incursion, all registered beekeepers and beekeeping associations will be informed via an email alert. Advice will also be provided for the wider stakeholder community (e.g. the Bees Wasps and Ants Recording Society (BWARS), the Plant Health and Seeds Inspectorate (PHSI), APHA animal health field officers, allotment associations, garden centres, pest control companies, local authorities/councils ports authorities etc.) to raise awareness.

### General public

55. Information on the outbreak will be made available on the gov.uk website and on BeeBase.

### Immediate area of outbreak

56. LDCC will provide information to people within the immediate area of the outbreak, including information from Public Health England.

### Media

57. External communications will be coordinated through the Defra or Welsh Government Press Office.

## **Review**

58. As the situation develops, the NDCC will update the advice regarding the viability of eradication to the LGD meeting. It may be necessary to extend the

Surveillance Area to contend with outbreaks that spread slowly in an attempt to further slow them down and contain them geographically. The SRO and LGD meeting will consider revised advice and decide if a change in focus is required from eradication to containment or management of the pest.

## Recovery

59. Response procedures laid down in this plan will continue until the Asian hornet is eradicated or the decision is taken that the hornet cannot be eradicated and a management plan which aims to contain the hornet is introduced.

### Post -eradication – surveillance

60. The NBU and wider APHA will revisit the affected areas, and place neighbouring apiaries under close surveillance (with monitoring traps), for at least 1 year. The length of time under which affected areas will remain under increased surveillance and the level of surveillance will be highly dependent on the time of year that the initial incursion was detected:

- if a nest is found and destroyed early in the year (e.g. May), when Asian hornet nests are extremely unlikely to have released queens, then the likelihood that eradication will have been successful is high – therefore the timescale for surveillance could be reduced;
- If a nest is found and destroyed later in the year (e.g. October), when Asian hornet queens are likely to have been released into the environment, then the likelihood that undiscovered nests and overwintering queens will exist is high – it is therefore vital to continue monitoring for new nests throughout autumn, winter and into the spring, summer and autumn of the following year to support the eradication objective.

61. The duration of continued surveillance must be long enough to confirm continued freedom of Asian hornet. The period of surveillance will be determined by the NDCC and agreed with the SRO and/or the LGD meeting.

### Moving from eradication to containment

62. In the event that an outbreak proves to be established and widespread, the LGD meeting, taking the advice of the NDCC, may advise Ministers that eradication as a control method no longer remains practicable. If Ministers agree, a policy of containment will be implemented. Depending on the extent of the outbreak, the shift from eradication to containment may be very swift. The lifting of surveillance area(s) will be considered by the LGD meeting in the light of the extent and spread of the outbreak(s). This decision will be coordinated with the DG's. The NBU will then concentrate its efforts on providing technical

advice and training services for beekeepers, pest controllers and local authorities to recognise Asian hornet and put in place pest management methods to reduce its impact on colonies. Longer term management options for dealing with the pest will be considered by the LGD meeting. A communication strategy will be developed to ensure that internal colleagues and external stakeholders are informed of any changes to the response approach.

## Evaluation and Review of plans

63. Field exercises test bee health contingency plans for exotic threats every year (Asian hornet, Tropilaelaps mite or Small hive beetle). In addition strategic elements of the plans will be tested biennially. Lessons identified in both exercises will be fed into an annual review of plans undertaken jointly between APHA, Defra and the Welsh Government. This review will also include lessons identified from other outbreaks.
64. New policy team members will attend training within 3 months. Bee inspectors will be trained during the NBU Technical Conference or within 3 months if joining later in the season.

# Annex 1: Roles and Responsibilities of Beekeeping Associations and Beekeepers

## Bee Health Advisory Forum (BHAF)

The views of the BHAF (the England/Wales government-stakeholder forum for bee health) and other selected stakeholders (such as pest controllers) will be sought in developing and reviewing this plan and during an outbreak if required by the LGD meeting.

Advice may be sought from relevant academics and other specialists to address evidence needs/issues which arise during the response.

## Beekeeping Associations

Beekeeping associations will disseminate information to their members and encourage them to work closely with the NBU. They will ask their members to check their apiaries for the presence of the pest and to send any suspect samples or photos to the NBU. Beekeeping Associations will be asked if they are able to supply the NBU with a list of their members in the outbreak area.

## Beekeepers

As the Healthy Bees Plan states, all beekeepers are encouraged to work in partnership and closely with Defra, APHA and WG to:

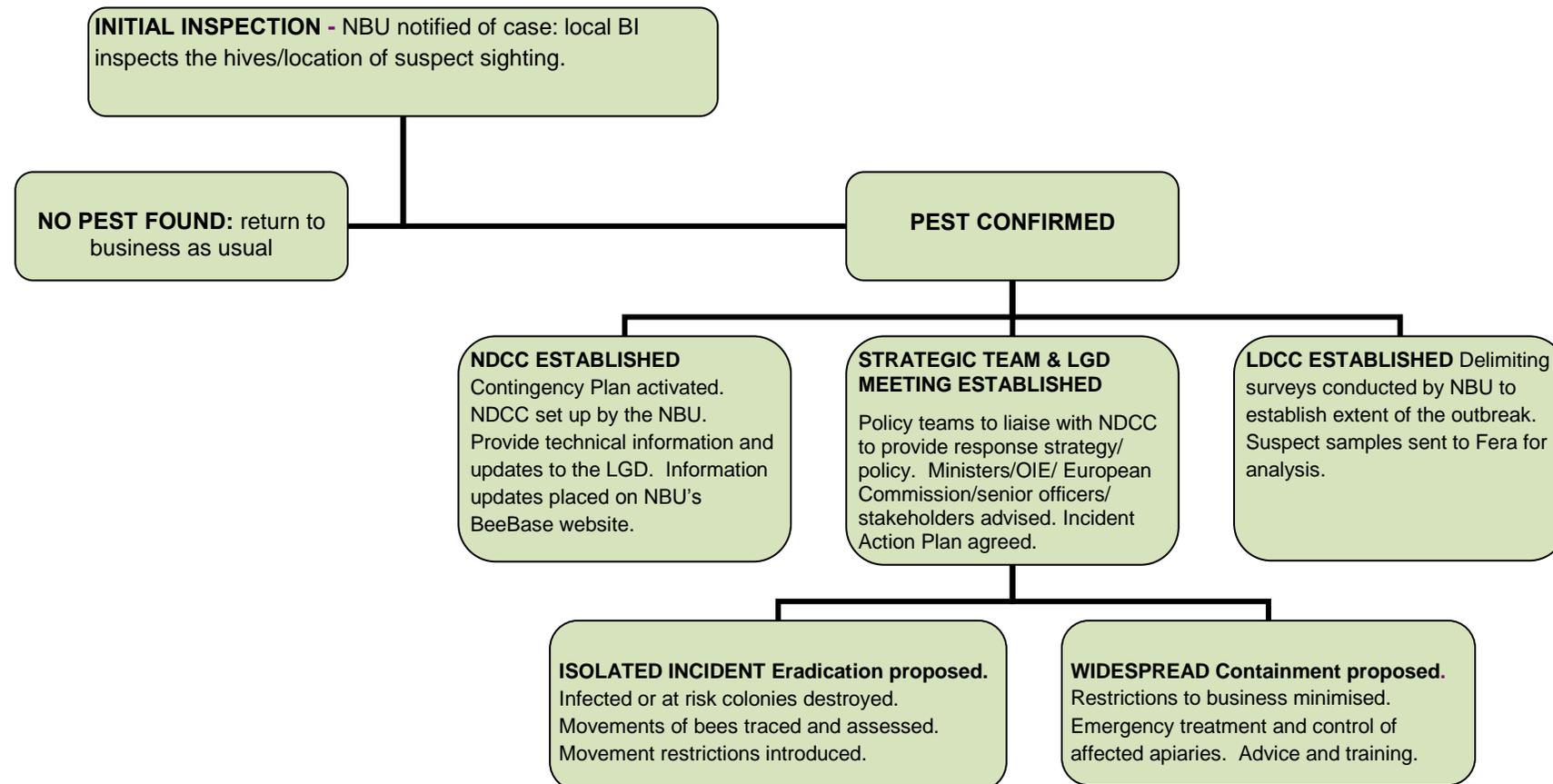
- Register their apiaries on BeeBase;
- Make available all facilities and provide NBU Inspectors, on request, with accurate information relating to their own bees and bee colonies, including the number, location and any movements (particularly sales) of hives, bees, combs, bee products and appliances;
- Allow NBU Bee Inspectors access to their bee colonies to inspect them;
- Monitor their colonies for bee pests and diseases; and
- Notify the National Bee Unit or Non-native Species helpline if they suspect the presence of Asian hornet.

## Local Experienced Beekeepers

- In the event of an outbreak, the NBU will ask local associations and local experienced beekeepers to assist Bee Inspectors by providing advice to local beekeepers and local knowledge to the LDCC.

- It is envisaged that during the outbreak they will assist local beekeepers in the recognition of the pest, and provide advice on managing their apiaries.
- They will liaise with beekeepers and the NBU, and in particular act as a point of contact for any local beekeeper to approach if advice is needed. They will always seek assistance from an authorised NBU Bee Inspector if there is any doubt.

## Annex 2: summary of actions following a credible sighting



# Annex 3: How to spot an Asian hornet



www.nonnativespecies.org

Produced by Gay Marris, Mike Brown (National Bee Unit, Fera), Olaf Booy (NNSS) with assistance from Stuart Roberts (BWARS) V1.1, 11/10/11

## Asian Hornet

**Alert!**

Report sightings of this species to:  
alert\_nonnative@ceh.ac.uk

### Species Description

**Scientific name:** *Vespa velutina*

**AKA:** Yellow-legged Hornet

**Native to:** Asia

**Habitat:** Nests usually high in trees and man made structures, sometimes closer to the ground; hunts honey bees, other insects and also feeds on fruit and flowers.

Not easily confused with any other species. Dark brown or black velvety body. Characteristically dark abdomen and yellow tipped legs. Smaller than the native European Hornet.

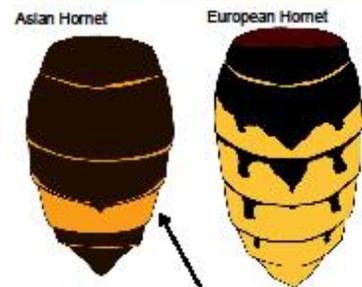
Not currently present in GB, but recently introduced to France and rapidly extending its range. High possibility of introduction through, for example, soil associated with imported plants, cut flowers, fruit, garden items (furniture, plant pots), freight containers, or in/on untreated timber. The possibility that it could fly across the Channel has not been ruled out.

A highly aggressive predator of native insects. Poses a significant threat to honey bees and other pollinators.

Do not disturb an active nest. Members of the public who suspect they have found an Asian Hornet should send a photo to alert\_nonnative@ceh.ac.uk.



### Key ID Features



Asian Hornet abdomen is almost entirely dark except for 4th abdominal segment.



## Annex 4: Glossary

APHA	Animal and Plant Health Agency
BeeBase	NBU beekeeper and apiary database and website
BHAF	Bee Health Advisory Forum
BHP	Bee Health Policy
BWARS	Bees Wasps and Ants Recording Society
CCU	Defra's Customer Contact Unit
CEH	Centre for Ecology and Hydrology
CEO	Chief Executive Officer
CLA	Country Land and Business Association
COBR	Cabinet Office Emergency Briefing
CP&SO	Contingency Planning and Science Officer
CRD	HSE Chemicals Regulation Directorate
CVO	Chief Veterinary Officer
DD	Deputy Director
DG	Devolved Governments (Scottish Government and Northern Ireland Assembly)
Defra	Department for Environment, Food and Rural Affairs
EC	European Commission
EPS	Exotic Pest Survey
EU	European Union
EURL	European Union Reference Laboratory
ExCo	Defra Executive Committee
Fera	Fera Science Ltd
FOB	Forward Operating Base
FSA	Food Standards Agency
GB	Great Britain
GB-NNSIP	GB Non-Native Species Information Portal
GIS	Geographic Information System
HBP	Healthy Bees Plan
HSE	Health and Safety Executive
IAS	Invasive Alien Species
LGD	Lead Government Department
LDCC	Local Disease Control Centre

MS	Member States
NBI	National Bee Inspector
NBU	National Bee Unit
NDCC	National Disease Control Centre
NGO	Non-governmental Organisation
NFU	National Farmers Union
NNSS	Non Native Species Secretariat
NRW	Natural Resources Wales
OCVO	Welsh Government, Office of the Chief Veterinary Officer
OGD	Other Government Department
OIE	Office International des Épizooties (World Organisation for Animal Health)
PHSI	Plant Health and Seeds Inspectorate
PPE	Personal Protective Equipment
PQs	Parliamentary Questions
RBI	Regional Bee Inspector
SA	Sentinel Apiary
SBI	Seasonal Bee Inspector
SCOPAFF	EU Standing Committee on Plants, Animals, Food and Feed
SOPS	Standard Operating Procedures
SoS	Secretary of State
SRO	Senior Responsible Officer
Third countries	Countries outside the European Union
UK	United Kingdom
VMD	Veterinary Medicines Directorate
WG	Welsh Government

# Annex 5: Preparation: Anticipation, Assessment & Education

## Anticipate and assess

1. The yellow-legged or Asian hornet (*Vespa velutina nigrithorax*) is an exotic predator of honey bees (and other beneficial insect species).
2. Globalisation and international trade in diverse commodities around the world has increased the risks of importing exotic honey bee pest threats into the UK. An updated [Pest Risk Assessment](#) (PRA) for Asian hornet was completed in July 2011, and the evidence basis for this PRA was updated in April 2014. The main risk pathways were identified as:
  1. Natural spread of the pest itself by flight.
  2. Movement of wood, wood products and bark (which provide suitable harbourages for hibernating inseminated Asian hornet queens).
  3. Movement of man-made goods that provide suitable harbourages for hibernating inseminated Asian hornet queens (e.g. ceramic pottery associated with garden trade and tourist camping equipment).
  4. Movement of soil associated with plant trade (harbourage for hibernating inseminated Asian hornet queens; potentially nesting stages in soil).
  5. Fruit imports (e.g. grapes) (could transport adult Asian hornets using fruit as food source).
  6. Movement on freight containers and transport vehicles themselves (harbourages for hibernating inseminated Asian hornet queens; could also carry worker hornets).
  7. Movement of honey bees: queens and packaged bees (workers) for the purposes of trade (could transport adult Asian hornets).
3. Of the above seven pathways transport of hibernating queens on traded goods (pathways 2 – 6) is considered to be of high importance; pathway 1 natural spread by the pest itself and pathway 7 movement with traded honey bees is considered to be least likely incursion pathway.
4. The Asian hornet is native to Northern India, China, the Indo-Chinese peninsula and Indonesian archipelago. The climatic conditions of continental Asia where they are found are similar to those of Southern Europe.

5. Asian hornets were first officially recognised in France in 2004, having been found in Lot-et-Garonne Department, southwest France. It is believed to have been accidentally imported with Chinese merchandise from Yunnan.
6. By the end of 2006, the Asian hornet was present throughout Aquitaine in the departments of Lot-et-Garonne, Gironde and Dordogne. By 2015 it was well established in France covering at least 430,000 square kilometres, most predominantly in the west and south-west and outbreaks have been reported in Spain, Portugal, Italy, Germany and Belgium (see link to googlemaps in [Annex 12](#)). This indicates that England and Wales would have a suitable climate for the Asian hornet to establish.
7. For any outbreak in England or Wales the first objective will be eradication; however this will only be possible in isolated incidences where there are a limited number of incursions in a limited geographical area. In other circumstances, where eradication is impractical because of the number of incursions, the aim would be to slow the spread to other areas and impact through nest destruction and apiary management.

## Assess – surveillance

### Exotic Pest Survey

1. The NBU monitors for exotic pests through its Exotic Pest Survey (EPS) which is part of an annual statutory programme. Clearly, early detection and interception of high risk species such as the Asian hornet is key to preventing establishment. In a typical year, 10% of all apiary visits carried out by the NBU's Inspectorate will be for the purposes of EPS; however, because of the behaviour of Asian hornets, they are likely to be spotted at any inspection if in the vicinity. A mapping technology called Geographic Information System (GIS) is used to target all 'at risk' apiaries; these will include apiaries near ports, freight terminals or airports or belonging to bee importers. When identified, new risk points will be added to BeeBase.
2. The EPS is risk based and identified 'at risk' apiaries are targeted and regularly inspected. Each apiary has a 'risk score' calculated mathematically from its proximity to risk sources. Surveillance is targeted at high scoring apiaries and large numbers of these apiaries are inspected annually. If an exotic pest is detected/suspected, then apiary inspections will be concentrated in the area around the apiary, and search patterns adjusted using GIS and tracings information. The NBU also carries out random EPS inspections as an element of the programme.

## Sentinel apiaries

3. A group of beekeepers in England and Wales specifically monitor their honey bee colonies for exotic pest species on behalf of the NBU. These ‘Sentinel Apiary’ (SA) holders represent a valuable additional front-line defence against exotic pest incursion. There are about fifteen SAs in each of the eight beekeeping regions (i.e. 120 SAs in total across England and Wales). Beekeepers are selected from the NBU’s BeeBase database based on their proximity to risk areas plus a few beekeepers in areas not associated with particular risk points to give a more complete regional coverage. The distribution of SAs in both risk points and random sites maximises the likelihood of early pest detection. SA holders are provided with a monitoring and sampling kit and regularly examine their colonies according to standard protocols. A commercially available wasp and hornet trap is now being deployed across the sentinel apiaries in England and Wales which has been modified to:
  - (i) maximise the probability of catching an Asian hornet in way which ensures reliable identification and
  - (ii) minimise the impact on any other insects.

The coastal regions of South and South East England are probably at most risk of incursion by Asian hornet and beekeepers in these areas have been particularly encouraged to become part of the SA network.

## Educate: Identification information

4. Information on how to identify an Asian hornet is available in [Annex 3](#) and at:

<http://www.nonnativespecies.org/alerts/index.cfm?id=4>

Sightings should be reported to the NNSS, ideally using the report form on the website ([http://www.brc.ac.uk/risc/alert.php?species=asian\\_hornet](http://www.brc.ac.uk/risc/alert.php?species=asian_hornet)) or the Asian hornet watch app (available from this website:

<http://www.nonnativespecies.org/alerts/index.cfm?id=4>). You can also send a photo by email to [alertnonnative@ceh.ac.uk](mailto:alertnonnative@ceh.ac.uk) with as much detail as possible.

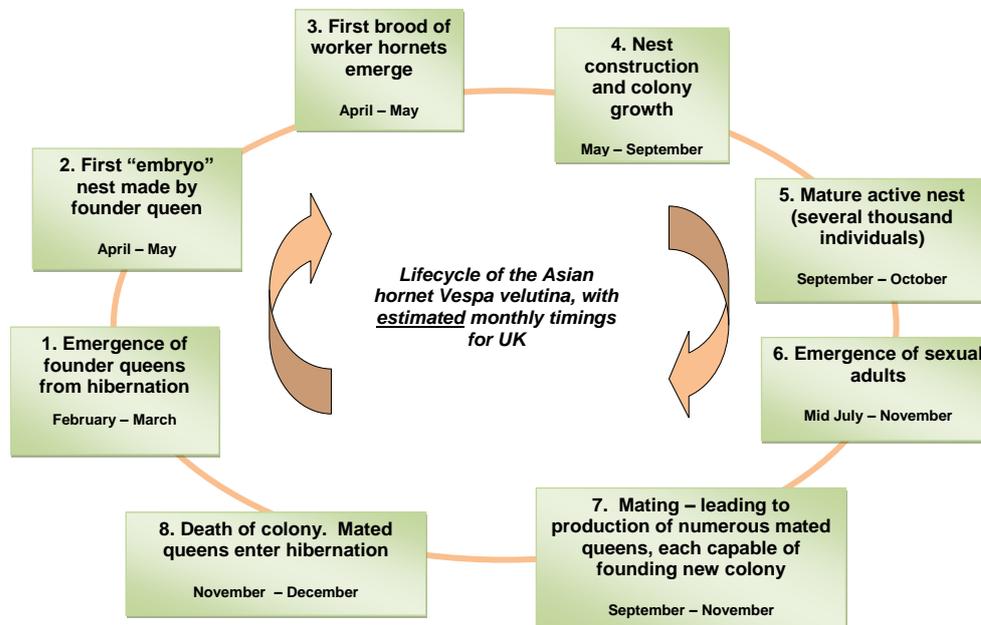
5. Submitting photos

- If possible, take a range of pictures.
- Provide details of your location
- Show the pest in context as well as close up shots.
- “Postage stamp” sized photos aren’t much help.
- Very high resolution pictures can be a problem to e-mail and store.
- Smart phones have the benefit of being handy and now often produce great images and the Asian hornet watch app can add a GPS coordinate.

- But in the end – please send the picture; something is better than nothing at all.
6. NBU provide training and advice on exotic bee pests (including Asian hornet) through individual inspections, training courses and seminars. Information is also provided through the BeeBase website on identification of pests and who to contact if they believe that a pest has been sighted.

## Annex 6: Factsheet

### Lifecycle of Asian hornet



### Distribution of Asian hornet

Date of Asian hornet coming into France – 2004.

Haxaire et al, Bul Soc Entomology Fr 2006 111:194.

Link to google map for Asian hornet:

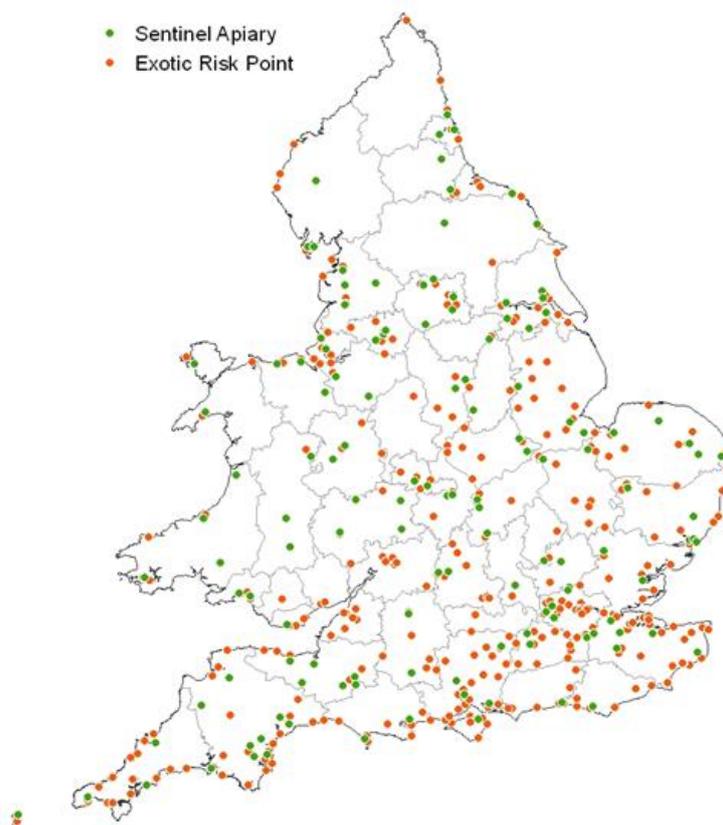
<https://maps.google.de/maps/ms?msid=213339588704969522525.0004e8b11f3aba350c18e&msa=0>

### Key Facts

- Although there are many species of hornet in Asia, *Vespa velutina nigrithorax* has become known as the Asian hornet or yellow legged hornet. It is an invasive non-native species from Asia. It was first recorded in France in 2004, thought to have arrived in a container of pottery from China through the port of Bordeaux. It is now present in 4 Member States (MS): France (since 2003/2004), Spain (since 2010), Portugal (since 2012) and Italy (since 2013).

- Establishment in 2 further MS remains uncertain: a flying male was recorded in Belgium in 2011 but no confirmed sightings since – it is not believed to be established; only recently it was recorded present in Germany (August/September 2014) – no data on establishment available yet.
- Based on observations of invasive populations in both France and South Korea, *Vespa velutina* shows a preference for peri-urban/urban locations, although it has established in both urban and rural environments.
- The Asian hornet is not considered to be present in the UK. There is concern that it could fly across the Channel from northern France, or arrive via trade in commodities such as wood and wood products, goods (e.g. ceramic pottery), soil for the plant trade and fruit. Freight containers and transport vehicles could also harbour the hornet.
- It is the view of recent authors who have completed climate-matching studies that GB is climatically highly suitable for the establishment of *V.v. nigrithorax* (Rome *et al.*, 2009, Villemant *et al.*, 2011a; b). If an incursion is left undetected, the hornet is likely to spread rapidly, with likely impact being higher in the south of the country.
- It is known that hornets can fly dozens of kilometres in one flight, with certain weather conditions (wind direction) assisting natural spread. The invasion in France spread at approximately 100km per year (Monceau *et al.*, 2014). The Asian hornet only flies during the day time, unlike the European hornet, which can fly at night. (360000 square km)
- The Asian hornet is a proven predator of social wasps and bees, including and specifically honeybees. This hornet also predate a wide variety of other beneficial insect species, including unmanaged pollinators (e.g. other Hymenoptera, hoverflies). For references see Rome *et al.*, 2011; Villemant *et al.*, 2011b.
- Hornets predate on honeybees by hawking in front of beehives, catching single bees 'on the wing'. They then fly to a suitable place, e.g. nearby tree branch, remove the bees head, wings and legs, and then take the thorax and abdomen back to their nests to feed the developing brood. The predation places the honey bees under huge stress, reducing their ability to forage, with impacts on the colony performance and honey yields. If a honey bee colony becomes sufficiently deprived of workers, hornets can enter the hive, feed on the honey and remove the brood.
- The Asian hornet is smaller than our own native hornet (Asian Hornet queens are up to 30 mm in length; workers up to 25 mm).

- Asian hornet should not be confused with the giant Asian hornet, *Vespa mandarinia*, which is not known to be present in Europe.
- Asian hornet poses no greater health risk to humans than our native bees, wasps or hornets.
- The life-stage of the Asian hornet that poses the greatest risk of entry is a newly-mated queen; one such inseminated female can found an entire colony comprised of several thousand offspring. Nests are very large, and can comprise six thousand individuals (Villemant *et al.*, 2011). In autumn, the nest will focus on the production of potential queens (on average 350) and male drones, which will mate with the queens. The mated queens will overwinter and leave the workers and males to die before winter. The following spring, the fertilized founder queens will begin the production of a new colony.
- The National Bee Unit (NBU) operates a Sentinel Apiary programme comprising approximately fifteen Sentinel Apiaries in each of the eight beekeeping regions (i.e. 120 in total across England and Wales), which are in both 'at risk' and random areas to maximise the likelihood of detection. Beekeepers at these apiaries monitor their colonies for exotic pest threats to honey bees, including the Asian hornet, on behalf of the NBU. Stress testing the apiary network is part of a Defra funded SEPF project.



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Villemant, C., Perrard, A., Rome, Q., Gargominy, O., Haxaire, J., Darrouzet, E., Rortais, A. (2008). A new enemy of honeybees in Europe: the invasive Asian hornet *Vespa velutina*. XXth International Congress of Zoology – Paris, 26-29 August 2008. <http://inpn.mnhn.fr/gargo/Vespa%20velutina%20ICZ%202008.pdf>

Villemant C, Barbet-Massin M, Perrard A, Muller F, Gargominy O, Jiguet F, Rome Q (2011a) Predicting the invasion risk by the alien bee-hawking yellow-legged hornet *Vespa velutina nigrithorax* across Europe and other continents with niche models. *Biol. Conserv.*, 144:21.

Villemant, C., Muller, F., Haubois, S., Perrard, A., Darrouzet, E., Rome, Q. (2011b). Bilan des Travaux (MNHN et IRBI) sur l'invasion en France de *Vespa velutina*, le frelon asiatique prédateur d'abeilles. In Barbançon, J.-M., L'Hostis, M. (ed.). *Journée Scientifique Apicole*. [http://inpn.mnhn.fr/fichesEspece/Vespa\\_velutina\\_fichiers/2011\\_02\\_11\\_Bilan\\_Invasion\\_Vespa\\_velutina\\_JSA.pdf](http://inpn.mnhn.fr/fichesEspece/Vespa_velutina_fichiers/2011_02_11_Bilan_Invasion_Vespa_velutina_JSA.pdf)

# Annex 7: Monitoring for Asian hornets in High Risk Areas

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The Asian Hornet is an aggressive predator of honey bees and other beneficial insects. It has recently arrived in mainland Europe following an accidental introduction to France, and is now also present in Spain, Portugal, Germany, Majorca, Switzerland, Belgium and Italy. A similar invasive population of Asian hornet has established in South Korea. Adult hornets are highly mobile; the rate of spread across France has been approximately 100 km/year and there is now great concern that this exotic insect could establish in the UK. This sheet explains the trap design and provides the protocol for trap surveillance.

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## How to best monitor for the Asian hornets arrival

Our monitoring trap has been specifically designed to help beekeepers monitor for the arrival of the Asian hornet. Unlike other commercially available traps, ours is not a killing trap and therefore any non-targeted insects which might get caught can be released. In order to help you make this trap design, we have created a trap making video which can be found on our Youtube channel:

<https://www.youtube.com/watch?v=CR6MUekAjMo>

Instructions on how to make this trap can also be found on the Asian hornet pages of [BeeBase](#).

## Trap design

Briefly, the trap comprises a modified plastic fizzy pop bottle with a removable base where the bait is placed in. An inverted bottle neck creates the entrance to the trap. A black correx lid is then attached above the inverted neck to deter the hornet from flying up through the entrance funnel and to help concentrate the odour of the bait around the trap. Adult hornets that are attracted to the bait will fly to the trap, crawl down through the bottle neck funnel, and become confined within the capture chamber from which they are unable to escape.



### What bait to use

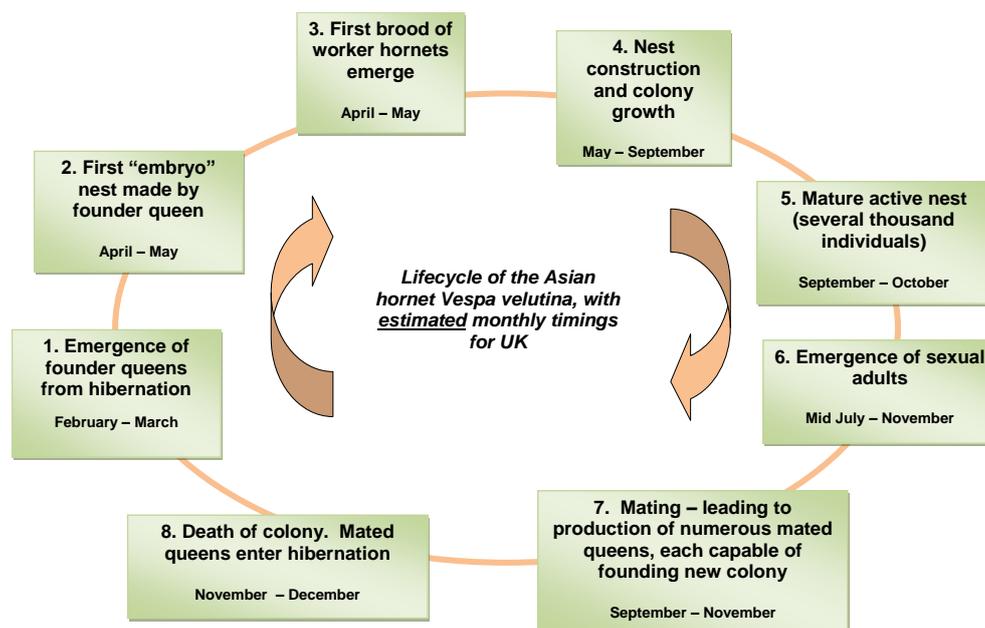
At the end of hibernation emergent hornets have a raised energy requirement and prefer sweet foods. In early spring such resources are comparatively rare in the environment, so this means that sweet baits are highly attractive for the first captures of Asian hornet queens. French beekeepers often use a mixture of beer and sugar for this purpose. Other effective baits include sweet mixtures of wine, sugar, cassis, and water. You can also buy proprietary brands of hornet (wasp) trap bait from many garden centres and home improvement retailers. At the height of the beekeeping season, when predatory worker hornets are seeking high protein foods, consider adding raw meat or fish to the bait mixture. For convenience, you have been provided with a supply of a proprietary brand of sweet liquid bait known to be effective against *V. crabro*. Following the product instructions, pour approximately 150 ml bait (to a depth of approx. 3 cm) into the moat of the trap. Cover with the mesh insert and replace the trap lid. Bait needs to be regularly replaced (weekly). Top up with water if necessary. If you require further bait mixture, please contact the NBU office.

### Where to hang your trap

Hang your trap on a hive stand or in nearby trees around your apiary, at the height of a person.

## When to hang your trap

As soon as you receive the trap, please bait it and hang it as soon as possible after receipt. The figure below shows the lifecycle of Asian hornets, with estimated timings for the UK (based on observations in France). Adult hornets will be on the wing throughout the beekeeping season, but on warm days mated queen hornets may emerge early from hibernation. Equally, adult workers and (especially) mated queens may continue to fly late into Autumn. Trapping is thus likely to catch Asian hornets on the wing from February until November.



## How to check the trap

- Visually inspect your trap as often as possible – ideally daily.
- Each time you visit your trap, you need to take a clear sealable freezer bag with you.
- Never remove the lid without first checking the contents of the capture chamber.
- With the lid still on, carefully inspect the contents of the capture chamber.
- If you are completely satisfied that there are no Asian hornets in there, then open the lid to release the entire catch (see ‘How to identify the Asian hornet’ below).
- If you suspect that you may have caught an Asian hornet, put the trap into the freezer bag and seal tightly.
- If possible, take a photograph of the specimen.
- Place the bag containing the trap into a domestic freezer.
- Immediately report your sighting, by email, to [alert\\_nonnative@ceh.ac.uk](mailto:alert_nonnative@ceh.ac.uk), attaching a copy of the photograph if you have one. If you do not have

access to email, please report your sighting to the NBU office – ‘phone: 01904 462510

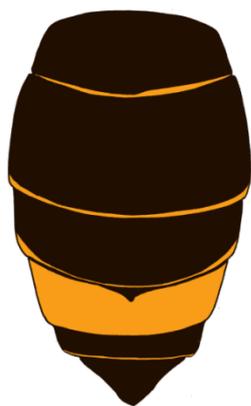
- After 12 hours in the freezer, remove the trap lid.
- Immediately place the suspect hornet in one of the small sample tubes.
- Put your apiary details on one of labels provided in your kit, and affix to the sample tube.
- Submit the sample to the NBU laboratory for identification.

### How to identify the Asian hornet

Although superficially similar to our native hornet *Vespa crabro*, the Asian hornet is not easily confused with any other species. Key points to note:

- The Asian hornet is slightly smaller; queens measure up to 30mm long; workers up to 25mm. Our native hornet, *Vespa crabro*, queens measure 25–35 mm; workers are 18–24 mm.
- The Asian hornet has a dark brown or black velvety body (thorax).
- Crucially, the Asian hornet has just one yellow stripe on the 4th abdominal segment whereas *V. crabro* has a much more ‘stripy’ yellow abdomen.
- The lower sections of Asian hornet’s legs are yellow; it is sometimes called the ‘yellow legged hornet’.
- For further ID details, see <https://secure.fera.defra.gov.uk/beebase/index.cfm?pagelid=208>.
- We have also produced an article on ‘mistaken identities’ which covers other insects that may be confused with the Asian hornet (<https://secure.fera.defra.gov.uk/beebase/index.cfm?pageid=166>).





**Asian hornet (*Vespa velutina*)**



**Native hornet (*Vespa crabro*)**

### **Minimising damage to other insects during trapping**

The home-made monitoring traps for monitoring for the Asian hornet will inevitably catch other flying insects - it is very important that any trapping regime keeps damage to native wasps, hornets and any other insects to an absolute minimum. It is for this reason that we emphasise that wherever possible, traps must be checked daily and any surviving non-target insects be released. Beekeepers whose apiaries are located in the area of an Asian hornet outbreak will be provided with the Veto-Pharma killing traps. The undesirable side effects of the killing traps need to be viewed in the context of the damage that the Asian hornet will cause to native fauna should it establish and spread in the UK. Asian hornets do not only predate honey bees; a substantial part of their diet comprises a diverse range of species, including other types of bees, hoverflies, spiders and even large insects such as butterflies and dragonflies. In monitoring for the arrival or spread of the Asian hornet, in the long run you are helping to protect far more than managed honey bees.

### **How long to continue trapping**

Please continue to hang, check and re-bait your trap until notified otherwise by the NBU. As soon as the NBU is able to provide confirmation the Asian hornet has been eradicated from your area, we request that you immediately remove the trap.

### **Contact details**

National Bee Unit, The Animal and Plant Health Agency (APHA),  
National Agri-Food Innovation Campus, Sand Hutton, York, YO41 1LZ, UK  
Email: [nbu@apha.gsi.gov.uk](mailto:nbu@apha.gsi.gov.uk)  
Telephone: +44 0300 3030094

Report sightings to the Non Native Species Secretariat at [alert\\_nonnative@ceh.ac.uk](mailto:alert_nonnative@ceh.ac.uk)