



**CONTINGENCY PLAN
FOR THE ARRIVAL OF SMALL HIVE BEETLE (AETHINA TUMIDA) AND TROPILAEALAPS MITES
IN ENGLAND AND WALES**

The Food and Environment Research Agency
National Bee Unit

On behalf of the
Department for Environment, Food and Rural Affairs
and the
Welsh Government

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TABLE OF CONTENTS

Section		Pages
	Glossary	4
	Executive Summary	5-6
1	Purpose of the Plan	7
2	Background	8
3	Legislative Framework and Statutory Authority	8-9
4	Outline of Command Structures	9-10
5	Activating the Contingency Plan	10-14
6	Management of Information and Communication	15
Annex I:	Apiary Surveillance	16-17
Annex II:	Outbreak scenarios	18-22
Annex III	Fera Standard Operating Procedures	23
Annex IV:	Roles and Responsibilities	24-28
Annex V	Communication activities	29
Annex VI:	Situation Reports	30-31
Annex VII	Key Contacts	32-34

GLOSSARY

AHVLA	Animal Health and Veterinary Laboratories Agency
BeeBase	NBU beekeeper and apiary database and website
BHAF	Bee Health Advisory Forum
BHP	Fera Bee Health Policy
CRD	HSE Chemicals Regulation Directorate
CVO	Defra Chief Veterinary Officer
Defra	Department for Environment, Food and Rural Affairs
DA's	Devolved Administrations (Scottish Government and Department of Agriculture and Rural Development Northern Ireland)
EU	European Union
Fera	The Food and Environment Research Agency
FSA	Food Standards Agency
NBI	National Bee Inspector
NBU	Fera National Bee Unit
NDCC	Fera National Disease Control Centre
OCVO	Welsh Government Department for Rural Affairs, Office of the Chief Veterinary Officer
OGD	Other Government Department
OIE	Office International des Épizooties (World Organisation for Animal Health)
PMB	Healthy Bees Plan Project Management Board
RBI	Regional Bee Inspector
SBI	Seasonal Bee Inspector
SCG	Strategic Co-ordinating Group
SHB	Small Hive Beetle
SIA	Statutory Infected Area
SOPS	Fera Standard Operating Procedures
STC	Special Treatment Certificate
Third countries	Countries outside the European Union
VMD	Veterinary Medicines Directorate
WG	Welsh Government

EXECUTIVE SUMMARY
PROPOSED ACTION IN THE EVENT OF AN INTRODUCTION INTO ENGLAND OR WALES OF
THE SMALL HIVE BEETLE OR TROPILAEALAPS MITES

1. The purpose of this plan is to set out the response to an outbreak in England or Wales of the Small hive beetle (SHB) or Tropilaelaps mites which are exotic pests of honey bees. This plan will also be used as a template for other future novel exotic pests and diseases of honey bees.
2. In the event of a suspect case of SHB or Tropilaelaps mites, the National Bee Unit (NBU) (part of the Food and Environment Research Agency (Fera)) will immediately inform Fera's Bee Health Policy team (BHP) and the Welsh Government's (WG) Office of the Chief Veterinary Officer (OCVO).
3. On confirmation of the finding by the NBU, BHP will contact the Department for Environment Food and Rural Affairs' (Defra) Chief Veterinary Officer (CVO) who will notify the European Commission (EC) and the Office International des Épizooties, the World Organisation for Animal Health (OIE), within 24 hours. The Devolved Administrations (DA's), key national and local stakeholders will also be informed.
4. The response to the outbreak will be controlled using a Strategic, Tactical and Operational Command Structure. BHP will set up a Strategic Co-ordinating Group (SCG) which will be responsible for the decision-making processes at a strategic level. A National Disease Control Centre (NDCC) will be set up by the NBU to provide the tactical response to an outbreak and report to the SCG. The NDCC's purpose is to provide a co-ordinated response to the direction received from the SCG, devise tactics for operational implementation and provide operational feedback. Where necessary, a Local Disease Control Centre (LDCC) will be established to implement tactical guidance from the NDCC in the outbreak area and report to the NDCC.
5. Fera or WG will declare a Statutory Infected Area (SIA), under the national bee health legislation in England or Wales. For an incursion of the SHB, the SIA will extend to an area of at least 16km radius (based on its ability to disperse by flight) around the infected apiary(ies) or premises. An SIA of 16km radius will also be used for Tropilaelaps mites because although the mites are unable to fly they can be dispersed by adult bees through drifting, robbing and swarming or by beekeeping practices (movement of infested hives, combs or using contaminated equipment. Therefore restrictions will be placed on all apiaries within the SIA but inspections will be prioritised within a radius of 5km. Movement restrictions for bees, colonies, and other products and equipment liable to spread the pest will apply in the whole of the SIA. This prohibition applies to movement into, within or out of the SIA (except under a licence issued by the NBU) and will remain in force until an assessment is made on the extent of the spread of the pest. The timescale for this is expected to be between one and three weeks.
6. If the assessment shows that the outbreak is isolated and eradication is practicable, all colonies in the affected apiary(ies) and the surrounding area that are infected, contact colonies in apiaries close by and identified feral bee colonies considered at very high risk to infection will be destroyed. In all other circumstances, i.e. if the SHB is established, then based on present technical knowledge there would be no benefit from attempting eradication and instead a policy of containment to slow down the spread will be implemented through colony movement restrictions and treatment of infected apiaries.
7. If the outbreak is widespread and therefore not containable, appropriate control methods and veterinary medicinal products effective against the pest in another country will be considered and adopted, provided that they have been evaluated and judged to be appropriate and safe, and approved in advance by the Veterinary Medicines Directorate (VMD). In the absence of any authorised products, approval will be sought from VMD to apply emergency treatments under the Veterinary Medicines Regulations.

8. Fera will support the beekeeping sector by providing advice and training for beekeepers to combat the pest and reduce its negative impact on productivity and if appropriate, develop pest and colony management plans.

SECTION 1 - PURPOSE OF THE PLAN

- 1.1 This contingency plan sets out the Government's response to the introduction of the Small hive beetle (SHB) or Tropilaelaps mites (notifiable exotic pests of honey bees) in England and Wales and contributes towards the delivery of outcomes 1 and 3 of the 10 year Healthy Bees Plan (<http://www.fera.defra.gov.uk/plants/beeHealth/documents/healthyBeePlan.pdf>)
Outcome 1: Impacts from pests, diseases and other hazards are kept to the lowest levels achievable
Outcome 3: Effective biosecurity at all levels minimises risks from pests, diseases and undesirable species
- 1.2 The plan should also be regarded as a template for the finding of any future novel exotic pest or disease of honey bees. The plan does not directly relate to bumble bees although contingency measures may be taken at a premises or place where these are located since it is possible that *Bombus* spp. could host the SHB. Further details of the SHB and Tropilaelaps mites can be found on the NBU's BeeBase website. (www.nationalbeeunit.com).
- 1.3 The aims and objectives of the plan are to protect the English and Welsh honey bee population from the SHB and Tropilaelaps mites by:
- Early detection;
 - 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;
 - Providing assistance to the beekeeping industry in the form of training and pest or disease control.
- 1.4 This plan identifies the distinct roles and responsibilities of Government, beekeepers, their associations and other stakeholders in achieving its aims. It establishes the organisational roles, responsibilities and legal framework required at strategic and tactical levels to support the operations on the ground that would be taken should an outbreak occur.
- 1.5 The plan will be reviewed annually, or more frequently, if necessary, in the light of any new developments. Overall responsibility for reviewing the plan lies with Fera's BHP in association with WG's OCVO, the NBU, the Bee Health Advisory Forum (BHAF), which will be consulted on behalf of stakeholders in England and Wales. The robustness of the plan will be tested each year through simulation exercises involving key Fera and NBU personnel, beekeepers and other stakeholders. "Lessons learned" reports will be produced following these and from real outbreaks, and the plan reviewed and amended accordingly.

SECTION 2 – BACKGROUND

- 2.1 Honey bees make an important contribution to the sustainability of the countryside, contributing both to agriculture and horticulture and to biodiversity. There are an estimated 250,000 colonies of honey bees in England and Wales kept by around 37,000 beekeepers.

Bee Health Programmes in England and Wales

- 2.2 Defra and WG's bee health programmes are delivered by the NBU and are in place to control the spread of statutory notifiable endemic diseases of honey bees and to identify and manage the risk associated with exotic pests and diseases that may be introduced into England or Wales.
- 2.3 The key principles behind the risk analysis of pests and diseases of bees and the NBU's surveillance programme for monitoring for the presence of exotic pests and diseases are set out in Annex I.

Healthy Bees Plan

- 2.4 The Healthy Bees Plan was launched in March 2009 in recognition of the challenges facing beekeepers and is aimed at sustaining the health of honey bees and beekeeping in England and Wales over the next decade. The plan is being achieved by partnership working with individual beekeepers, their associations and other stakeholders. More details are available at: <http://www.fera.defra.gov.uk/plants/beeHealth/documents/healthyBeePlan.pdf>

Emerging Pest and Disease Threats

- 2.5 Globalisation, trade and movement of bees around the world has increased the risks to bee health in the UK. An updated Pest Risk Assessment (PRA) for SHB was completed in March 2010. The main risk pathways were identified as:
1. Movement of honey bees into the UK.
 2. Movement of alternative hosts e.g. bumble bees for pollination purposes.
 3. Trade in hive products – in particular rendered beeswax and honey in drums post extraction from third country and EU origin and honeycomb and any other unprocessed wax products from the EU.
 4. Soil or compost associated with plant trade from third countries. Soil imported from the EU and Mediterranean countries.
 5. Fruit imports – in particular avocado, bananas, grapes, grapefruit, kei apples, mango, melons and pineapples.
 6. Movement on beekeeping clothing / equipment.
 7. Movement on freight containers and transport vehicles.
 8. Natural spread of pest itself by flight, on its own or possibly in association with a host swarm. This pathway is only applicable for the scenario that SHB is present in neighbouring countries.
- 2.6 Globalisation, trade and movement of bees around the world has increased the risks to bee health in the UK. A Pest Risk Assessment (PRA) for Tropilaelaps was completed in March 2012. The main risk pathways were identified as:
1. Importation of nucleus colonies;
 2. Importation live adult bees;
 3. Movement on beekeeping equipment;
 4. Movement with honey bee swarms or other organisms;
 5. Trade in hive products.

SECTION 3 - LEGISLATIVE FRAMEWORK AND STATUTORY AUTHORITY

- 3.1 EU legislation is in place to reduce the risk of introduction into the Union of certain pests and diseases of bees, in particular the SHB and Tropilaelaps mites. National legislation contains powers to control specified bee pests and diseases and provides the framework under which this contingency plan would be implemented.

EU Legislation

- 3.2 Under EU legislation, consignments of honey or bumble bees moved between Member States and into the Union must be accompanied by a health certificate issued by the competent authority of either the originating Member State or the exporting country. This confirms freedom from specified pests and diseases including the SHB and Tropilaelaps mites. Imports are only permitted from specified third countries and, with the exception of New Zealand, are restricted to queen bees and attendant workers only. Post import controls are also in place for such imports. The NBU also carries out spot checks of bees imported from other Member States.
- 3.3 In the event of a confirmed finding of SHB, the EU may introduce safeguard measures to deal with the outbreak. These measures include action at the apiary and inspections and epidemiological investigations within a specified area.

Legislation in England and Wales

- 3.4 The Bee Diseases and Pests Control (England) Order 2006 and the Bee Diseases and Pests Control (Wales) Order 2006 lay down provisions for American and European foul brood, the SHB and Tropilaelaps mites. In the case of the SHB and Tropilaelaps mites, the notification measures also extend to suspect findings away from an apiary environment. Under the legislation, appointed NBU Bee Inspectors have powers of entry and can take action where statutory diseases or pests are suspected or confirmed. For confirmed outbreaks of the SHB or Tropilaelaps mites, SIAs may also be declared.
- 3.5 EU legislation is available at (www.eur-lex.europa.eu/en/index.htm). UK legislation is available at <http://www.legislation.gov.uk/>

SECTION 4 – OUTLINE OF COMMAND STRUCTURES

Command and Control

- 4.1 The response to an SHB or Tropilaelaps mite outbreak will be controlled using a Strategic, Tactical and Operational Command Structure. The organisational structure of the contingency plan outlining these roles is illustrated in Figure 1 and the composition and responsibilities of each group are in Annex IV.

Strategic Command – Strategic Co-ordinating Group (SCG)

- 4.2 The SCG is responsible for the decision-making processes at strategic level, focussing on controlling all stages of the outbreak and the strategies taken to resolve it, maintaining the longer term view and looking at the wider impact.

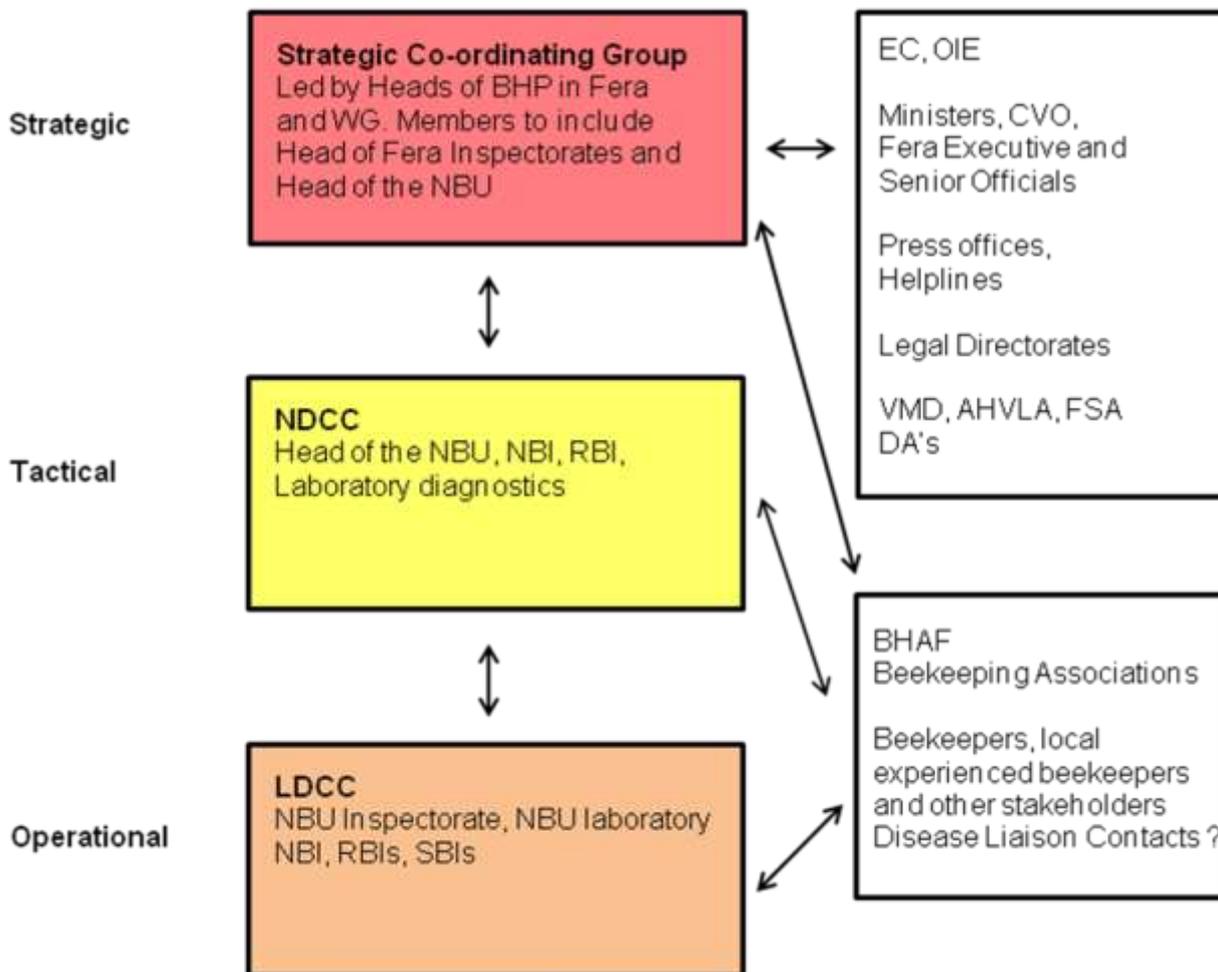
Tactical Command – National Disease Control Centre (NDCC)

4.3 The NDCC provides the tactical response to an outbreak and reports on these issues to the SCG. The NDCC's purpose is to provide a co-ordinated response to the direction received from the SCG, devise tactics for operational implementation and provide operational feedback.

Operational Role – Local Disease Control Centre (LDCC)

4.4 The LDCC receives and implements tactical guidance from the NDCC and provides regular reports to the NDCC.

Figure 1. Map of high-level actions and communication following confirmation of outbreak (see Annex III for roles and responsibilities)



SECTION 5 - ACTIVATING THE CONTINGENCY PLAN

Action on suspicion of the SHB or Tropilaelaps mites

5.1 In the event of a suspect finding, the NBU will take immediate investigative action according to Fera's Standard Operating Procedures (SOPS) (Annex III) and report all investigations to Fera BHP and WG. Movement restrictions on the suspect apiary(ies) will be put in place.

- 5.2 The Head of the NBU will put elements of Fera's NDCC on standby. Fera BHP and WG's OCVO will also place themselves on standby and alert their legal services that a declaration establishing a SIA(s) may need to be drawn up.

Action on confirmation of the SHB or Tropilaelaps mites

- 5.3 On confirmation of the finding, the NBU will initiate the contingency plan. The Head of the NBU will fully activate the NDCC and initiate actions to rapidly establish whether the outbreak is isolated or widespread. A summary of the initial action to be taken during an outbreak is illustrated in Figure 2.
- 5.4 The following immediate actions will take place:
- The Head of Fera BHP (following advice from the NBU), in conjunction with WG OCVO, will set up a SCG and notify their Ministers, the Fera Executive, the CVO, Defra and WG senior officials, Defra/WG press offices, the DA's, and other government agencies as appropriate.
 - The Head of the NBU will establish the NDCC and notify the National Bee Inspector (NBI) and all Regional Bee Inspectors (RBIs) to enable deployment of NBU staff and NBU Bee Inspectors to the LDCC at the outbreak area(s).
 - The SCG will liaise with the NBU/NDCC, and with the Defra and/or WG Legal and Communications Directorates regarding legislative requirements and the dissemination of information to the public, beekeeping associations and other stakeholders.
 - The CVO will notify the EC and the OIE of the primary outbreak.

SIA and Movement Restrictions

- 5.5 On confirmation of an outbreak, a SIA around the affected apiary(ies) will be declared by a Notice under the Order. The Notice(s) will define precise boundaries and will be published on the NBU's BeeBase website and elsewhere as appropriate.
- 5.6 Based on current knowledge of the dispersal of SHB, the SIA will initially cover a minimum 16km radius and may be altered and enlarged as circumstances change. For Tropilaelaps mites, the SIA will also cover a minimum radius of 16km but inspections will initially be prioritised within a radius of 5km. Restrictions will be placed on all apiaries within the designated SIA, prohibiting the removal of colonies, queen bees, bee pests, used beekeeping equipment, hive debris, all unprocessed hive products, including honey and raw beeswax or any other thing which is liable to spread the pest, within, into or out of the infected area except under a licence issued by the NBU. These restrictions will remain in force while the NBU completes emergency apiary searches and delimiting surveys within the SIA, and until a decision is taken on the extent of the outbreak and whether or not eradication could be attempted. If necessary, movement restrictions will be placed on infected apiaries outside the SIA or the SIA extended.
- 5.7 The NBU will not issue any health certificates for the export of honey bees until the extent of the outbreak is known, and pending any decisions taken at EU level.

Emergency Searches and Inspections

- 5.8 The NBU's BeeBase database and Geographic Information Systems (GIS) will be used to enable searches to be targeted at all known apiaries in an appropriate and scientifically based radius of the outbreak where practicable, plus apiaries that are identified through subsequent tracings e.g. any bee movements or sales of honey bees, hive products and beekeeping

equipment from the designated premises within the SIA. The NBU will define the size of the search areas and priorities.

- 5.9 Teams of NBU Bee Inspectors deployed to the outbreak area(s) will be based and coordinate work from the LDCC. They will rapidly establish with the assistance of Disease Liaison Contacts (DLC's) and other beekeepers through emergency searches the extent of the outbreak (if it is isolated or established) and, if possible, its source. They will also establish if there are further primary infestations in the restricted area including any bumble bee or feral bee colonies, and any secondary infestations further afield. Details of the inspection protocols are given in the NBU's SOPS (Annex III).
- 5.10 Follow-up inspections will be completed based on any information gathered by this process. Risk analysis will be an integral component of the emergency searches to predict potential spread from the point of entry and assist with targeted inspections.

Laboratory Diagnosis

- 5.11 Any suspect samples sent by beekeepers or NBU Bee Inspectors to the NBU, York will undergo a confirmatory diagnosis. A report will be sent to affected beekeepers (copied to the local NBU Bee Inspector(s)) as soon as possible but it should be borne in mind that many thousands of samples could be submitted.

Training and Extension

- 5.12 The NBU will engage in a comprehensive training programme for beekeepers to enable them to manage the incidence of the pest in their colonies.

Isolated Outbreaks

- 5.13 After completion of the initial search, if the NBU considers that the outbreak is an isolated incident, then eradication might be practicable and therefore attempted after consultation with the SCG. Isolated means that the pest has only been found in a very limited number of apiaries in a restricted geographical area (and data from the searches shows a high probability of success in this endeavour).
- 5.14 All colonies that are infested or have been exposed to infestation and contaminated hive products in the affected area will be destroyed, normally by burning. All potentially infected equipment will be sterilised or destroyed, as appropriate. The NBU will regularly survey the affected apiaries, and place neighbouring unaffected apiaries under close surveillance, for at least two years after the pest has been "eliminated", to confirm continued freedom.

Emergency Pest Control: Product Treatment Availability

- 5.15 Currently, most medicaments available overseas to control many of the exotic pests and diseases of bees are not approved or available in the UK for general use in apiculture. In the event of an outbreak of the SHB or Tropilaelaps, Fera BHP and WG OCVO, on the advice of NBU will apply to the VMD for Special Treatment Certificates (STCs) to use acaricides or other alternative medicaments considered appropriate to control or treat affected colonies.
- 5.16 Integrated Pest Management (IPM) techniques, already an important feature of the NBU's extension programme, will also be advocated as the best approach to control the pest. Details of current methods are available in the NBU advisory leaflets and on the BeeBase website.

Treatment Schedules

- 5.17 As SHB has only been subjected to intensive scientific study for a comparatively short time, there are still significant gaps in the understanding of many aspects of its biology and habits. So far, chemical measures to control SHB have not been fully effective and are considered short-term measures. Tropilaelaps can be controlled using appropriate miticides combined with IPM methods. Appropriate precautions as defined in the STCs will be taken with any medicaments approved by the VMD to control SHB or Tropilaelaps mites in the hive to prevent the risk of possible contamination of honey and other hive products. In such cases, it may be necessary in an emergency to place storage restrictions on the use of harvested honey or other hive products from treated colonies, to allow time for residues to break down before consumption or sale. In such instances, Fera and WG will inform the appropriate FSA of any additional controls placed on harvested honey or hive products subsequently intended for human consumption.

Widespread and Established Outbreaks

- 5.18 In the event that an outbreak proves to be established and widespread, the SCG taking the advice of the NBU, may advise Ministers and the Fera Executive, that eradication as a control method no longer remains practicable. In such a case, a policy of containment will be implemented. Depending on the extent of the outbreak, the shift from eradication to containment may be very swift. This is illustrated for SHB in Annex II where the implications for different outbreak scenarios are described. It may be necessary to extend the SIA to contend with outbreaks that spread slowly, in an attempt to further slow them down and contain them geographically. Restrictions on colony movements will slow down spread but not eliminate apiary infestations. The lifting of the SIA(s) will be considered by the SCG in the light of the extent and spread of the outbreak(s). This decision will be coordinated with the DA's. However, statutory measures contained in bee health legislation to treat the (endemic) pest will continue to apply. The NBU will then concentrate its efforts on providing technical advice and training services for beekeepers to recognise and efficiently control affected colonies. Longer term management options for dealing with the pest will be considered by the SCG.

Fera Standard Operating Procedures (SOPS)

- 5.19 Operational Instructions to carry out the detailed requirements of this contingency plan are set out in separate Good Laboratory Practice and NBU SOPS, which are listed in Annex III. Parallel and separate Control of Substances Hazardous to Health (COSHH) and health and safety assessments will be produced where appropriate. The NBU reviews and revises SOPS as a minimum bi-annually.

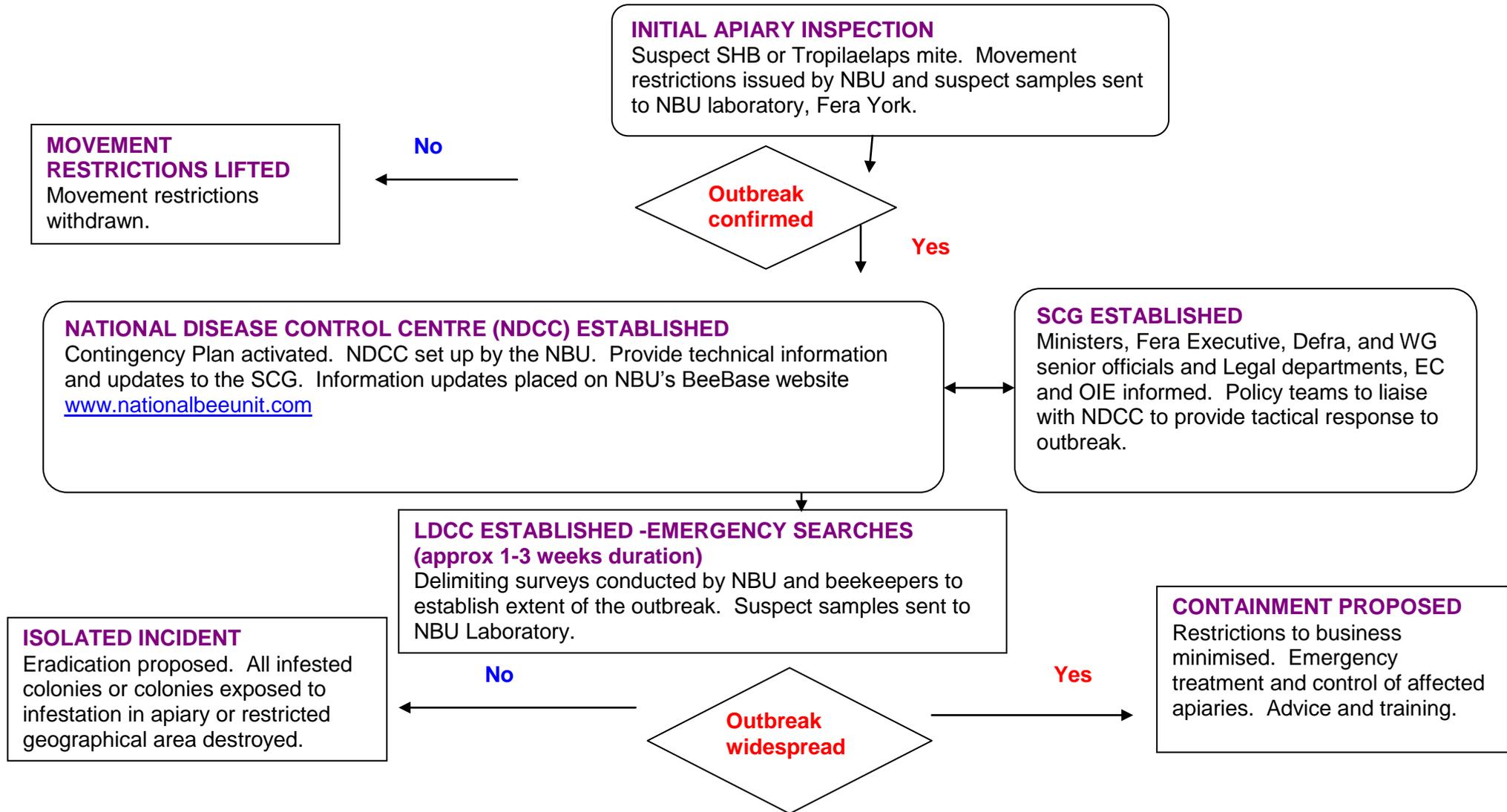
EC and the OIE reports

- 5.20 Fera BHP will provide at least weekly update reports to the EC and OIE.

Further Information on SHB and Tropilaelaps

- 5.21 Further information and advisory leaflets on the SHB and Tropilaelaps can be found on the NBU's BeeBase website.

Figure 2. Summary of Actions Taken Under the Contingency Plan



SECTION 6 - MANAGEMENT OF INFORMATION AND COMMUNICATION

Communication plan

- 6.1 The SCG will work with the NDCC to agree a communication plan. Key communication activities are at Annex V. Contact information is provided in Annex VII.

Media – Defra and WG Press Offices

- 6.2 The issue of News Releases will be co-ordinated through Defra and WG Communications Directorates and the Fera Media Officer. Defra and WG Press Offices will take all respective national media enquiries and organise press briefings, if considered necessary.

Websites

- 6.3 The NBU's BeeBase website will be a key source of information in the event of an outbreak and will link to the Defra and WG websites (information on the WG website will be available in English and Welsh). The BeeBase website information will include:
- Full details of the SIAs, control measures and restrictions. This will include maps of the outbreak areas at a minimum scale of 10km square.
 - Advisory and technical information on biology of the pest and detection and control methods for beekeepers.
 - Information for beekeepers on how to send suspect samples to the NBU laboratory in order to prevent, as far as possible, the risk of spread of the (suspect) pest during transit.
 - General advice for interested parties, e.g. press.
 - Links to relevant websites for further technical information.

Mailshots/contacts

- 6.4 All beekeepers registered on BeeBase within a 16km radius of an outbreak will be informed by mail or email. They will be provided with advisory material, Apiary Information Sheets and asked to complete an Exotic Pest Incident Questionnaire for return to the NBU laboratory. These returns will provide essential information on sales, purchases and recent colony movements and help decisions by the NDCC for follow-up inspections, etc. All efforts will be made to contact other beekeepers within the outbreak area.

Knowing the location of apiaries is crucial to the success of this plan and all beekeepers are encouraged to register on BeeBase.

Helplines

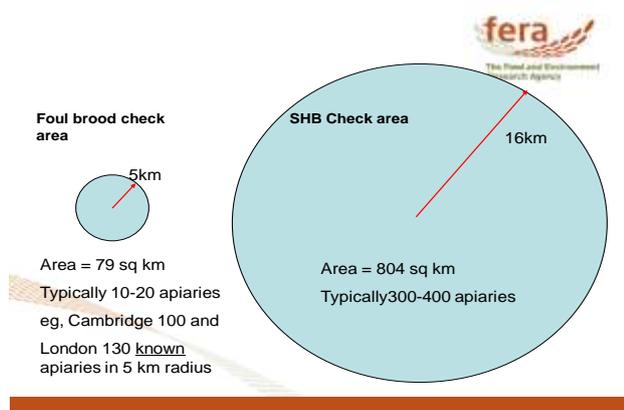
- 6.5 Dedicated telephone help lines and an e-mail address will be set up by the NDCC to deal with any enquiries related to the outbreak. The Defra and WG Helplines will also be briefed by the respective policy divisions to assist with dealing with the public. The WG Helpline will be bilingual.

APIARY SURVEILLANCE

Registration on BeeBase

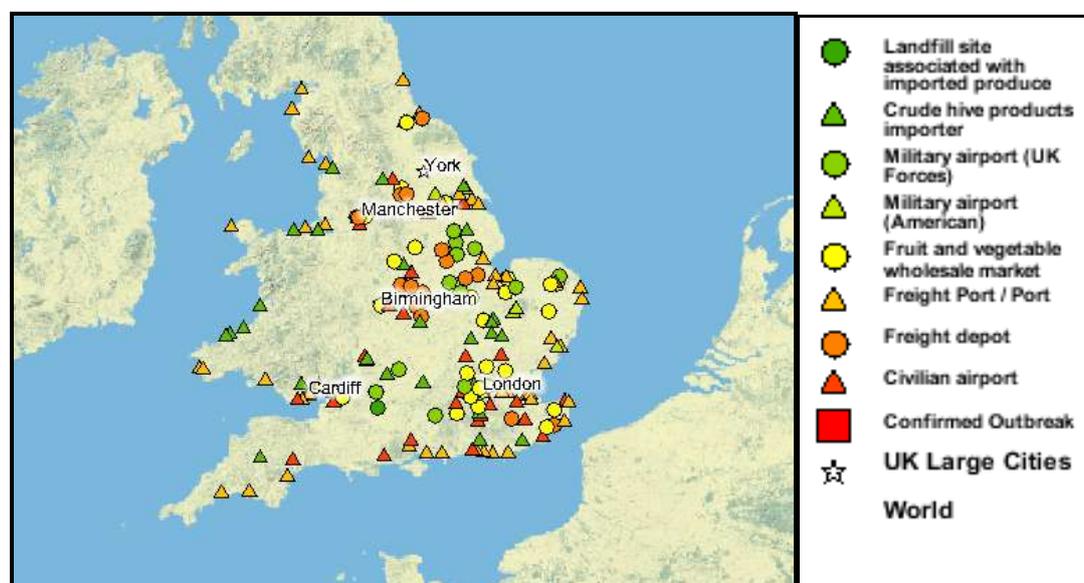
Figure 1 illustrates the nature of the challenges facing NBU Bee Inspectors checking neighbouring apiaries for pests or diseases. The chances of controlling these are much greater if the location of apiaries and beekeepers' contact details in those areas are known. Without such information, diseases and pests may go undetected possibly leading to their rapid spread. Therefore, all beekeepers are strongly encouraged to register on BeeBase.

Figure 1.



The NBU monitors for exotic pests through its Exotic Pest Survey (EPS) which are part of the annual statutory programme. GIS is used to target all 'at risk' apiaries for instance those near ports, freight terminals or airports or belonging to bee importers. A map of these risk points is below. As soon as they are identified, new risk points will be added to BeeBase.

The EPS is risk based and identified 'at risk' apiaries, will be 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 concentrate 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

With the co-operation of local beekeepers, the NBU has set up apiaries in each of the eight regions to act as sentinel apiaries and these are in both 'at risk' and random areas to maximise the likelihood of early detection. Hives within the sentinel apiaries are examined regularly for exotic pests using SHB traps and specific inspection procedures. Samples of hive debris are tested twice in each season for the presence of SHB and Tropilaelaps mites.

**EXAMPLES OF DIFFERING OUTBREAK SCENARIOS FOR THE SMALL HIVE BEETLE –
IMPLICATIONS FOR ERADICATION VERSUS CONTAINMENT**

Assessing suspect samples

There are a number of ways in which a potential incursion by the SHB is likely to come to the attention of the NBU, thus triggering a “suspected” outbreak response. Although ALL suspect findings are treated extremely seriously, and addressed immediately, these can in practice be ranked in terms of the relative degree of certainty that the suspect is likely to prove genuine, warranting a full response. If the suspect organism is detected by a trained individual, such as an NBU Bee Inspector or an experienced beekeeper, and a physical specimen is submitted to Fera, then even while awaiting confirmatory (molecular) diagnostic results, visual diagnostics are likely to be able to provide an immediate and accurate diagnosis (assuming the sample is intact) that the sample is genuine. In this case, the degree of certainty is an incursion of SHB is very HIGH and a stringent initial response is warranted, including movement restrictions and appropriate surveillance for further spread. By contrast, if the suspect organism is reported by an untrained individual and no physical specimen is submitted, then the degree of certainty that a full response should be initiated is comparatively LOW. In such cases, an NBU Bee Inspector will visit the site to search for evidence that an incursion has taken place (i.e. to collect any available sample(s) for molecular testing and to make an on-the-spot visual assessment of any risk posed). Only after this has been done can the level of first response be properly judged.

In the case of a highly suspected incursion by SHB, movement restrictions would be placed on the outbreak site and all other apiaries within the SIA (total area involved 804 km²). NBU Bee Inspectors would inspect all apiaries within this area (typical number of apiaries involved = 500 with an average of 4 colonies = 2000 colonies).

Note: In a typical year, the NBU receives in the order of 10 suspect SHB samples submitted for confirmatory diagnosis (not including those submitted for the purposes of routine exotic pest surveillance). If each of these were treated as if the degree of certainty were HIGH, they would have resulted in 20,000 additional colony inspections across England and Wales and caused movement restrictions to be placed on approximately 5,000 apiaries.

Containment thresholds in event of different incursion scenarios

In the event that SHB is confirmed, the primary and immediate aim would be to eliminate it as quickly as possible, using all available eradication methods. If this should prove to be impossible, then the aim would be to minimise impact and spread, through deployment of containment strategies.

Eradication: The key elements are: destruction of affected apiaries and all contaminated equipment, stringent surveillance and movement restrictions in the SIA.

Containment: Containment strategies are not designed to eliminate the pest, but only to minimise impact and spread. Key elements would be husbandry methods, good hygiene practices and apiary management. Modified honey extraction and handling methods will limit delays that can allow SHB numbers to rise. All of these practices are the responsibility of the beekeeper, without the need for input by NBU Bee Inspectors (other than in their usual general support role).

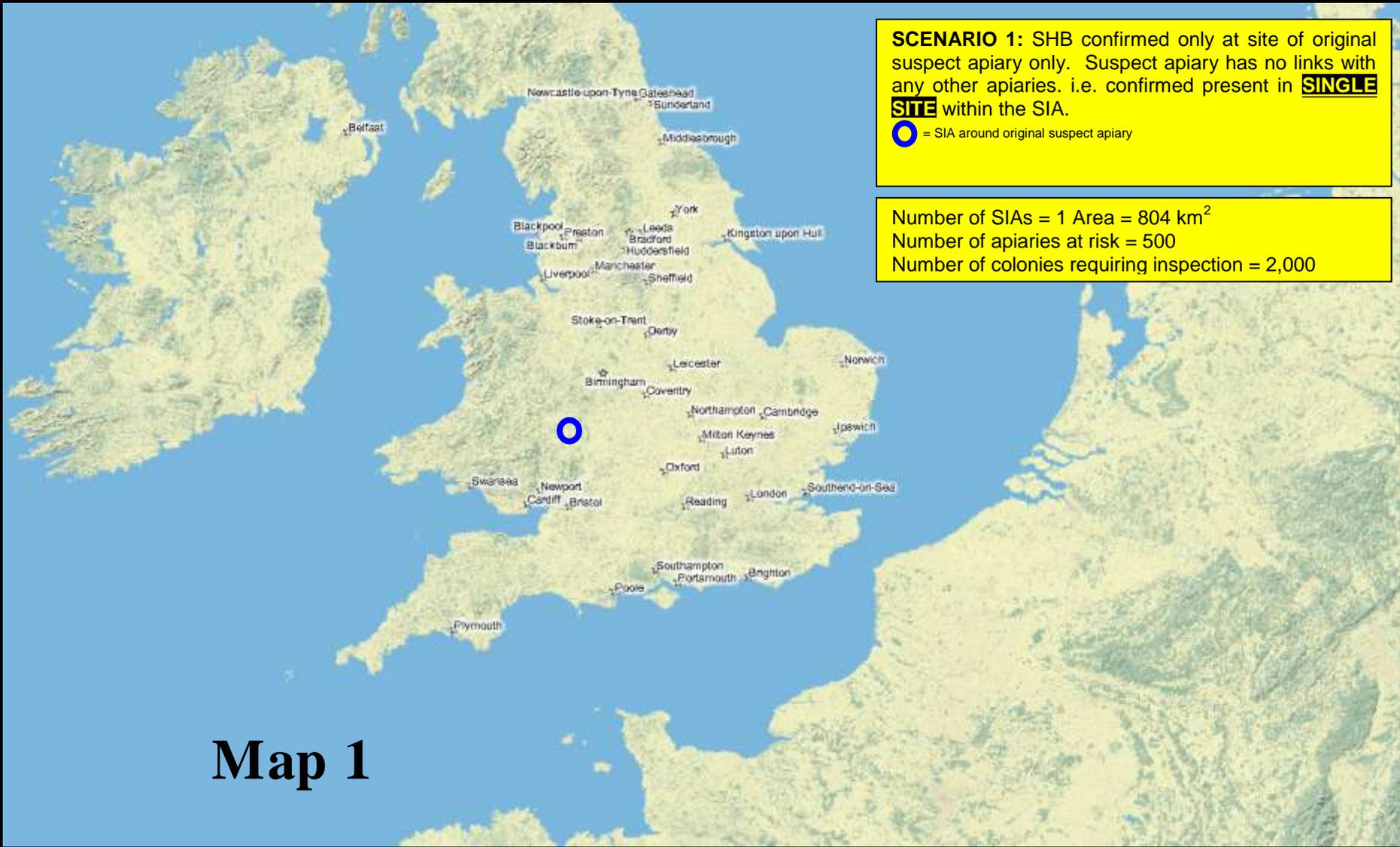
Unless SHB is rapidly eliminated and its spread is halted very soon after initial incursion, it may become impractical to pursue eradication; there are many circumstances under which containment may become the best (if not the preferred) option. In order to demonstrate the impact of spread on the relative viability of eradication *versus* containment, the following maps show the implications

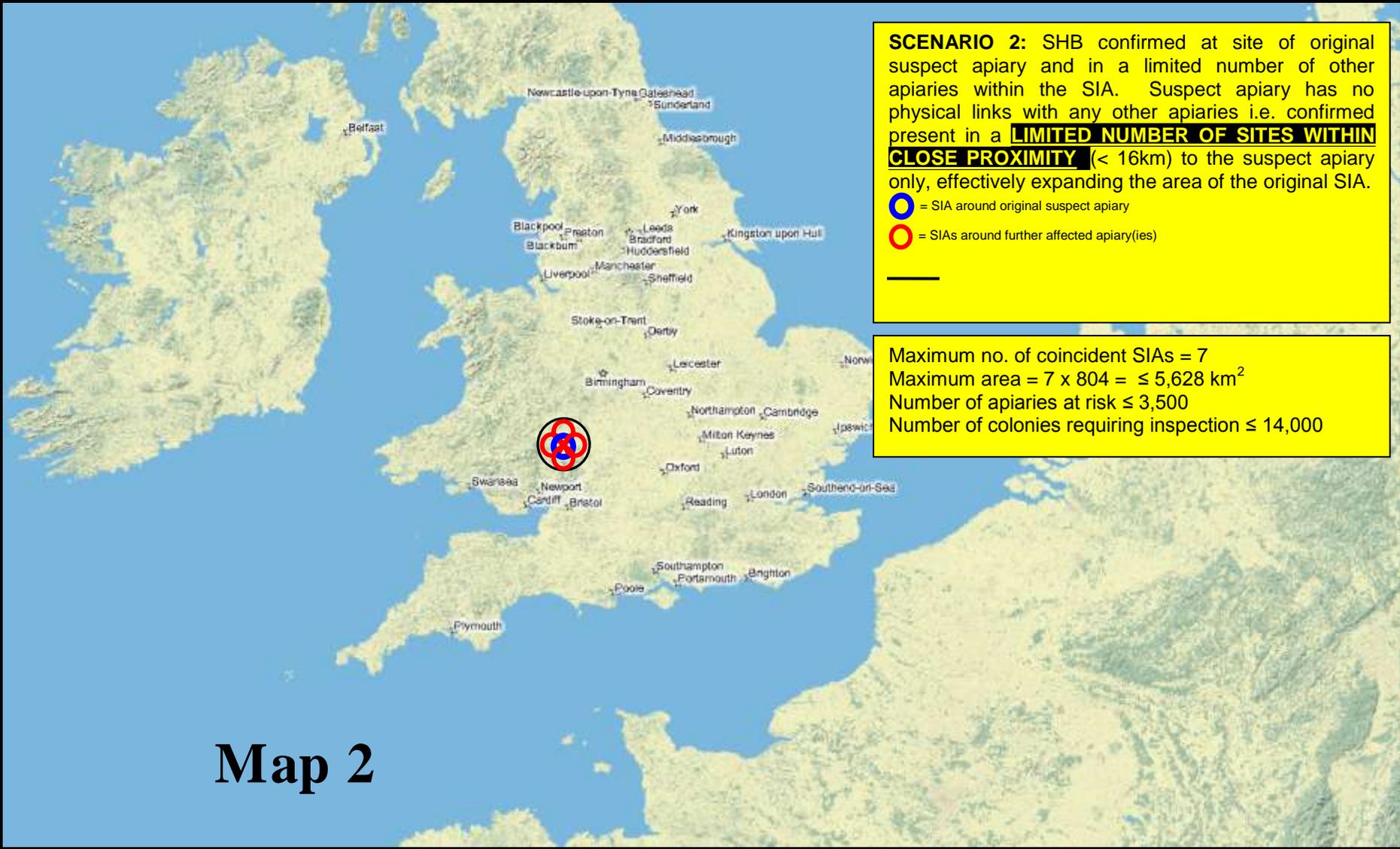
of three different incursion scenarios on the scale of response required from the NBU (and beekeepers).

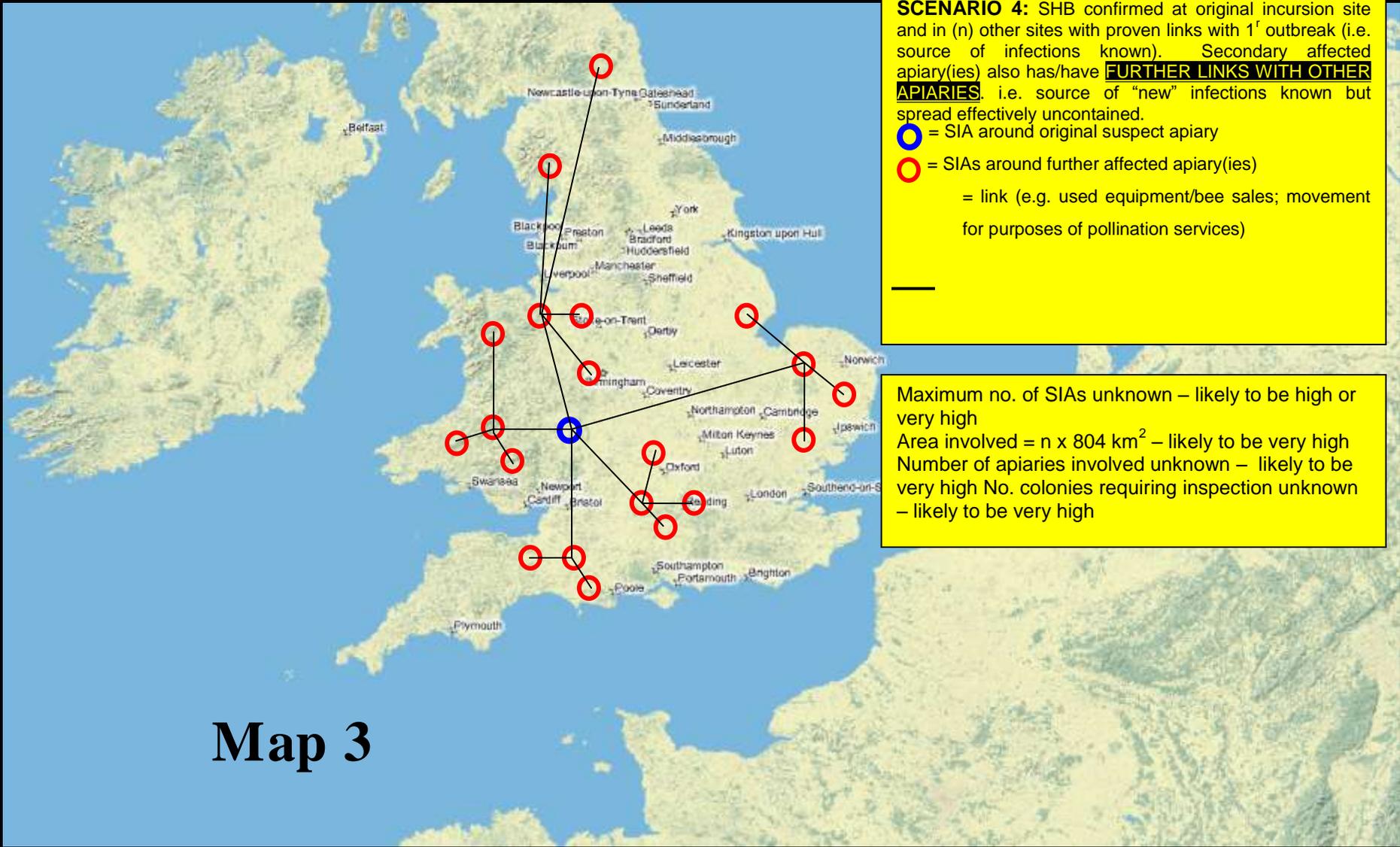
MAP 1. SHB confirmed present only at single site = original suspect apiary. This incursion site is isolated (i.e. has no physical links of any kind with any other apiaries, for example through trade/exchange of beekeeping equipment, movement of bees for pollination purposes etc.).

MAP 2: SHB confirmed at original incursion site and in a limited number of other sites within the original SIA.

MAP 3: SHB confirmed at original incursion sites and in (n) other sites with proven links with 1st outbreak (i.e. source of infections known).







SCENARIO 4: SHB confirmed at original incursion site and in (n) other sites with proven links with 1st outbreak (i.e. source of infections known). Secondary affected apiary(ies) also has/have **FURTHER LINKS WITH OTHER APIARIES**. i.e. source of “new” infections known but spread effectively uncontained.

- = SIA around original suspect apiary
- = SIAs around further affected apiary(ies)
- = link (e.g. used equipment/bee sales; movement for purposes of pollination services)

Maximum no. of SIAs unknown – likely to be high or very high
 Area involved = $n \times 804 \text{ km}^2$ – likely to be very high
 Number of apiaries involved unknown – likely to be very high
 No. colonies requiring inspection unknown – likely to be very high

Map 3

FERA STANDARD OPERATING PROCEDURES (SOPS)
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The NBU will use the following SOPs for the management of the contingency plan:

Title	SOP Number
Statutory bee health control procedures and responsibilities	NBU/074
Extended Apiary surveillance for exotic honey bee parasitic mites.	NBU/152
Organising and arranging visits to beekeepers	NBU/082
Active surveillance for small hive beetle	NBU/135
Contingency Planning –National Disease Control Centre and Local Disease Control Centres for extended Apiary surveillance	NBU/153
Routine apiary surveillance of exotic mites of honeybees	NBU/154
Safety procedures for Bee Inspectors	NBU/083
Destruction of infected colonies	NBU/080
Selecting and packaging Statutory disease samples	NBU/077
Apiary hygiene and bio security	NBU/081
Administrative guidelines for Bee Inspectors	Fera Desk instructions Fera Staff Handbook

ROLES AND RESPONSIBILITIES

FERA BHP

The BHP team in Fera has overall responsibility for bee health policy in England, and for the UK at international level. The BHP team will establish the SCG.

SCG

The SCG will be led by the Head of BHP and include the Head of the NBU, Head of Inspectorates, Fera media officer and others as appropriate. The SCG will:

- Update Defra Ministers, senior officials, the Fera Executive and DA's about the outbreak.
- Inform the CVO of the outbreak and provide updates to the EC and the OIE.
- Develop recommendations as necessary for Ministers on control policies based on scientific advice from the NBU and Fera's Chief Scientific Adviser.
- Agree communication and stakeholder engagement plans.
- Provide updates to the Fera Media Officer and Defra Press Office and agree media handling plans.
- Commission additional analytical work if there is insufficient understanding of the outbreak and/or its spread.
- Work with Defra Legal Department to draft and issue Declarations of SIAs in England.
- Provide briefing to Defra for EU meetings as required.
- Apply for any necessary and additional funding required for the duration of the emergency. This will require liaison with Defra.
- Keep DA's and as necessary OGDs (e.g. VMD, VLA, FSA) up to date on policy decisions to manage the outbreak and providing briefing as appropriate.

NBU

In the event of a suspect outbreak, the NBU will:

- Provide a report to Fera BHP or WG within 24 hours of the suspected finding.

Once confirmed

- Inform Fera BHP or WG.
- Implement the contingency plan and set up the NDCC and LDCC, if deemed necessary
- Rapidly establish whether the outbreak is isolated or widespread.
- Take measures to either eradicate or control the outbreak

- Provide advice and training to support the bee industry and consider the development of control methods, if appropriate.

NDCC

The Head of the NBU will be responsible for setting up the NDCC and its management, delegating activities to key staff as appropriate. As Executive Manager of the NDCC, the Head of the NBU will have overall responsibility for the contingency plan and will report directly to the SCG, Fera BHP and WG. They will guide the tactical and operational response within the NDCC. The organisational structure of the NDCC is at Figure 1 below.

Responsibilities of the NDCC include:

- Providing daily information reports and technical advice to the SCG as the contingency develops
- Securing and deploying appropriate staff resources, equipment and facilities in the laboratory, the NDCC and field service (inspectorate).
- Co-ordinating information about the outbreak and dissemination of technical and advisory material to stakeholders/ beekeeping associations and other interested parties.
- Seeking approval from VMD for novel or emergency treatments.
- Liaising with local experienced beekeepers who may be called on to assist.
- Implementing beekeeper training programmes through the NBU inspectorate and York staff and using local experienced beekeepers.
- Financial management and recording of resource inputs into the contingency through Fera project management systems, to include: budgeting estimates and monitoring of expenditure and liaison with Fera procurement team.
- Ensuring all NBU staff have the required training, including media training to handle/deal effectively with the intense media interest that may surround outbreaks.

The NDCC Strategy Manager

In the event of an outbreak, the Strategy Manager will be responsible in particular for:

- Organising the emergency searches and delimiting surveys.
- Co-ordinating information dissemination to interested parties, guided by decisions made by the SCG.
- Collecting and processing of data, reviewing the incident status and assessing the impact of the outbreak.
- Providing technical and advisory information to stakeholders.

NDCC/LDCC Manager

The NDCC will be managed by a designated RBI who will be responsible for:

- Co-ordinating the emergency response, and in particular analysing calls to determine the priority of emergency searches to be undertaken by NBU inspection teams.
- Preparing daily situation reports and website updates with the NDCC Strategy Manager.
- Reviewing the SIA and incident status.
- Disseminating information to NBU Bee Inspectors and beekeepers.
- Contacting the bee associations, bee equipment and suppliers to obtain up to date lists of members and clients.

NDCC/LDCC Field Manager

A designated RBI(s) will be responsible as NDCC/LDCC Field Manager(s) who will be responsible for:

- Carrying out operational tasks and managing field activities.
- Deploying resources and providing materials and equipment for the teams Bee Inspectors.
- Managing emergency/statutory searches and inspections and activities to contain the outbreak or restrict its spread.
- Liaise with local experienced beekeepers who will be asked to assist in conjunction with national and local beekeeping associations.

LDCC

The LDCC will be responsible for co-ordinating and controlling the emergency response in the outbreak area. Its prime role will be to:

- Deploy necessary staff and resources in liaison with the NDCC.
- Direct and co-ordinate contingency 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.

WG

WG is responsible for implementing bee health policy in Wales. In the context of this contingency plan, the main responsibilities are on the same lines as those implemented by Fera BHP and include:

- Ensuring that the Ministers and Assembly Members and Senior Officials are kept fully briefed.
- Liaising with Fera BHP, particularly in the first hours of a primary outbreak, as well as the DA's and other government agencies.
- Issuing Declarations of SIAs in Wales.

- Consulting and liaising with Fera to ensure the provision of adequate resources and financial support are available should the need arise.
- Liaising with Communications Directorate and Press Offices (Defra/WG)
- Ensuring that key messages are delivered to stakeholders and the media via the WG Press Office bilingual helpline and website.
- Liaising with all relevant stakeholders in Wales.

BHAF

The views of BHAF and selected stakeholders will be sought in developing and reviewing this contingency plan.

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 hives for the presence of the SHB or Tropilaelaps mites and to send any suspect samples to the NBU. The BBKA [and the BFA TBC] will provide 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 the NBU, Fera and WG to:

- Register their apiaries on BeeBase.
- Make available all facilities and provide NBU Bee 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 and to control or contain any confirmed outbreaks.
- Monitor the health of their colonies and to notify Fera or WG if they suspect the presence of notifiable pests or diseases in their colonies.
- Submit samples to the NBU laboratory if the presence of a notifiable pest or disease on their premises is suspected. Information on submitting samples is available on BeeBase.

Local Experienced Beekeepers/Disease Liaison Contacts (DLCs)

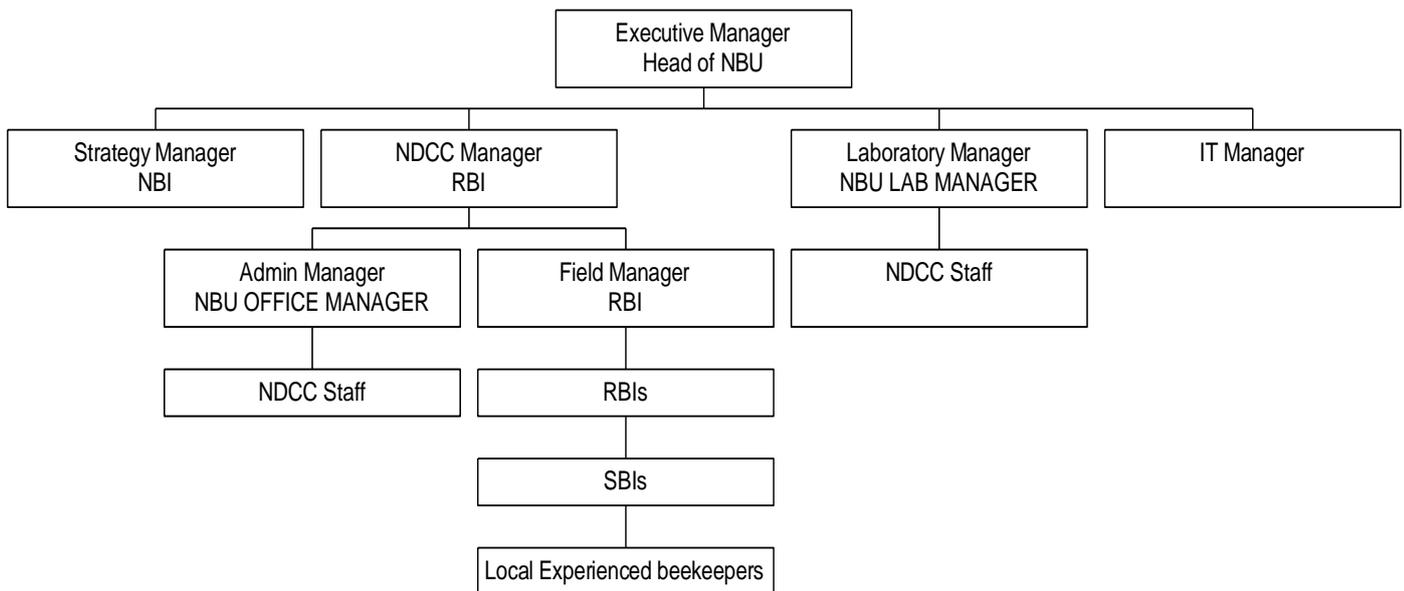
In the event of an outbreak, the NBU will ask DLCs and local experienced beekeepers to assist NBU Bee Inspectors with emergency searches. Those DLCs/experienced beekeepers selected will have training in how to detect the SHB and Tropilaelaps mites from the NBU. It is envisaged that during the contingency they will work alongside the NBU to assist local beekeepers in the recognition and control of the pest, and to provide advice on good husbandry. They will liaise between beekeepers and the NBU, and in particular:

- Act as a point of contact for any local beekeeper to approach if advice is needed on the health of their colonies. They will always seek assistance from an authorised NBU Bee Inspector if there is any doubt.

- Visit beekeepers' apiaries if invited, and then only if they feel able to do so. Visits are informal and do not replace the NBU inspection service. They have no powers of entry and no formal role as an authorised NBU Bee Inspector.
- Advise the beekeeper how to send samples safely and what essential information to provide with it to enable examination at the NBU's laboratory. They may hold supplies of sample bags and boxes and vials together with pre-paid address labels for the beekeeper to collect.
- Alert an authorised NBU Bee Inspector to a suspected problem.

Figure 1

Organisation Structure of the NDCC



KEY COMMUNICATION ACTIVITIES

Suspected arrival

Action	Responsibility
Inform Fera BHP and WG of investigation	NBU
Alert legal departments	Fera BHP/WG

Confirmed finding(s)

Inform Ministers, Fera Exec, CVO, senior Defra/WG officials, Press Offices, DA's, other Government departments as necessary, public, beekeeping associations and other stakeholders	SCG
Inform EC and OIE	CVO
Agree and issue Press Release	SCG and Defra/WG Press office
Weekly updates to EC and OIE	Fera BHP
Advice to beekeepers/beekeeping associations	NDCC

Moving to longer term management

Inform Ministers/Fera Executive	SCG
Inform beekeepers/beekeeping associations/other stakeholders	NDCC
Agree and issue Press Release	SGC and Defra/WG Press office
Provide advice to beekeepers/beekeeping associations	NDCC

INFORMATION TO BE OBTAINED TO ASSESS AN OUTBREAK

Initially, information about the outbreak is likely to be sparse and a complete picture will only materialise as developments on the ground are understood, lines of communication established and the position clarified. Assessing the affect of an outbreak on the beekeeping sector is therefore likely to be gradual. The following information will be needed as a minimum to help support the decision making process and any ensuing actions:

- Nature of the outbreak
- Extent of the outbreak, area and beekeepers and apiculture businesses affected
- Whether the outbreak can be eradicated, or contained and controlled
- Press/media interest

When responding to an emergency, the following actions should be considered within Fera and WG, particularly within the first hours:

- Hold an initial meeting of key staff to take stock of the information available and what is required.
- Confirm responsibilities at strategic and tactical command levels – covering:
 - communications** – managing the flow of incoming information and ensuring the right people see it. Maintaining a log of information provided.
 - co-ordination** – assigning responsibilities and ensuring the most important tasks get done.
 - information and briefing** – gathering information from Fera and briefing Ministers, Fera Executive, Defra senior officials and Press Office
- Is attendance at the NDCC required?
- Consider putting staff and industry contacts on notice to be ready to respond (even if nothing then happens).
- Consider the need to hold regular stakeholder meetings, as the picture develops.

FORMAT OF SITUATION REPORTS

NDCC situation reports to Defra and WG may cover the points detailed below:

- (a) brief description of the event (more abbreviated for subsequent reports in a series), date and time of occurrence, location (including geographical boundaries);
- (b) where appropriate, a note on which Department is leading the Government response;
- (c) the effects of the outbreak, with particular reference to the implications for the beekeeping/apiculture industry, including any consequent problems and so on;
- (d) an indication of any Fera or WG action which is considered desirable or necessary, including any likelihood of imposing statutory restrictions (with a note of the legal basis);

- (e) a note of what others (identifying the organisation etc concerned) are doing;
- (f) a forecast of media interest (and a note that another Department is the contact point for enquiries if this is the case);
- (g) the likely timing of the follow-up report.

An example of the format of a situation report is shown below.

EXAMPLE : TEMPLATE FOR DISEASE SITUATION REPORT

DATE:	
REPORT NUMBER:	
TIME:	

stating clearly the time period covered by the report (e.g., outbreaks reported up until 5pm the day before).

The situation report must provide a summary of the current status and highlight priority critical areas.

CURRENT POSITION:
<p>Outbreak confirmed at:</p> <p>OS map reference</p> <p>Name(s) and address of beekeeper(s) or Location (data protection)</p>
FACTS AND GENERAL SUMMARY
<p>Summary of outbreak including origin and tracings</p> <p>Progress on Implementation of Contingency Plan</p> <p>Surveillance and inspections planned</p> <p>Next steps</p>
SPECIFIC ISSUES

KEY CONTACTS

This list is not inclusive of all stakeholders that Fera or WG may contact during an outbreak.

GOVERNMENT DEPARTMENTS AND AGENCIES	
National Bee Unit (NBU) Food and Environment Research Agency Sand Hutton York YO41 1LZ	Tel: 01904 462510 Fax: 01904 462240 Email outbreak@nbu.fera.gov.uk General email: nbu@fera.gov.uk Web: www.fera.defra.gov.uk Web: www.nationalbeeunit.com
Bee Health Policy Food and Environment Research Agency Sand Hutton York YO41 1LZ	Tel: 01904 465636 Email: beehealthinfo@fera.gsi.gov.uk Web: www.fera.defra.gov.uk
Department for Environment Food and Rural Affairs (Defra) www.defra.gov.uk Contacts page	Defra Helpline: 08459 335577 E-mail: helpline@defra.gsi.gov.uk Web: www.defra.gov.uk Out of hours Defra Press Office : Tel: 020 7270 8960
Department for Environment Food and Rural Affairs (Defra) AHW-ICU Area 5B, Nobel House, 17 Smith Square, London SW1P 3JR	Tel: 020 72386450 Fax: 020 7 238 5875
Welsh Government Office of the Chief Veterinary Officer. Hill House Picton Terrace Carmarthen SA31 3BS	Tel: 01267 245007 Email: animalwelfare&byproductsbranch@wales.gsi.gov.uk
Key contact information for the Welsh Government Press Office National Assembly for Wales Cardiff Bay Cardiff CF99 1NA	Press Office Tel: 029 2089 8099 Email: newsroom@wales.gsi.gov.uk Web: www.wales.gov.uk Helpline: 0300 0603300/08450103300 (English) 0300 0604400/0845 0104400 (Welsh)
Animal Health and Veterinary Laboratories Agency New Haw Addlestone Surrey KT15 3NB	Tel: 01932 341111 Fax: 01932 347046 Web: www.defra.gov.uk/vla
Veterinary Medicines Directorate Woodham Lane New Haw Addlestone Surrey KT15 3LS	Tel: 01932 336911 Fax: 01932 336618 Web: www.vmd.gov.uk
Food Standards Agency (England) Aviation House 125 Kingsway London WC2B 6NH	Tel: 020 7276 8829 E-mail: foodincidents@foodstandards.gsi.gov.uk Food Incidents Branch: Tel: 020 7276 8448 Fax: 020 7276 8788 Web: http://www.food.gov.uk/

Food Standards Agency (Wales) 11th Floor Southgate House Wood Street Cardiff CF10 1EW	Tel: 02920 678999 Web: http://www.food.gov.uk/wales/
Scottish Government Animal Health-Disease Prevention P Spur Saughton House Broomhouse Drive Edinburgh EH11 3XD	Tel: 0300 244 9836 Web: http://www.scotland.gov.uk
Science and Advice for Scottish Agriculture (SASA) Roddinglaw Road Edinburgh EH12 9FJ	Tel: 0131 244 8890 Fax: 0131 244 8940 Email: info@sasa.gsi.gov.uk Web: www.sasa.gov.uk
Department of Agriculture and Rural Development, Northern Ireland (DARDNI) Quality Assurance Branch Dundonald House Belfast BT4 3SB, Northern Ireland Agriculture and Food Science Centre Newforge Lane Belfast BT9 5PX Northern Ireland	Tel: 028 9052 5112/ 4495 Web: www.dardni.gov.uk Tel: 028 9025 5288
European Commission Health and Consumer Protection Directorate General (DG SANCO) 101 Rue Froissart B-1049 Brussels BELGIUM	Tel: +0032 (0)2 29 99 5835 Web: http://europa.eu.int/ Web: http://europa.eu/dgs/health_consumer/index_en.htm

BEEKEEPING AND OTHER INTERESTED ORGANISATIONS	
Bee Farmers' Association	Tel: 02380 907850 E-mail: john@eclipse01.demon.co.uk Web: www.beefarmers.co.uk
British Beekeeper's Association National Beekeeping Centre National Agricultural Centre Stoneleigh Warwickshire CV8 2LZ	Tel: 02476 696679 Fax: 02476 690682 E-mail: admin@britishbeekeepers.com Web: www.britishbee.org.uk
Bee Diseases Insurance Limited c/o National Beekeeping Centre National Agricultural Centre Stoneleigh Warwickshire CV8 2LZ	E-mail: bdi@bee-dee.co.uk
Council of National Beekeeping Associations in the UK	E-mail: landscore@eclipse.co.uk
International Bee Research Association 16 North Road Cardiff Wales, CF10 3DY	Tel: 02920 372409 Email: mail@ibra.org.uk Web: www.ibra.org.uk FAX: 05601 135640

Welsh Beekeepers Association	Tel: 01248 712652 E-mail: president@wbka.com Web: www.wbka.com
Associated British Ports Aldwych House 71-91 Aldwych London WC2B 4HN	Tel: 020 7430 1177 Fax: 020 7406 7896 E-mail: info@abports.co.uk Web: www.abports.co.uk
National Farmers' Union Agriculture House Stoneleigh Park Stoneleigh Warwickshire CV8 2TZ	Tel : 02476 858500 Fax : 02476 858501

<p>The following organisations may also be contacted for whom a separate contact list is held:</p> <ul style="list-style-type: none"> Bee appliance manufacturers Queen bee rearers Bumble bee producers/ suppliers Wax producers and importers Honey importers and packers Fruit importers Wholesale fruit markets Ornamental plant associations 	
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