Generic Contingency Plan for Plant Health in England

January 2022

We are the Department for Environment, Food and Rural Affairs. We're responsible for improving and protecting the environment, growing the green economy, sustaining thriving rural communities and supporting our world-class food, farming and fishing industries.

We work closely with our 33 agencies and arm's length bodies on our ambition to make our air purer, our water cleaner, our land greener and our food more sustainable. Our mission is to restore and enhance the environment for the next generation, and to leave the environment in a better state than we found it.

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Glossary

Acronym	Term
ACPHO	Assistant Chief Plant Health Officer
AfBI	Agri-Food and Biosciences Institute
AONB	Area of Outstanding Natural Beauty
APHA	Animal and Plant Health Agency
APHW	Animal and Plant Health and Welfare
ARE	Agriculture and Rural Economy
BAU	Business as Usual
BioSS	Biomathematics and Statistics Scotland
CBRN	Chemical, Biological, Radiological and Nuclear
CCS	Civil Contingencies Secretariat
CESB	The Centre for Ecosystems, Society and Biosecurity
COBR	Cabinet Office Briefing Rooms
CONOPs	Cabinet Office's Concept of Operations
COP	Common Operating Picture
CPHO	Chief Plant Health Officer
CPHOS	Chief Plant Health Officer for Scotland
CRIP	Commonly Recognised Information Picture
CSA	Chief Scientific Advisor
DA	Devolved Administration
DAERA	Department of Agriculture, Environment and Rural Affairs
DCSA	Deputy Chief Scientific Advisor
DDTS	Digital, Data and Technology Services
Defra	Department for Environment Food and Rural Affairs
DPS	Dynamic Purchasing System
EA	Environment Agency
EOC	Emergency Operations Centre
EPPO	European and Mediterranean Plant Protection Organisation
EU	European Union
FC	Forestry Commission
FCE	Forestry Commission England
FR	Forest Research
FPPH	Future Proofing Plant Health
FAQ	Frequently Asked Question
GB	Great Britain
GCSA	Government's Chief Scientific Advisor
IAP	Incident Action Plan
IFOS	The Centre for Inventory, Forecasting and Operation Support
IMS	Incident Management System
IMT	Incident Management Team
IPPC	International Plant Protection Convention
ISPM	International Standard of Phytosanitary Measures

IT	Information Technology
LAMP	Loop-mediated isothermal amplification
LGD	Lead Government Department
LRF	Local Resilience Forum
MBM	Monthly Biosecurity Meeting
MERP	Major Emergency Response Plan
MTU	Molecular Technology Unit
NE	Natural England
NHS	National Health Service
NI	Northern Ireland
NICPHO	Northern Ireland Chief Plant Health Officer
NPPO	National Plant Protection Organisation
NRW	Natural Resource Wales
OGD	Other Government Department
OTG	Outbreak Triage Group
PDF	Portable Document Format
PHD	Plant Health Directorate
PHEA	Plant Health Evidence and Analysis
PHECG	Plant Health Evidence Coordination Group
PHORB	Plant Health Outbreak Readiness Board
PHS	Plant Health Service
PHSI	Plant Health and Seeds Inspectorate
PHSN	Plant Health Statutory Notice
PRA	Pest Risk Analysis
Q+A	Question + Answer
R&HS	Risk & Horizon Scanning
RPID	Rural Payments and Inspection Division
SAGE	Scientific Advisory Group for Emergencies
SASA	Science and Advice for Scottish Agriculture
SF	Scottish Forestry
SFCCC	The Centre for Sustainable Forestry and Climate Change
SG	Scottish Government
SMART	Specific, Measurable, Achievable, Relevant and Timed
SMEAC	Situation, Mission, Execution, Administration and Command
SOP	Standard Operating Procedure
SoS	Secretary of State
SSSI	Sites of Special Scientific Interest
STEM	Science, Technology, Engineering and Mathematics
THDAS	Tree Health Diagnostics and Advisory Service
TSU	Technical Services Unit
UK	United Kingdom
UKPHINS	UK Plant Health Interception and Notification System
WCPHO	Wales Chief Plant Health Officer

Ministerial Foreword

Plants play an important role in our economy, our environment, and our society, and this is recognised in Defra's outcome delivery plan (2021-2022). Under this delivery plan, there is a priority to increase the sustainability, productivity and resilience of the agriculture, food and drink sectors, and enhance biosecurity at the border.

Unfortunately, plants are under increasing pressure from non-native pests, because of the globalisation of trade and travel and climate change. It is therefore important that we have an effective outbreak response system in place if we are to prevent the establishment, spread and impact of these pests and achieve Defra's outcome delivery plan.

A lot of work has already been carried out to improve our response to outbreaks of plant pests. This includes the adoption of an outbreak management system based on the Australian Fire Authorities Council system in 2015 and the publication of the Generic Contingency Plan for Plant and Bee Health in England in 2017.

Since the inception of the new outbreak management system and generic contingency plan, there have been a number of outbreaks of plant pests, including *Dryocosmus kuriphilus* (oriental chestnut gall wasp), *Cryphonectria parasitica* (chestnut blight), *Meloidogyne fallax* (root-knot nematode), *Ips typographus* (eight toothed spruce bark beetle), *Ralstonia solanacearum* (brown rot), and *Tomato brown rugose fruit virus*. We have therefore carried out a review of our response to these outbreaks over the last five years, as well as the outbreak management process in general, to improve our processes. The generic contingency plan has been revised to reflect the improvements made.

The revised plan covers the following areas:

1. An introduction to the plan, including its purpose and scope, the role of Defra as the lead government department, and the legislation that underpins our outbreak response activities.

2. An overview of our staff resources and supporting infrastructure; what we need to respond to an outbreak.

3. An overview of the outbreak management process, across three phases: investigation, response, and recovery.

4. An overview of how the generic contingency plan complements plans and processes from other closely related organisations and teams, including the devolved administrations.

The plant health service in England will endeavour to follow the generic contingency plan and, by doing so, protect our plants from harmful non-native plant pests.

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1. Introduction

Context

1.1.   Plants are vital for England's economy, its environment, and the wellbeing of its people. English plants and planting material, food and crops, and forestry material are traded within England and with other countries; England's plants and trees reduce levels of air pollution and support a myriad of species; and green spaces bring several physical and mental health benefits.

1.2.   Unfortunately, England's plants are under threat from hundreds of non-native plant pests. These include the bacterial pathogen *Xylella fastidiosa*, which can attack important hosts for England like *Prunus* spp., lavender, and oak, and the emerald ash borer *Agrilus planipennis* that has caused the death of tens of millions of ash trees in North America and is spreading across Europe from Russia.

1.3.   The likelihood of plant pests being introduced into England has increased with the globalisation of trade, as the volume and diversity of plants, plant products and other objects entering England has grown. The risk has also increased with climate change, as the climate of England becomes more suitable for the establishment and spread of non-native species from warmer climates and as new trade pathways open up due to global changes in plant distribution and production.

1.4.   It is therefore more important than ever that we are prepared for the arrival of plant pests. This is recognised in the 'Defra group's strategy: creating a great place for living', which has a goal to protect plants from health risks, and the plant health strategy document 'Protecting Plant Health – A Plant Health Biosecurity Strategy for Great Britain', which includes a commitment to have contingency plans and clear outbreak management processes in place to respond rapidly and effectively to an outbreak.

Principles, purpose and scope

1.5.   If an outbreak of a quarantine plant pest[1] or provisional quarantine plant pest[2] is confirmed in England, the Plant Health Service (PHS), consisting of Defra, the Animal and Plant Health Agency (APHA), the Forestry Commission (FC), Fera Science Ltd and Forest Research (FR), will act with operational partners and stakeholders to eradicate and/or contain the plant pest and regain pest free status where possible.

1.6.   The PHS will also endeavour to:

- protect the health and safety of the public and those directly involved in responding to the outbreak;

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[1]Quarantine pest is defined as a pest of potential economic importance to the area endangered and not yet present there or present but not widely distributed and are being officially controlled. Quarantine pests for Great Britain are listed in Annex 2 of the Plant Health (Phytosanitary Conditions) (Amendment) (EU Exit) Regulations 2020.
[2]Provisional quarantine pests meet the criteria of a quarantine pest, but they have yet to be formally accepted as a quarantine pest in Great Britain legislation. For the sake of this document, provisional quarantine pests will include listed provisional quarantine pests and unlisted pests which meet the criteria of a quarantine pest.

- support the continuity of everyday activity and the restoration of disrupted services at the earliest opportunity;

- minimise the burden on the taxpayer and public as well as the economic impact of the outbreak on industry and the rural and wider economy;

- minimise any adverse impacts on the environment; and

- uphold the rule of law and the democratic process.

1.7. This document explains how the PHS in England will manage outbreaks of plant pests. In particular, it covers the physical and human resources that are required for an outbreak response and describes the outbreak management process. It is designed primarily for use by staff in Defra, APHA and FC, who are involved in planning for outbreaks of plant pests in England, and for those who are involved in the outbreak response.

1.8. This generic contingency plan is not intended to cover plant pest outbreaks in the United Kingdom (UK) outside of England, as the Devolved Administrations (DAs) of Scotland, Wales and Northern Ireland have their own generic contingency plans. However, this plan will describe the role of the DAs in an outbreak response in England, including when outbreaks cross from England into the DA's territories.

1.9. This plan is based on the emergency procedures set out in the Cabinet Office's Concept of Operations (CONOPs).

Lead Government Department (LGD) concept

1.10. Defra is the designated LGD in England for responding to plant pest outbreaks. Defra is supported by APHA, FC, Fera Science Ltd and FR in fulfilling this responsibility.

1.11. Within UK central government, departments are accountable to Parliament for the effective delivery of their responsibilities. In its capacity as LGD, Defra will:

- assess the situation;

- ensure that relevant Ministers are briefed; and

- handle media and parliamentary interest;

1.12. Other government departments (OGDs) will provide support to Defra to ensure a coordinated response, but will remain responsible for their own policy areas, including their responsibilities to Parliament.

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[3]Priority pests are defined as those pests which have the potential to cause the most severe economic, environmental and social impacts in GB and are not yet present in GB or are present but not widely distributed and are being officially controlled.

1.13. A list of which LGDs are responsible for planning, response and recovery for different types of emergency, as well as guidance and best practice for LGDs, is kept up to date on gov.uk (https://www.gov.uk/government/publications/list-of-lead-government-departments-responsibilities-for-planning-response-and-recovery-from-emergencies).

Underpinning legislation

1.14. The following pieces of legislation are important for responding to plant pest outbreaks:

- The Plant Health Act 1967, which gives the Secretary of State (or Forestry Commission in respect of forest trees and timber), as the competent authority, power to make Orders for preventing the introduction to, and spread of plant pests within, Great Britain (such as setting movement restrictions on plants or plant products).

- The Official Controls (Plant Health and Genetically Modified Organisms) (England) Regulations 2019, which sets out the restrictions and protective measures that can be implemented to safeguard plant health. It also covers the powers of entry for inspectors.

- The Plant Health (Amendment etc.) (EU Exit) Regulations 2020, which set out the requirements for the competent authority with respect to eradication of quarantine pests, establishment of demarcated areas, surveys and modifications of demarcated areas and lifting of restrictions, and the reporting of measures taken. The regulations also set out the requirements for measures taken by professional operators and persons other than professional operators.

- The Civil Contingencies Act (2004), which sets out the arrangements for civil protection at the local level and the UK's emergency powers for making special temporary legislation to deal with the most critical emergencies.

1.15. Under the Plant Health (Amendment etc.) (EU Exit) Regulations 2020, there is a further requirement for Great Britain to produce pest specific contingency plans for the priority pests[3]. These plans should be regularly reviewed and updated as appropriate. Simulation exercises should also be carried out to test the pest specific contingency plans within a reasonable period and with the involvement of relevant stakeholders.

1.16. There is a requirement for each of these pest specific contingency plans to include the following: 'the roles and responsibilities of the bodies involved in the execution of the plan in the event of an officially confirmed or suspected presence of the priority pest concerned, as well as the chain of command and procedures for the coordination of

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actions to be taken by the competent authorities, other public authorities, delegated bodies or natural persons involved, laboratories and professional operators'. This generic contingency plan fulfils much of this requirement by giving detail on the roles and responsibilities of the PHS and outbreak management procedures.

2. Staff resources and supporting infrastructure

2.1. This section covers the human and operational resources and guidance documents required to respond to an outbreak of a plant pest, as well as the training of staff to ensure an effective and timely response.

Staff resources

2.2. Staff from the PHS will provide the initial emergency response capability at operational, tactical and strategic levels. This will include operational staff within the APHA and FC; diagnostic staff within Fera Science Ltd and FR; senior government officials; and specialist and support staff within Defra, covering evidence, policy, communications, lawyers, procurement, finance, and IT.

2.3. If necessary, the Chief Plant Health Officer (CPHO) will seek authority to release further staff within the Defra Animal and Plant Health and Welfare Directorate, other Defra directorates, and Defra agencies. In some cases, the CPHO will also seek military aid and support from Local Resilience Forums (LRFs).

Core staff resources

Operational staff

Animal and Plant Health Agency (APHA)

2.4. APHA is an executive agency of Defra.

2.5. The Plant Health and Seeds Inspectorate (PHSI) is part of the APHA and its inspectors implement and enforce plant health policy in England, and in Wales on behalf of the Welsh Government.

2.6. The inspectorate is responsible for facilitating international trade through the implementation of phytosanitary regulations, such as the performance of documentary checks for phytosanitary certificates and carries out surveillance to detect plant pests.

2.7. APHA will be the lead operational body for outbreaks on farms, nurseries and other situations where plants are grown or sold, with the exception of tree pests in a forestry/woodland situation. It may also be the lead in the wider environment in certain scenarios.

Forestry Commission (FC)

2.8. FC is a non-ministerial department comprised of three bodies: **Forest Services** who are the government's expert forestry advisors, **FR** who deliver forestry and tree-related research to England, Scotland and Wales, and **Forestry England** who manage the

nation's forests. Together they are the government department responsible for protecting, expanding, and promoting the sustainable management of woodlands.

2.9. FC will act as the lead operational body for outbreaks of tree health pests in forestry/woodland situations and may also take the lead in other wider environment scenarios.

Diagnostic staff

Fera Science Ltd

2.10. Fera Science Ltd is the plant health National Reference Laboratory for England and Wales and, in this capacity, provides technical support to Defra and APHA in the form of laboratory diagnosis of pests and diseases, scientific advice, training, and the development of new methods and technologies.

2.11. Plant pest diagnosis is delivered by diagnosticians working in the Plant Protection Programme. Diagnostic delivery is organised by discipline, with separate teams covering Bacteriology, Entomology, Mycology, Nematology, Seed Health and Virology (including phytoplasmas). These teams are supported by the Molecular Technology Unit (MTU; a facility for molecular diagnostics) as well as an administrative team (booking in samples, taking queries from inspectors etc.), a glasshouse/horticultural support team, and a media preparation team (providing buffers, growth media etc.).

2.12. In an outbreak, diagnosticians will provide technical advice to the Outbreak Triage Group (OTG), Incident Management Team (IMT) and evidence group (if formed).

Forest Research (FR)

2.13. FR is the research agency of the FC, providing evidence and scientific services in support of sustainable forestry, and the health, resilience, and value of Britain's treescapes.

2.14. FR is home to a wide range of scientists with professional training in plant pathology, entomology, soils and hydrology, ecology, social science, economics, statistics and spatial analysis. Researchers are organised in three core research Centres: The Centre for Sustainable Forestry and Climate Change (SFCCC); The Centre for Inventory, Forecasting and Operation Support (IFOS); and The Centre for Ecosystems, Society and Biosecurity (CESB). Within the CESB, the Tree Health team provides applied research, advice, and management support on established and invasive tree pests and diseases to a wide range of stakeholders and is committed to protecting and promoting forest health.

2.15. The Tree Health team is split into three departments (Entomology, Pathology, and Tree Health Diagnostics and Advisory Service (THDAS)) who work closely with one another in outbreak scenarios to achieve the goals laid out in the relevant contingency plan. The THDAS is the central department responsible for outbreak responses, with members of the service specialising in entomology and pathology diagnostics, training and the provision of specialist advice in outbreak scenarios. The entomology and

pathology departments contribute more widely to outbreak responses through supporting research, field surveys, helping with diagnostics, and contributing to high-level advice on particular species.

Defra staff

Secretary of State for Environment, Food and Rural Affairs (SoS)

2.16. The SoS has responsibility for Defra and oversees the Covid-19 response, departmental administration, emergencies, EU and international relations, general licensing, and senior appointments.

2.17. As part of this role, the SoS has overall responsibility for the response to an outbreak of a plant pest. Their direct involvement will be dependent on the scale and circumstances of the outbreak, and certain responsibilities may be delegated to other Defra Ministers. Their involvement is likely to be greater in a national scale outbreak with regional spread of the plant pest. The SoS may be required to brief Parliament, the Cabinet and the office of the Prime Minister about current risks and pest control measures. They may also be required to attend or chair Cabinet Office Briefing Rooms (COBR) meetings if activated.

Parliamentary Under Secretary of State for Rural Affairs and Biosecurity (Minister)

2.18. This role encompasses all Defra parliamentary business in the House of Lords; animal health and traceability; bee health and the national pollinator strategy; biosecurity, including exotic animal and plant diseases, invasive alien species and Kew Gardens; landscapes, including national parks, areas of outstanding natural beauty (AONBs) and access; and rural affairs, which include rural life opportunities, broadband and mobile.

2.19. During an outbreak of a plant pest, the Minister may be directly involved in the outbreak response and attend LGD meetings. The Minister also chairs the Monthly Biosecurity Meeting (MBM), during which the Minister is given updates on outbreaks and can provide input. In addition to the SoS, the Minister may have to chair or attend meetings of COBR if activated. The Minister may also have to respond to Parliamentary Questions concerning plant pest outbreaks and brief the media.

Permanent Secretary

2.20. The Permanent Secretary is the most senior civil servant in the department and is responsible for the day to day running of Defra, including strategic decision making, and acts as the accounting officer for Defra.

2.21. Through the Civil Contingencies Secretariat (CCS), the Permanent Secretary triggers the protocols set out in the Central Memorandum of Understanding on Mutual Aid and the Redeployment of Human Resources, when required.

2.22. The Permanent Secretary works with the SoS and the Director General of Food, Farming, Animal and Plant Health to ensure that the Office of the Prime Minister is

appropriately engaged and informed. In this role, they will also horizon scan for wider government issues.

Director for Animal and Plant Health and Welfare (APHW)

2.23. The Director for APHW is responsible for animal health and welfare, plant health and bee health, and exotic and endemic pest response.

2.24. The Director ensures that any outbreak of a plant pest is aligned with Defra's plant health strategy and that all the relevant policies are taken into account. They also liaise with the CPHO, the Chief Executive of APHA and FC Director as appropriate.

Chief Plant Health Officer (CPHO)

2.25. The CPHO is responsible for plant health and advises Ministers, industry and others on the risk posed by plant pests and ensures that there are mitigations in place to prevent the introduction of these pests and to manage their impact should they arrive.

2.26. The CPHO leads the operational response to an outbreak and works with the Director General for Food, Farming, Animal and Plant Health, the Director for Animal and Plant Health, the Chief Executive of APHA and the FC Director. They consider the associated risks, evidence and issues, including impacts on stakeholders, public acceptability and practicality of delivery.

2.27. During the outbreak management process, the CPHO will chair the OTG (see 3.25 – 3.31) and LGD meetings.

2.28. Following the OTG and LGD meetings, they will provide advice, recommendations and briefing to Ministers and others on the tactical and strategic aspects of the outbreak response.

2.29. The CPHO acts as Defra's main spokesperson for an outbreak and on the pest control measures being deployed. They ensure stakeholders are informed of when a pest is confirmed, of the measures being used, and of any policy decisions made during an outbreak.

2.30. They set the strategy of the UK in international phytosanitary fora, such as the Commission of Phytosanitary Measures, which governs the International Plant Protection Convention (IPPC), and the European and Mediterranean Plant Protection Organisation (EPPO).

Assistant Chief Plant Health Officer (ACPHO)

2.31. The ACPHO deputises for the CPHO as needed, fulfilling the functions set out in 2.25 – 2.30.

Chief Scientific Adviser (CSA) and Deputy Chief Scientific Adviser (DCSA)

2.32. The Defra CSA and DCSA provide scientific advice, with respect to Defra matters, to the Government's Chief Scientific Advisor (GCSA) and to Ministers. They also discuss and facilitate the implementation of policy on science, technology, engineering and mathematics (STEM), identify and share good practice on STEM areas, and facilitate communication on STEM issues. In this role, they will represent science and Defra at high level meetings, public fora and when communicating with the media.

2.33. Specifically, they will be accountable for any scientific advice provided to Ministers on plant pest outbreaks.

Plant Health Policy team

2.34. The Plant Health Policy team has responsibility for domestic and international plant health policy.

2.35. In the event of an outbreak, they will produce briefings as standalone updates for Ministers or for discussion at the MBM.

2.36. They will also liaise with the following teams/colleagues:

- Defra communications with respect to media queries, correspondence, parliamentary questions, and briefings
- Defra legal in relation to legal issues, including where legislation (e.g. national movement restrictions) is needed
- Defra finance to ensure that finance issues are resolved

2.37. The Plant Health Policy team will notify EPPO, the IPPC, and other countries at risk of new outbreaks and update them on any significant developments.

2.38. They will attend OTG and LGD meetings.

Risk and Horizon Scanning (R&HS) team

2.39. The R&HS team provides technical advice to the APHA and Defra Plant Health Policy on the risk posed by non-native plant pests and how they should be managed. To fulfil this role, the team is composed of plant pest risk analysts and plant pest risk managers.

2.40. Risk analysis activities include:

- Horizon scanning for new and emerging plant pests
- Updating, reviewing, and adding plants pests to the UK Plant Health Risk Register (https://secure.fera.defra.gov.uk/phiw/riskRegister/)
- Carrying out pest risk analyses (PRAs)
- Producing advisory/publicity material

2.41. Risk management activities include:

- Providing technical advice on interception and outbreak management
- Developing pest-specific contingency plans
- Non-native biological control regulation
- Scientific licensing to import, move and keep normally prohibited material

2.42. If an outbreak of a quarantine or provisional quarantine plant pest is suspected or confirmed following diagnosis, risk managers will determine whether the outbreak should be escalated to the CPHO. Risk managers will also provide technical advice and assist with mapping of outbreaks at OTG, IMT, LGD, and evidence group meetings as appropriate.

Plant Health Evidence and Analysis (PHEA) team

2.43. The PHEA team has responsibility for the research and development programme, which coordinates research projects that contribute to Defra's strategies on plant and tree health. In the event of an outbreak, the PHEA team will be able to commission research/evidence related to the outbreak.

2.44. The PHEA team is composed of natural scientists, social scientists, statisticians, and economists. They will be able to review evidence in relation to the plant pest of concern, assess the socio-economic impacts of the outbreak, and analyse the costs and benefits of any policy decisions on industry and the wider economy.

2.45. Members of the PHEA team will attend LGD and evidence group meetings.

Communications

2.46. Defra communications staff have responsibility for the following:

- Ensuring that the department has a robust and proportionate communications strategy in place for an outbreak of a plant pest
- Ensuring that internal and external communication channels, including gov.uk, Defra Helpline and social media, are up to date
- Managing communications with the media
- Advising the SoS, other Ministers, and senior civil servants on communication issues
- Working with APHA and FC communications colleagues as appropriate

2.47. Defra communications staff will attend OTG, IMT and LGD meetings.

Legal

2.48. Defra lawyers provide legal advice on whether outbreak management measures comply with domestic and international legal obligations.

Finance

2.49. Defra finance is responsible for the management of contracts and procurement, payments, account records and time records.

Information technology (IT)

2.50. Defra Digital, Data and Technology Services (DDTS) are responsible for the maintenance of IT systems.

Outbreak secretariat

2.51. In the event of an outbreak, a secretariat will be formed to coordinate meetings, share information, and ensure appropriate link up between different groups.

Wider staff resources

APHW surge team

2.52. APHW is developing a surge volunteer programme. This will comprise of a pool of trained volunteers who can be deployed flexibly to respond to emergencies and during periods of increased demand across the directorate.

2.53. Volunteers will be given training on the plant health outbreak management process and priority plant pests, as well as on data handling and other specialised operational roles.

Wider Defra volunteers

2.54. Defra is the lead government department for several non-animal and plant health related national risks such as floods, extreme weather events and chemical, biological, radiological and nuclear (CBRN) incidents. These incidents differ to the response to animal and plant health emergencies as the operational response is usually delivered at a local level by LRFs, following the principles set out in the Civil Contingencies Act 2004 (Civil Contingencies Act 2004 (legislation.gov.uk)).

2.55. The Defra Emergency Planning and Resilience team has a cadre of volunteers for these incidents. The volunteers are from all areas of the Department.

2.56. The current roster of volunteers receives an annual package of training provided by staff in the Emergencies Team which provides an outline of the Defra-led risks, as well as role-specific training.

2.57. In addition, the APHW surge coordination team will provide high-level training on plant pest outbreaks to the wider Defra volunteers. This training will be focussed on non-policy and operational roles in an outbreak and increases the pool of people who could be drawn on to carry out admin or comms support in a plant pest outbreak.

Military aid

2.58. In large outbreaks, it might be necessary to request assistance from the Ministry of Defence.

Natural England (NE)

2.59. NE is an executive non-departmental public body which is sponsored by Defra. It provides advice to the government on the natural environment and is focussed on conserving and enhancing England's biodiversity and landscapes and maximising the benefits these bring to the public. NE does this by:

- Providing advice in relation to the maintenance and condition of protected sites such as Sites of Special Scientific Interest (SSSIs) and National Parks;
- Managing National Nature Reserves;
- Providing advice on England's agri-environment schemes;
- Authorising licences for protected species; and
- Implementing open access legislation, including regulation for temporary closure.

2.60. NE will provide advice regarding any action taken during an outbreak response that may impact on areas it has responsibility for and will be involved at a strategic level, as appropriate.

2.61. National Nature Reserves are managed by the National Nature Reserve Estate team and the Estate team will work with the PHS to respond to an outbreak on its reserves. While for Sites of Special Scientific Interest, it will be the owner-occupier who will work with the PHS, but they will seek consent from NE for any management activities required.

Environment Agency (EA)

2.62. Like NE, the EA is an executive non-departmental public body which is sponsored by Defra. It works to improve places for people and the environment and supports sustainable development. The main responsibilities of the EA are:

- Regulating major industry and waste;
- Treatment of contaminated land;
- Water quality and resources;
- Fisheries;
- Inland river, estuary, and harbour navigations; and
- Conservation and ecology.

2.63. The EA will work with the PHS to minimise the environmental impact of an outbreak and any control measures. They will do this by:

- Providing advice on management options, particularly in relation to waste and suitable facilities;
- Advising on pollution prevention issues;
- Monitoring and reporting the impact of the outbreak on the environment as needed; and
- Providing liaison officers and other support (e.g. biosecurity and comms) if required.

Local Resilience Forums (LRFs)

2.64. LRFs are multi-agency partnerships made up of representatives from local public services, including the emergency services, local authorities, the National Health Service (NHS), the EA and others. These forums are known as Category 1 Responders, as defined by the Civil Contingencies Act.

2.65. LRFs are also supported by Category 2 responder organisations, such as Highways England and public utility companies. They have a responsibility to co-operate with Category 1 organisations and to share relevant information with the LRFs.

2.66. LRFs plan and prepare for localised incidents and catastrophic emergencies by identifying potential risks and producing emergency plans to either prevent or mitigate the impact of any incident on their local communities.

2.67. They can provide a useful source of local knowledge during an outbreak response.

Observatree

2.68. Observatree is a collaborative project between FR, FC, APHA, Defra, Fera Science Ltd, the National Trust, Natural Resources Wales and the Woodland Trust which aims to help spot new tree pest and disease threats to UK trees.

2.69. There are approximately 200 Observatree volunteers that survey areas for key tree pests and diseases. Observatree volunteers carry out surveys across England, Wales and Scotland on public access land including forestry sites and look for 22 tree pests and diseases identified as a priority.

2.70. Observatree also operates a sentinel tree network, which consists of individual trees visited by tree health volunteers six times per year, with any sign of pests or disease being reported and monitored.

2.71. In an outbreak situation, Observatree volunteers can be called upon to provide support for surveillance. Volunteers are not able to carry out survey work that is a statutory duty, but they are able to carry out supplementary surveillance in addition to the statutory surveillance being conducted where appropriate.

Operational resources

Equipment

2.72. Both APHA and FC have stores of relevant equipment at regional/area offices to enable them to carry out their routine duties.

2.73. Fera Science Ltd has access to laboratory space and a large quarantine glasshouse facility, allowing work on a range of quarantine pests. Recently expanded labs are equipped with a comprehensive range of diagnostic equipment from state-of-the-art microscopes through to the latest platforms for high throughput sequencing. The number of diagnosticians and the size of laboratory facilities provide capacity to deal with significant surges in sample numbers during an outbreak response. Use of barcode scanners allows large numbers of samples to be booked in and tracked easily, and the high throughput equipment in the MTU enables high volume sample analysis.

2.74. Fera Science Ltd has developed a range of field-deployable diagnostic technologies, from lateral flow tests for various pathogens, to Loop-mediated isothermal amplification (LAMP) testing for key quarantine pests. These can be used in support of a range of plant health activities, including an outbreak response.

2.75. The THDAS operates primarily out of two locations, the Northern Research Station outside Edinburgh and Alice Holt Lodge near Farnham. Both stations possess world class laboratories for handling and processing material; additionally, the Holt Laboratory in Alice Holt is a state-of-the-art Containment Level 2 facility developed specifically for housing quarantine organisms for research and advisory purposes. All laboratories are well equipped with features for both morphological and molecular identification of all forest pests and pathogens (including a dedicated taxonomy laboratory housing the insect reference collection).

2.76. The THDAS also has access to the Mobile Lab, a converted van providing both laboratory and welfare facilities to help keep staff members safe in the field and to allow for in-field identifications and sampling under controlled conditions.

Contracts and agreements

2.77. Several contractual arrangements are already in place to meet anticipated operational needs for jobs such as tree felling, pesticide spraying, and pest destruction/ nest removal in an outbreak.

2.78. Contract resource held in framework agreements by FC are shown in table 1.

Table 1. Framework agreements held by FC.

Framework Agreements	Number of Suppliers	Approx. number of staff available
FEE-0489 Plant Health Inspection and Survey Services in England, Scotland, and Wales and a Dynamic Purchasing System (DPS) covering the same service area	-	50
FEE-0663 Tree Health Pest and Disease Surveys	19 (incl. FR Technical Services Unit (TSU))	50
FEE-0666 Arboricultural Services in support of Plant Health Operations	8	50
FEE-0630 The Control of Tree and Plant Pests including Chemical Spraying Services	2	90
FEE-0793 Geo-data Services in Support of Plant Health Operations	1	2
FEE-0794 Helicopter Services for Aerial Surveillance in Support of Plant Health Operations	2	4

2.79. FC also has one incineration company and seven felling operative companies on file, who could be approached in an emergency.

2.80. APHA will have the ability to utilise these contracts in an outbreak of a plant pest.

Finances

2.81. Funding for an outbreak response is covered under Business as Usual (BAU) budgets in Defra and APHA.

Information management systems

2.82. The UK Plant Health Interception and Notification System (UKPHINS) is where outbreak data will be stored.

2.83. In addition, the Plant Health Data System project aims to integrate the IT systems of the many Great Britain (GB) agencies involved in BAU and outbreak work with the aim of supporting BAU working and minimising the extent and duration of any outbreaks/interception events.

2.84. The project will deliver a single, central data location, hosting data collected by all agencies, aligned to a single, shared data standard and available to all. Permissions groups will be available to allow the sharing of non-sensitive data whilst respecting data sharing constraints. Generic tools will be available to all to support the operational analysis and visualisation of data (e.g. for situation reports). The project will ensure it is possible to share data with external partners (e.g. academics) for more complex analysis (e.g. modelling).

2.85. The project will provide mobile data collection tools which can be quickly configured in the event of an outbreak and which are available to all operational agencies. The project will ensure that these data collection tools are integrated with laboratory IT systems, workforce management and the central data location.

2.86. The project will ensure that inspectors are provisioned with tools which support best use of available track and trace data. This will include automated extraction of data contained in common Portable Document Format (PDF) and tools which facilitate the interrogation of data to support tracing activities. Track and trace data will be integrated with workforce management and data collection systems/tools as well as the central data location.

Guidance documents

Outbreak documentation and guidance

2.87. All documents relating to an outbreak are stored on a SharePoint online page that is accessible to organisations and teams of the UK PHS. These include documents used for OTG, IMT and LGD meetings.

2.88. One of these documents will be the outbreak dashboard, which tracks all active major and minor outbreaks and keeps records of closed outbreaks.

2.89. Additionally, the SharePoint online page will be home to guidance documents relating to the outbreak management process, such as templates, terms of reference and role checklists; training and exercise materials; surveillance plans; and communication materials, including Frequently Asked Questions (FAQs) and reactive lines.

2.90. Outbreak documentation and guidance will be reviewed regularly, including after exercises and outbreaks, and updated as necessary.

Pest specific contingency plans

2.91. Pest specific contingency plans describe measures, additional to those set out in this generic contingency plan, which are required to contain and/or eradicate a specific pest or several pests with similar biology. These measures include demarcation zone sizes, survey requirements and control procedures. If available during an outbreak, pest specific contingency plans should be read in conjunction with this generic contingency plan to produce an incident action plan specific to the incident situation faced.

2.92. Pests are prioritised for pest specific contingency plans by the UK Plant Health Risk Group, following an assessment of their risk. Plant health and tree health pest specific contingency plans are subsequently developed by the R&HS team and by FC/FR, respectively. The plans are reviewed internally within the PHS and externally by stakeholders, before being presented to the UK Plant Health Risk Group for approval.

2.93. Pest specific contingency plans approved by the UK Plant Health Risk Group are published on the UK Plant Health Information Portal - https://planthealthportal.defra.gov.uk/pests-and-diseases/contingency-planning/.

Standard operating procedures (SOPs)

2.94. SOPs provide operational guidance to APHA and FC inspectors on inspections, surveys and other actions required for containing and/or eradicating a particular pest. SOPs will normally be used for dealing with pest outbreaks which can be handled locally.

Diagnostic protocols

2.95. Diagnosis at Fera Science Ltd is delivered to internationally recognised standards (a range of tests are accredited under the Standard ISO/IEC 17025:2017). Wherever possible, international and regional protocols (e.g. IPPC and EPPO) are adopted. Alternatively, diagnostic protocols are developed in-house. There is a robust validation process in place for adoption of new tests which follows guidelines set out in EPPO Standard PM 7/98.

2.96. Diagnosis at Forest Research is also delivered to internationally recognised standards, following international and regional protocols wherever possible, e.g. IPPC and EPPO standards. Where these are not available, diagnostic protocols are developed in-house based on FR's own research and from papers published in scientific journals. There is a robust validation process in place for adoption of new tests which follows the guidelines set out in EPPO Standard PM 7/98. The laboratory has a quality management system and is working towards accreditation under the Standard ISO/IEC 17025:2017.

Training and exercises

2.97. A training and exercises group has been set up to provide clear structure, resources, and processes for developing and implementing training and exercises. The PHS training programme will include the development of online, face to face and workshop modules and activities ensuring effective and efficient use of exercises. This work will principally cover England, but it will also be shared with DAs.

3.   Outbreak management process

3.1.   This section provides an overview of the outbreak management process, which consists of three leading phases:

       I.   Investigation

      II.   Response

     III.   Recovery

3.2.   A schematic showing the timeline of events is shown in figure 1. A flow diagram outlining the main groups and their activities through the investigation and response phases is also provided in appendix I.

*	Short-term				Medium to Long-term		Long-term	
Stage	1	2	3	4	5	6	7	8
Description	Detection	Initiation	Incident assessment	Start of operations	Maturity of operations	Handover	Recovery	New Normal
Investigation	Suspicion or confirmation of an outbreak of a quarantine pest or provisional quarantine pest	OTG sets an alert status, determines the likely feasibility of containment and eradication, and agrees the control authority. IMT is set up.	Investigation continues and informs IMT and LGD as appropriate					
Response			IMT assessment of incident and planning for response and recovery. LGD meetings may be set up to inform strategic management.	IMT/LGD start of response and recovery	IMT tactical and operational response activities and LGD strategy mature	Closure of response operations, IMT and LGD	N/A	
Recovery					IMT/LGD recovery strategy is implemented	Full handover of incident to recovery	Ongoing recovery activities	Closure of recovery activities

Figure 1. Incident phases and timeline.

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Investigation phase

3.3. This phase covers the notification and escalation of an outbreak and the initial investigation of the outbreak to determine its extent and seriousness.

Notification of an outbreak

3.4. A suspect or confirmed quarantine or provisional quarantine plant pest may be notified from several sources:

- Following routine or specific surveillance by the APHA or FC

- Following diagnosis of an official or commercial sample by Fera Science Ltd or FR

- Following a report e.g. by an industry professional, National Plant Protection Organisation (NPPO) or member of the public

3.5. If the notification of a plant pest is strongly suspected or confirmed to be an outbreak of a quarantine or provisional quarantine pest, the outbreak management process should be triggered.

Escalation

3.6. Significant outbreaks of a strongly suspected or confirmed quarantine or provisional quarantine plant pest should be escalated.

3.7. If the outbreak is suspected by an APHA or FC inspector following surveillance or a report, the inspector should immediately escalate the finding to their relevant manager and/or the appropriate deputy within their organisation who is responsible for eradication and containment.

3.8. The APHA or FC inspector should also send in a sample to Fera Science Ltd or FR to confirm the finding, put in place restrictions to prevent the escape of the plant pest, and investigate the finding (restrictions and investigation are detailed later in the document).

3.9. If an outbreak is suspected or confirmed by a diagnostician at Fera Science Ltd, the diagnostician should immediately escalate the finding to the Defra R&HS team. Whereas an outbreak suspected or confirmed by FR should be escalated to the relevant manager within FC.

3.10. Escalation is usually not required when routine procedures are already in place for managing outbreaks of a plant pest, such as those in SOPs. In these cases, the APHA or FC inspector should follow the procedures and the diagnostician should send diagnoses of the plant pest straight back to the APHA or FC inspector without needing to inform the Defra R&HS team or relevant manager within FC.

3.11. In cases where the relevant APHA or FC manager/deputy or Defra R&HS team has been notified, they should assess the information, considering if a significant or serious pest is involved and the scale of the outbreak, and they should determine whether the CPHO should be informed (as well as those of relevance within APHA, FC and Defra). The following outbreak situations should generally be escalated:

- Outbreaks of one or more of the twenty three priority pests (The Plant Health (Amendment etc.) (EU Exit) Regulations 2020 (legislation.gov.uk)). For oak processionary moth, escalation would only be for outbreaks in the pest free area.

- Outbreaks of pests other than priority pests that have contingency plans or other pests that are considered to present a significant threat if they became established

- Outbreaks of any quarantine pest or provisional quarantine pest where action would likely result in:
    o A major economic impact, e.g. the destruction of a shipping container full of produce or a very large consignment of semi-mature trees or high value plants
    o Stakeholder concerns/opposition to any likely pest management measures, e.g. the application of insecticides to mature trees in areas with public access
    o A significant impact on trade
    o A major impact on inspectorate and/or diagnostic resource

- Outbreaks likely to attract interest from the public, industry, or media such as:
    o Invertebrates or plant pathogens that could have a public health impact e.g. venomous spiders
    o Outbreaks of termites
    o Pests that have caused significant damage in another country, whether or not they are quarantine pests, such as brown marmorated stink bug and the first record of European corn borer on a maize crop
    o Pests found at a high-profile location e.g. the Olympic Park or Premiership football ground

- Outbreaks where there is doubt as to whether they fit the situations above

3.12. Once alerted, the CPHO may decide to convene an OTG if considered to be significant enough. The decision to hold a meeting will depend on, amongst other things, the preliminary assessment of the alert status, what the pest is and/or what host it has been found on, whether there are other outbreaks of the pest already under active management, and what potential media/public/trade interest there may be in the pest or host.

3.13. It should be noted that in some cases where there is an outbreak of a particularly significant pest, a decision may be made to move straight to an IMT without holding an OTG.

Restrictions and measures

3.14. Restrictions and measures the APHA or FC inspector should take prior to the OTG are given below.

Restrictions on movement of plants and plant products, material, equipment, machinery, and people to and from the affected area

3.15. Where there is a risk of spread of the plant pest on plants and plant products, the plants and plant products should be prevented from leaving the affected area and only moved under a statutory plant health notice for destruction by deep burial, incineration or another approved method.

3.16. Certain plant pests, such as contaminating pests, may be associated with material, equipment, and machinery, so these items should also be prevented from leaving the affected area. However, if movement is necessary, the material, equipment, and machinery should be thoroughly cleaned at the designated outbreak site to remove any life stage of the plant pest.

3.17. Movement of people into the affected area should be severely restricted, especially during the early investigation phase. Personnel working in the affected area should be briefed on the importance of good hygiene practice to reduce the risk of carrying the plant pest to other areas of the site or to other sites.

Precautionary measures

3.18. Where there is a significant risk of spread of the plant pest, even with the restrictions on movement, interim control and containment measures may be advised.

Preliminary tracing

3.19. Where appropriate, information obtained regarding the origins of affected consignments should be used to locate other related and therefore potentially affected consignments. This may include contacting the NPPO of the exporting country to obtain delivery notes. Information should also be obtained on the destination to which suspect consignments have been sent.

3.20. In addition to tracing investigations relating to consignments, trace forward/back investigations linked to material, equipment, machinery, and people should also be made if the plant pest can be associated with these pathways.

Communications

3.21. A pest factsheet or alert to raise awareness of the plant pest and its symptoms should be made available to the affected grower/landowner and, where appropriate, to those in the local area and those associated with the affected premises. Pest factsheets and

alerts can be found on the plant health portal:
https://planthealthportal.defra.gov.uk/pests-and-diseases/pest-and-disease-factsheets/
and https://planthealthportal.defra.gov.uk/pests-and-diseases/pest-and-disease-alerts/.

Information gathering

3.22. Along with the implementation of restrictions and measures, the local APHA or FC inspector should gather as much information as possible to provide a basis for further decision making and reporting. Information should generally include:

- The name of the pest
- Whether a pest is suspected or confirmed
- The sample number
- The location of the outbreak
- The grid reference
- The host or commodity affected
- The level of pest damage
- The origin of affected stock
- The known or suspected extent of the outbreak including premises and fields/crops/plants affected
- Background information on the type and nature of the business affected and its main activities especially those relating to any trade in plants or plant products
- The likelihood of further spread
- Any initial action taken
- What is needed to investigate further and timescales
- Any other factors that may influence containment or eradication
- Any intelligence on trade, public, media or political interest
- The initial alert level assessment
- The PHSI or FC contact details

3.23. As much of this information should be gathered prior to the OTG as possible, but where not all this information is initially available or can be gathered beforehand, the most relevant information should be prioritised. Further information can be gathered after the OTG.

3.24. Further to information gathering, surveillance and sampling of other affected plants, plant products or material at the site or in the immediate vicinity should be carried out to confirm the extent of the outbreak. This initial survey should be used to determine if it is an isolated finding or an established outbreak.

Outbreak Triage Group (OTG)

3.25. The OTG is an 'ad hoc' group put together quickly (usually within 24 hours) in response to a significant outbreak of a suspected or confirmed quarantine pest or provisional quarantine pest. It is chaired by the CPHO or appropriate deputy and is attended by representatives from policy, communications, operations, evidence,

diagnostics, and other roles relevant to the plant pest under consideration, such as an epidemiologist.

3.26. The OTG should use the plant pest investigation template (covering information in point 3.22) and other information on the pest's biology to fill in the outbreak assessment template. Based on this template, the OTG should decide on the alert status of the outbreak (table 2) and whether containment/eradication of the plant pest is feasible and cost beneficial.

3.27. If the OTG decides the alert status is White, either the precautionary statutory action will be removed (e.g. in cases where there is a false alarm or containment/eradication is not considered feasible) or the outbreak will be managed solely between APHA/FC, Defra R&HS team and Fera Science Ltd/FR and will not be escalated further.

3.28. If the alert status is confirmed as Black, Amber or Red and containment/eradication is considered to be feasible and cost beneficial then the OTG should nominate the Control Authority and indicate the scale of response required. The OTG should also decide on any actions that should be taken immediately to contain the plant pest.

Table 2. Alert levels

ALERT	STATUS	RESPONSE
White	Plant pest which does not require statutory action or that can be managed as part of routine plant health activities (e.g. a pest with a management SOP) Example pest: *Bemisia tabaci* (tobacco whitefly)	Managed operationally, with advice from the R&HS team and diagnosticians, as appropriate
Black	Plant pest with potential for limited geographical spread leading to moderate economic, environmental or social impacts Example pest: *Anthonomus eugenii* (pepper weevil)	Initiation of the OTG and IMT. Plant pest specific response plans should be followed, where applicable.
Amber	Plant pest with potential for relatively slow but extensive geographical spread leading to host death and/or major economic, environmental or social impacts Example pest: *Anoplophora glabripennis* (Asian longhorn beetle)	Initiation of the OTG, IMT and LGD meetings. Plant pest specific response plans should be followed, where applicable.

Red	Plant pest with potential for rapid and extensive geographical spread leading to host death and/or major economic, environmental or social impacts Example pest: *Agrilus planipennis* (emerald ash borer)	Initiation of the OTG, IMT and LGD meetings and, depending on the situation, COBR. Plant pest specific response plans should be followed, where applicable.

3.29. The Control Authority is the organisation with overall responsibility for managing the outbreak. For plant health outbreaks with a Black alert, this will usually be the APHA, while for tree pest outbreaks in forestry situations, this will usually be the FC. For outbreaks with an Amber or Red alert that require more extensive co-ordination, Defra may decide to take responsibility as the Control Authority. Table 3 provides further guidance on who should be the Control Authority under different scenarios.

3.30. The Control Authority should then nominate an Incident Controller to take on overall responsibility for managing all activities relating to the outbreak of the plant pest.

3.31. Where the OTG considers the outbreak to be the result of sabotage or terrorism, action must also be taken rapidly to contact the appropriate security authorities, namely the Police, Home Office and Cabinet Office.

Table 3. Control Authority under different outbreak scenarios.

Scenario	Control Authority
Outbreak within a nursery/horticultural trade facility/ orchard	APHA
Outbreak within a nursery, which has spread into the immediate surrounding environment	APHA
Outbreak in a domestic garden/allotment	APHA
Outbreak in the wider built-up environment, including street trees (including motorway plantings, verges and transport links e.g. railway lines), public parks etc. (may incorporate areas of woodland or situations where there is a direct threat to forests or woodland)	APHA or FC to be decided on a case by case basis
Outbreak in a forest/woodland (may incorporate non-forest areas)	FC
Other scenarios	To be decided on a case by case basis

Response phase

3.32. This phase covers the response to an outbreak of a suspected or confirmed quarantine pest or provisional quarantine pest following the decision to treat the outbreak as a Black, Amber or Red alert and to attempt containment or eradication of the pest.

Incident Management Team (IMT)

3.33. The Incident Controller should set up and chair an IMT to manage the operational and tactical activities of the outbreak.

3.34. The IMT should follow the Incident Management System (IMS), which is a common management framework that can be applied to any size outbreak and provides the basis for an expanded response as an outbreak grows in size and complexity. The principles and structure of an IMS are described in Appendix II. The functions of the IMT are provided in Appendix III.

3.35. Upon initiation of the IMT, the Incident Controller should delegate incident management functions to other members of the IMT as appropriate. These functions include planning, intelligence, communications, operations, investigation, logistics, finance, subject matter advisors, liaisons and health and safety. Depending on the size of the outbreak, one person may carry out one or more of these functions. The IMT should also consider whether there should be input and/or representation from stakeholders or industry.

3.36. The IMT should then agree an incident action plan (IAP) outlining how the team is going to respond to the outbreak. It provides staff, within the IMT and in the field, with clear objectives, priorities, timescales, governance, communication protocols, health and safety considerations, resources required, and any other information required to direct the response. This should include the requirement to rotate staff appropriately in accordance with the Working Time Regulations 1998.

3.37. Outbreak objectives in the IAP should be **SMART**:

- **S**pecific (so that it is clear what is expected);
- **M**easurable (to determine whether further action is required);
- **A**chievable (so that it is realistically possible);
- **R**elevant (look to achieve something consistent with plant health policy); and
- **T**imed (to develop strategies, tactics and the resources needed).

3.38. When available for the pest concerned, the IAP should be developed from pest specific contingency plans, SOPs and other guidance. As much information as can be prepared in advance should be included in these to speed up any response.

3.39. While the IAP primarily considers the response to the outbreak, it should also consider the recovery from the outbreak at the same time.

3.40. The IAP should be regularly reviewed throughout an outbreak.

3.41. Along with the IAP, a situation report (or reports) keeping track of activities that are carried out, including any outstanding or new issues, should be updated and distributed periodically. When issued, new information should be included in red as a quick reference to what has changed since the last situation report(s).

3.42. In the event that the responsibility of an outbreak needs to be transferred from one Control Authority to another, for example when a pest is found in a nursery but investigation finds it to be present in the wider environment and in forestry situations, this should first be discussed by the IMT. The view of the IMT should be taken to the LGD meeting for approval. In the event that there is not an LGD meeting then the view of the IMT should be escalated to the CPHO for a decision.

Official actions determined by the IMT following confirmation of an outbreak

3.43. Some general actions that should be determined by the IMT for most, if not all, outbreaks are covered below.

Demarcation

3.44. Once an outbreak has been confirmed, a demarcated area consisting of an infested (or infected) zone and a buffer zone should be established.

3.45. The infested zone should include:

- All plants known to be infested by the pest concerned;
- All plants showing signs or symptoms indicating possible infestation by the pest;
- All other plants liable to have been or become contaminated or infested by the pest, including plants liable to be infested due to their susceptibility to the pest and their close proximity to infested plants or common source of production with infested plants or plants grown from them; and
- Land, soil, water courses or other elements infested, or liable to be infested, by the pest concerned.

3.46. As such, an infested zone may include part of a premise, the entire premise, multiple premises and may include the immediate surroundings. If a plant pest is found outside of a premise, such as in the wider environment, the infested zone should encompass the area surrounding the infested plants or plant products.

3.47. The buffer zone is an area surrounding or adjacent to the infested zone which is subject to phytosanitary or other control measures to minimize the probability of spread of the plant pest. The buffer zone may also be used to delineate the area for a delimiting survey.

3.48. The decision about the need for, and the appropriate, size of the buffer zone will be influenced by the biology of the plant pest; the size and density of the pest population; the length of time the pest has been present; the local climatic, meteorological and

environmental conditions; and the density of host plants. Ideally, the buffer zone should be large enough to cover the potential dispersal of the pest but small enough to minimise the unnecessary use of resources.

3.49. In some cases, where there is no risk of spread from the infested zone, a buffer zone may not be required. For example, the finding of a plant pathogen in the absence of a vector and with no other means of spread.

Surveillance

3.50. A delimiting survey should be carried out, where appropriate, to determine the extent of the outbreak.

3.51. The survey should be designed based on where, when, and how.

- Where to survey – where there is a risk of natural dispersal, surveillance should be carried out in the immediate surroundings and will likely cover susceptible host plants within the buffer zone. Further surveys may be carried out on host plants and plant products outside of the buffer zone if there is potential for long-distance natural spread of the plant pest. The pest may also spread by artificial means and therefore surveillance should also be carried out at risky sites identified following trace forward and backward of potentially affected consignments and following an investigation of the movement of the plant pest on material, equipment, machinery and people.

- When to survey – this should be determined based on a variety of factors, including the biology of the pest e.g. its climatic preferences and symptom development; grower/landowner management and operational practices; and the availability of inspectors.

- How to survey – there are three fundamental methods of surveying: visual inspection, trapping, and sampling and testing, which may be used singly or in combination. Other methods of survey may be chosen on a case by case basis.

3.52. Where surveillance results in further findings, the demarcated area should be adjusted accordingly.

3.53. Surveillance should continue after the initial delimiting survey until there is sufficient confidence to declare eradication of the pest. The period of surveillance should be determined by the life cycle of the plant pest, the local climatic and meteorological conditions, and the reliability of any evidence obtained (e.g. ease of detection and the intensity of the monitoring programme).

3.54. Where the IMT would like Observatree involvement for supplementary surveillance, the IMT should contact the project manager of Observatree. The IMT should then work through a decision support scheme with the project manager, the Obervatree project

team and the THDAS to confirm that the use of Observatree is appropriate and feasible. If it is, the project manager should authorise engagement.

Pest management procedures

3.55. Official pest management procedures, such as the destruction of host plants and application of cultural, biological and chemical controls, should be carried out to either contain or eradicate the plant pest.

3.56. Procedures should be determined for the infested zone and the buffer zone, both in the year of the outbreak and subsequent years.

3.57. Phytosanitary measures to restrict the movement of plants and plant products, material, equipment, machinery, and people to and from the affected area should also continue as necessary.

Lead Government Department (LGD) meetings

3.58. Defra, as the LGD, is responsible for making key strategic decisions, such as whether to continue eradication and/or containment of a plant pest and whether to redeploy resources and funding. It is also responsible for the coordination of outbreak activities between organisations and the DAs.

3.59. When outbreaks are of sufficient scale and complexity, LGD meetings should be initiated to allow Defra to carry out its LGD responsibilities.

3.60. LGD meetings are chaired by the CPHO or appropriate deputy and include representation from the IMT, the Control Authority, evidence group, communications, relevant policy teams, DAs and others as needed (e.g. legal).

3.61. The meetings cover the following items: the current situation, resources, policy, communications, evidence, other key issues, and a forward look.

3.62. To inform the discussion, a Common Operating Picture (COP) should be developed for each meeting. The COP sets out the latest position on the incident (collating information from the situation reports) and highlights the key issues for discussion and resolution at a strategic level. As with the situation report(s), any new information should be highlighted in red as a quick reference to changes from the previous report.

3.63. Briefings from the LGD meetings should be provided to the Minister on the outbreak situation. These briefings should be prepared at a strategic level by the relevant policy team as an update on the latest situation or for discussion at the MBM. The briefing should follow the SMEAC format to ensure that appropriate information is provided in an appropriate order. SMEAC is an acronym for situation, mission, execution, administration (and logistics) and command (control and communications), with recent convention adding an additional 'S', for safety, at the end.

Plant Health Evidence Coordination Group (PHECG)

3.64. This group (once developed) should assess evidence needs and provide technical advice to support policy and planning decisions in the response and longer-term recovery phases. The group should be utilised by the LGD and/or IMT if required.

3.65. Topics that may be considered by the group include:

- Feasibility of eradication
- Efficacy of control treatments
- Pest biology and epidemiology
- Surveillance methodology
- Diagnostic methods

3.66. In some cases, the PHECG may set up groups to investigate particular topics.

3.67. Experts should be drawn internally from the UK PHS and may include representation from the R&HS team, PHEA team, diagnostics, and FR.

3.68. External experts may also be considered for the evidence group on a case by case basis.

3.69. An external body which has been used in the past has been the Met Office. Scientists at the Met Office Hadley Centre, in collaboration with plant pest risk experts in Defra's R&HS team, have developed a web tool that estimates and maps climate-sensitive pest risk indicators (e.g., emergence date) for a range of priority UK pests. This 'climate-pest risk web tool' uses constantly updating daily gridded UK climate data from the Met Office's National Climate Information Centre, together with day degree models of user defined pests, and interactive mapping at 1km resolution across the UK.

3.70. The tool has been used by Defra's plant health team to help identify which areas of the UK are currently at highest risk from a particular pest, and support actions to survey, monitor and eradicate pests. It has also been used for rapid (daily to weekly) assessment of the timing and spatial distribution of risk across the UK during recent pest outbreaks, including for the oak processionary moth *Thaumetopoea processionea* in 2019 and 2020, and the bark beetle *Ips typographus* in 2021.

Cabinet Office Briefing Rooms (COBR)

3.71. In cases where the scale of response is large and the impacts are wide ranging, the central response arrangements within COBR may be activated. The decision to activate COBR is made by the Cabinet Office CCS, in conjunction with Defra and No. 10.

3.72. COBR facilitates cross-government decision making by bringing together Defra, OGDs, operational partners, local partners, DAs, international partners, and other response organisations. It also ensures that timely, coordinated and accurate advice is provided to Ministers and senior officials.

3.73. COBR may be supported by cells, including the situation cell that maintains the Commonly Recognised Information Picture (CRIP), and the policy and news cells.

3.74. COBR and Ministers may also be supported by the Scientific Advisory Group for Emergencies (SAGE), which provides scientific and technical advice. The decision to activate SAGE should be taken by Defra, departmental Chief Scientific Advisers (CSAs) and CPHOs in consultation with CCS and the government's CSA.

Internal and external communications

Comms plan

3.75. A high-level comms plan is being developed to cover all plant pest outbreaks. The comms plan should detail the response to the incident, including internal and external comms products. This should be shared with appropriate organisations and teams. The external comms officer should also draft a holding line while a reactive Question + Answer (Q+A) is being prepared.

3.76. DAs should be informed of the comms approach and external resources should be shared with key partners as necessary.

3.77. Press releases should be prepared on a case by case basis. In most cases, this will be for regional and trade media only. In the event of a high-profile plant pest outbreak, national communications should be considered and a Defra/FC/APHA spokesperson should be identified. Key partners/stakeholders should be informed of any media responses prior to being sent out for awareness and feedback.

Country notifications

3.78. Under the IPPC, there is an obligation for contracting parties to report regarding occurrence, outbreak and spread of pests. The UK currently fulfils this obligation by reporting information on the UK's pest reporting page on the IPPC website - Pest Reports: United Kingdom - International Plant Protection Convention (ippc.int).

3.79. The UK also reports outbreak information to EPPO, which is similar to the information provided to the IPPC. The information is published on the EPPO Global Database - EPPO Global Database.

Battle rhythm

3.80. The battle rhythm is the cycle of activities, such as the frequency and timing of IMTs and LGD meetings, required to synchronise current and future operations. The battle rhythm adopted should be proportionate to the scale of the incident.

3.81. The 24-hour news cycle means that a major outbreak of a plant pest could maintain a high media profile. The battle rhythm may therefore need to reflect the public perception of the scale and seriousness of the outbreak.

Recovery phase

3.82. This phase covers the de-escalation of response activities and the recovery of affected individuals, businesses, communities, and environments following an outbreak of a plant pest. This phase also covers the lessons learned and review processes.

3.83. Although recovery cannot occur until after the response, the recovery phase can be planned for at the same time as the response phase.

De-escalation

3.84. If the response is succeeding in achieving its objectives, there should be a gradual de-escalation of response activities as time progresses, with fewer resources being required and fewer decisions needing to be made.

3.85. As the response de-escalates, IMT and LGD meetings should be reduced in frequency and, once response activities are at a very low level, the IMT and LGD meetings should be closed completely. The decision to de-escalate or close the IMT and LGD meetings should be made by the Incident Controller and CPHO, respectively.

Eradication/containment response outcome

3.86. Eradication of the plant pest should be declared by the CPHO when the criteria for declaring eradication have been met. The criteria are agreed by the IMT and/or LGD and are based on the information in pest specific contingency plans, when available. Generally, the criteria specify a period of pest freedom and any official surveillance that must be undertaken.

3.87. Alternatively, if it becomes clear during an outbreak response that eradication is no longer feasible or that eradication measures can no longer be justified, the CPHO should determine if the eradication response should come to an end or if there should be a transition to containment and/or management of the plant pest. Containment includes official measures to prevent spread, while management concerns the shift in responsibility from government to industry and landowners. The decision to transition to containment and/or management should only be taken when it is feasible and achievable. Where transition to management is considered, stakeholders, industry and landowners should be consulted.

3.88. Likewise, in cases where containment has been chosen as the appropriate response at the start of, or during, the outbreak, and it becomes clear that containment is no longer feasible or containment measures can no longer be justified, the CPHO should determine if the containment response should come to an end or if there should be a transition to management of the plant pest.

3.89. In all cases, the outcome should be notified to relevant trading partners and to EPPO and the IPPC, in accordance with International Standard of Phytosanitary Measures (ISPM) 17: pest reporting (Pest reporting - International Plant Protection Convention (ippc.int)).

Recovery of people and the environment

3.90. Depending on the scale and extent of the outbreak, impacts may be borne by individuals, businesses, communities, and environments.

3.91. The PHS should work with stakeholders and affected parties to provide relief for people and the environment.

Lessons learned process

3.92. The lessons learned process is intended to identify and implement recommendations to improve the outbreak management response.

3.93. The following steps should be covered as part of the lessons learned process for a Black, Amber or Red alert outbreak or outbreak exercise:

    i.   At the beginning of an outbreak response, a lessons log should be made available to the IMT, LGD and anyone else involved (e.g. on a Defra SharePoint page), so that they can input lessons and comments throughout the course of the outbreak.

    ii.   At the end of an outbreak or outbreak exercise (or at an appropriate time during the outbreak response), a lessons learned exercise should be held. This could be a hot debrief shortly after the event and/or a cold debrief several weeks after the event. These should be held as formal meetings to discuss various elements of the outbreak response and should, at the very least, consider the following questions:

        a.   What went well and why?

        b.   What went less well and why?

        c.   What could be done differently next time?

    iii.   Lessons should be collated by theme.

    iv.   Recommendations should be identified, prioritised and approved.

    v.   Recommendations should be disseminated to the appropriate people/groups to implement.

    vi.   Progress against these recommendations should be tracked.

    vii.   Results should be shared across the PHS and other teams as appropriate.

3.94. The lessons learned process should be managed by a lessons learned group. This group should be responsible for initiating lessons learned exercises; collating lessons; identifying and prioritising recommendations; agreeing recommendations with the Plant Health Outbreak Readiness Board (PHORB; see 4.33-4.37); coordinating the

implementation of recommendations; maintaining a recommendation tracker; and disseminating results to appropriate people and teams.

3.95. The lessons learned group should initially be composed of the outbreak secretariat, PHORB secretariat, and representatives from the R&HS team, APHA, FC and diagnostic teams.

Review of the generic contingency plan

3.96. A review of the generic contingency plan should be carried out following all major outbreaks, particularly those with a large operational impact or where there has been a multi-agency response. A review should also be triggered following plant health outbreak exercises and where generic lessons are identified from other emergencies.

3.97. Outside of outbreaks, exercises and other emergencies, the generic contingency plan should have a light-touch review on an annual basis to consider any organisational or other minor changes.

3.98. A full review should be carried out once every five years and should include engagement with the whole of the UK PHS. An audit could also be considered.

3.99. Pest specific contingency plans should also be reviewed regularly to consider new information on a pest's biology and distribution, surveillance techniques, control measures, and any legislation and policy changes.

4. Alignment with other organisations and teams

4.1. This section provides an overview of the outbreak management processes and resources of Scotland, Wales and Northern Ireland, and how they align with the outbreak management process set out in this generic contingency plan. The section also summarises the preparedness structure and emergency response forum, which respectively coordinate and inform the country's outbreak preparedness activities.

Alignment with the Devolved Administrations (DAs)

Overview of Scotland process and resources

Scotland Plant Health Service

4.2. The Scottish Government (SG) and Scottish Forestry (SF) are responsible for delivering Scotland's plant health policy and enforcement, under the strategic leadership of the Chief Plant Health Officer for Scotland (CPHOS). The Service works collaboratively across science, policy and operations to safeguard Scottish agriculture, horticulture, natural environment and forestry sectors from pests and disease threats and as set out in the Scottish Plant Health Strategy.

4.3. An integral part of this strategy is the development of generic and pest specific contingency plans to help combat outbreaks of pests of quarantine significance. The Scottish generic contingency plan has been developed to provide a framework for the identification, control and eradication of such pests in the context of plant health.

Staff resources

4.4. The CPHOS has overall responsibility for contingency planning and outbreak management and will appoint the IMT Chair from the leading government department or agency.

4.5. Policy and inspectorate officials are based within either SF, covering tree pests and diseases, or SG's Science and Advice for Scottish Agriculture (SASA) Division based within the Agriculture and Rural Economy (ARE) Directorate, covering all other plant health matters. ARE's inspectorate role is covered by SASA's Horticulture and Marketing Unit and the Rural Payments and Inspections Division (RPID).

4.6. Scientific expertise for diagnostics and research is based in SASA or provided by FR, with additional research being commissioned through SG's Main Research Providers, such as the James Hutton Institute, Scotland's Rural College and Biomathematics and Statistics Scotland (BioSS). SG has also funded Scotland's Plant Health Centre to provide call down expertise and advice to support Scotland's contingency plans and outbreak management.

4.7. In an outbreak situation, staff work collaboratively to provide the initial emergency response capability at operational, tactical and strategic levels, across policy, inspectorate and science areas.

4.8. In the most serious cases, or where large numbers of individuals or organisations are affected, the IMT may consider seeking support from the SG's Resilience Division, to provide oversight of the general management of the incident, while plant health specialists are focused on the investigation and control of the outbreak.

Outbreak process

Investigation

4.9. Suspect quarantine pest outbreaks may be notified from several sources e.g. during official surveillance, reported by an industry professional or by a member of the public.

4.10. Any SG plant health official across science, policy or operations is responsible for reporting and investigating a suspected pest or outbreak to their Head of Branch, who will determine the preliminary alert status. Black, Amber or Red alerts are immediately notified to the CPHOS, who may convene an Outbreak Triage Group (OTG), composed of representatives from Policy, Operations and Science, to assess the situation and confirm the response required (operational, tactical or strategic).

Response

4.11. The Control Authority (as chosen by the OTG) is the organisation responsible for hosting the IMT and leading the incident response, including all resourcing considerations. For a forestry pest, SF will be the Control Authority, and for everything else, SASA will be the Control Authority.

4.12. An IAP and Log will be created covering all required activities to investigate, contain and eradicate the pest and to inform relevant stakeholders. The actions will include, for example, issuing of a Plant Health Statutory Notice (PHSN), destruction of infected/infested material, surveys, restrictions on movement and biosecurity measures in the immediate surroundings, as deemed necessary by the IMT.

4.13. For incidents assessed as having cross border implications, the CPHOS for Black, Amber or Red outbreaks will contact the UK CPHO and other relevant DA contacts to alert them and instigate an appropriate combined response.

Recovery

4.14. The CPHOS will decide when it is appropriate to de-escalate the outbreak response.

4.15. The role of the IMT is considered to finish when the pest has been eradicated or procedures for long-term management of the pest / plant health risk have been implemented, the IAP signed off and the handling of the incident reviewed. Lessons identified from outbreaks will be included in any review of the plan.

4.16. The period of pest freedom required to confirm eradication will depend on the biology of the pest concerned and the level of infestation found. Additionally, the presence of host plants, the ecoclimatic conditions and the likelihood of success of the eradication measures will also be considered.

4.17. The lifecycle and epidemiology of the pest may result in long-term crop restrictions being placed on the infested area to prevent re-infestation. Monitoring activities will also be undertaken as appropriate to confirm absence of the pest.

4.18. When the pest-free status has been confirmed the IMT may abolish the demarcated area if agreed by the CPHOS.

Overview of Wales process and resources

Wales Plant Health Service

4.19. The Welsh Ministers are ultimately responsible for Plant Health in Wales. However, following devolution and the creation of Natural Resources Wales, delivery of these functions has been delegated to four public bodies through a combination of legal and non-legally binding agreements. These public bodies are: Natural Resources Wales (NRW), APHA, FR and the FC.

4.20. The Welsh Government's Chief Plant Health Officer (WCPHO) and the Plant Health Team are responsible for all strategic and policy decisions relating to Plant Health in Wales. NRW, APHA, FC and FR all provide delivery functions spanning a range of different sectors.

Staff resources

4.21. The WCPHO has overall responsibility for contingency planning and outbreak management and will appoint the IMT Chair from the LGD. Strategic and policy officials will all be based within Welsh Government and have responsibility to produce sector wide documents such as contingency plans, management strategies and legislation.

4.22. NRW is responsible for the management of the Welsh Government Woodland Estate as well as the delivery of functions around regulated tree health pests across the whole of Wales.

4.23. APHA works on an England and Wales basis, and therefore provides equivalent plant and tree health provisions in Wales to those in England.

4.24. FC in accordance with the GB cross-border forestry Memorandum of Understanding has been delegated for certain functions that are delivered on a GB basis such as port inspections and cross-border surveillance.

4.25. FR provides supplementary resources to support NRW's responsibilities and is also the primary source of latest research, knowledge, expertise, and diagnostic services.

4.26. All organisations involved in the Plant Health Service work collaboratively throughout the year. There is an understanding that all functions are mutually reliant upon each other and require a regular dialogue and, to facilitate this, Welsh Government convenes a quarterly Plant Health Operational Group.

Outbreak process

Investigation

4.27. Suspect notifiable pest outbreaks may be notified from several sources e.g., during official surveillance, reported by an industry professional or by a member of the public through mechanisms such as TreeAlert.

4.28. The location of a notifiable pest outbreak, e.g., in the trade, woodland, parkland or wider environment and the type of host plant (e.g., tree, shrub or herbaceous) will determine who leads the investigation. At all times, the Welsh Government will provide the strategic steer and will co-ordinate the dissemination of information to and from the Plant Health Service.

Response

4.29. IMTs and LGDs will always be co-ordinated and chaired by Welsh Government Officials to provide a policy steer as well as potentially updating Ministers and the WCPHO.

4.30. The Control Authority (as chosen by the OTG) is the organisation responsible for leading the incident response, including all resourcing considerations. For a forestry pest in woodland environments, NRW will be the Control Authority, and for everything else, APHA will be the Control Authority.

4.31. An IAP and Log will be created covering all required activities to investigate, contain and eradicate the pest and to inform relevant stakeholders. The actions will include, for example, issuing of a Statutory Plant Health Notice (SPSN), destruction of infected/infested material, surveys, restrictions on movement and biosecurity measures in the immediate surroundings, as deemed necessary by the IMT.

Recovery

4.32. The WCPHO will decide when it is appropriate to de-escalate the outbreak response.

4.33. The role of the IMT is considered to finish when the pest has been eradicated or when procedures for long-term management of the pest / plant health risk have been implemented, the IAP has been signed off, and the handling of the incident has been reviewed. Lessons identified from the management of an outbreak will be included in any review of the relevant IAP.

4.34. The period of pest freedom required to confirm eradication will depend both on the biology of the pest concerned and the level of infestation found. Additionally, the presence of host plants, the ecological and climatic conditions, and the likelihood of success of the eradication measures will be considered.

4.35.   The lifecycle and epidemiology of the pest may result in long-term restrictions being placed on the infested area to prevent re-infestation. Monitoring activities will also be undertaken as appropriate to confirm absence of the pest.

4.36.   When the pest-free status has been confirmed, the IMT may abolish the demarcated area, if authorised by the WCPHO.

Overview of Northern Ireland (NI) process and resources

NI Plant Health Service

4.37.   The Plant Health Directorate (PHD) of Forest Service, which is an Agency within the Department of Agriculture, Environment and Rural Affairs (DAERA), is charged with managing any outbreaks of serious pests of plants in NI. DAERA is fully committed to maintaining an effective generic contingency plan, as well as individual plant pest response plans as appropriate, to address agreed risk priorities. DAERA PHD also has clear governance to eradicate or minimise any impact when outbreaks occur. It is important that interested parties play a role in the development of the plans and are clear on their responsibilities in the event of an outbreak.

Staff and physical resources

4.38.   The NI Chief Plant Health Officer (NICPHO), based in DAERA, has overall responsibility for contingency planning and the co-ordination of any response in the event of a serious outbreak. The Head of the PHD, as Chair of the IMT, can draw on the combined resources of PHD, involving staff from the wider Forest Service Agency in the first instance, and on the wider DAERA, with close co-operation from relevant stakeholder representatives.

4.39.   The PHD includes the Plant Health Inspection Branch, comprising inspectors and technical advisors, and the Plant Health Policy Branch.

4.40.   For the most serious incidents that will have widespread impact on many businesses within the sector, the NICPHO or deputy can initiate response arrangements which identify other suitable staff and volunteers.

4.41.   Diagnostic and surveillance testing for pests and diseases is provided by the Agri-food and Biosciences Institute (AfBI). This service includes provision for scaling up activity in the event of a major outbreak, including liaison with and/or outsourcing to other UK and Republic of Ireland laboratories with plant health responsibilities, where the pest risk has trans-boundary implications.

4.42.   The PHD may need to establish contractual arrangements to meet anticipated needs in an outbreak, whilst ensuring compliance with EU and UK procurement law and value for money. These types of contracts include: One off Contracts, Framework agreements and Single Tender Actions.

Outbreak process

4.43.   An investigation and emergency response is triggered when, based on an initial analysis of the pest incident, a member of the PHD notifies the Plant Health Director and/or the NICPHO that an outbreak requiring remedial action exists or is suspected.

4.44.   The operational phase of the response commences when the presence of the pest is confirmed and activities under a response plan are implemented. Typically, the aim of the operational phase is to eradicate or contain the pest.

- Staff from the PHD, acting within the IMT, will provide the initial emergency response capability, including activities such as intensive surveillance and sampling of any demarcated zone, coordination of contractor works, as necessary, and communication with stakeholders, other interested parties and the wider public, if appropriate.

- Following an assessment of the likely impact of an incident, the NICPHO will, if required, report their assessment under the DAERA Major Emergency Response Plan (MERP) arrangements. The MERP provides clear direction to DAERA, its Agencies and work groups, in order that non-essential staff can volunteer their services and be released quickly.

- In addition to the guidance provided within the MERP and specific response plans, PHD have SOPs on biosecurity controls that are to be used by staff in response to outbreaks of pests as well as general guidance on operational response. These documents are reviewed regularly and updated as necessary.

- Upon initial containment or eradication of the pest, further work will be required to determine and demonstrate lasting success. Proving freedom from the pest may include an approved period of research and/or host plant and environmental surveillance activities. This surveillance and investigative phase will only end when sufficient evidence has been gathered, collated, and analysed to indicate beyond reasonable doubt that the risk is eliminated. If it is determined through this process that the pest cannot be eradicated, a transition to managing the extent and impact of the pest outbreak may take place.

4.45.   Standing down from emergency action commences when either:

- the initial investigation phase fails to confirm the presence of a pest or disease;

- the response strategy has been effective;

- or eradication of a pest is not considered feasible, cost effective or beneficial in the wider context.

4.46. It is anticipated that the NICPHO would formally declare the pest outbreak over or announce any substantive change in risk status and management approach (according to the circumstances as outlined above).

Interaction with plant health process

4.47. For outbreaks that only occur in England, updates should be provided to the DAs via LGD or PHORB meetings.

4.48. For cross-border situations, the lead country should be decided on a case by case basis. For example, if the outbreak started in England and the outbreak then spread into Scotland or Wales, it is likely that England would be the lead in such cases. Whereas, if it was the reverse situation, it may be that Scotland or Wales would take the lead.

4.49. In addition, there are opportunities for DAs to be observers on IMT and LGD meetings and, likewise, for England staff to be observers on outbreak meetings held by DAs.

Alignment with other Defra bodies

Preparedness structure

4.50. The UK plant health preparedness structure is composed of the PHORB and five sub-groups.

4.51. The PHORB is responsible for coordinating plant and tree health outbreak preparedness activities in England and ensuring these activities are aligned with DAs as appropriate.

4.52. The five sub-groups carry out the technical and operational work and are as follows:

i.   Field operations and diagnostics sub-group – this group addresses actions relating to field operations carried out in preparation for an outbreak of a pest and ensures relevant contracts are in place to conduct necessary activities required in the event of an outbreak. It also addresses actions relating to diagnostics, to ensure there is an optimal response to any finding of a quarantine pest and covers co-ordination between UK diagnostic laboratories.

ii. Surveillance and control advisory sub-group - this group develops technical/strategic options and recommendations on surveillance and control (cultural, biological, and chemical). It also has responsibility for maintaining the plant health preparedness index, which tracks preparedness for GB's priority pests.

iii. IT preparedness sub-group - this group addresses actions relating to data capture and intelligence carried out by UK agencies and contractors as well as citizen science reporting. It covers both routine and outbreak work.

iv.   Training and exercises sub-group - this group addresses actions relating to training of staff at operational, tactical, and strategic levels, including individuals within the UK PHS and those external, and coordinates outbreak exercises.

v.   Lessons learned sub-group (to be established) - this group is responsible for managing the lessons learned process (see 3.92 – 3.95).

4.53. The UK NPPO group (strategic view of plant health) provides oversight of PHORB and sub-group activities. The PHORB and sub-groups are also aligned with the work of the UK Plant Health Risk Group and sub-groups to ensure duplication does not occur.

4.54. The outbreak management process is aligned with the preparedness structure in the following ways:

- Lessons and recommendations from outbreaks and exercises should be fed into the preparedness structure through the lessons learned sub-group.

- Updates on active outbreaks should be provided to the PHORB and any preparedness actions implemented.

- Preparedness activities carried out through the PHORB and sub-groups should lead to the improvement of the outbreak management process.

Emergency response forum

4.55. The emergency response forum brings together representatives from Defra's emergency/crisis areas to share knowledge, present cross-cutting issues, and provide support.

4.56. Plant and tree health are represented on this forum and can feedback information and any actions to the preparedness structure.

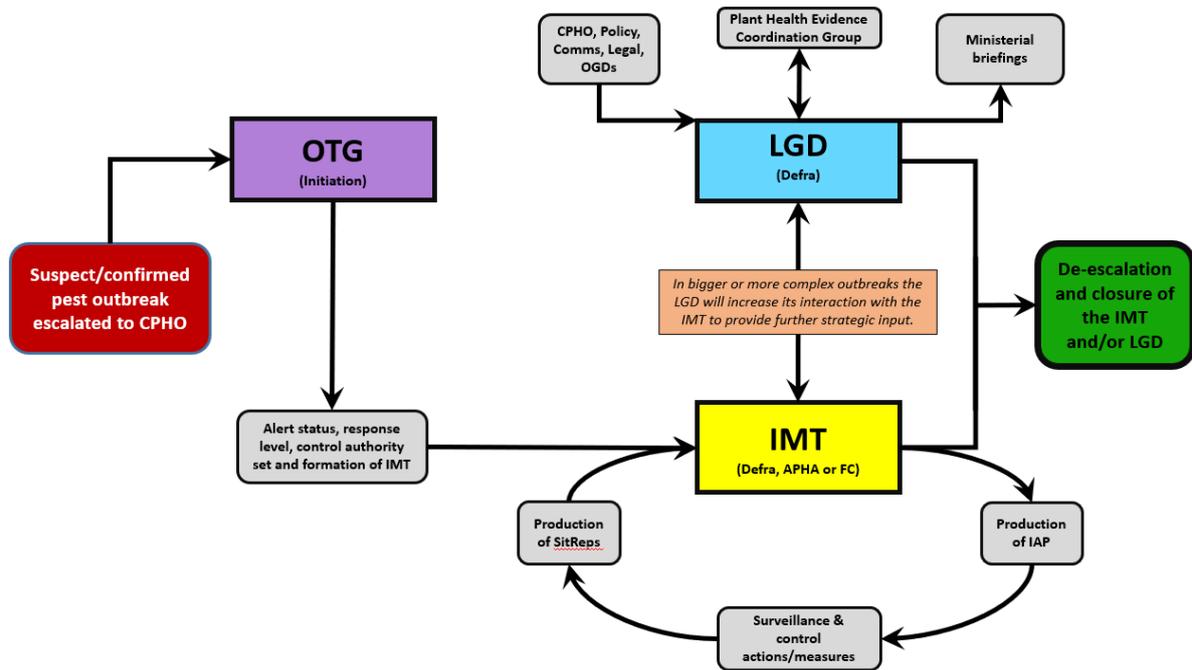# Appendix I: Outbreak management process groups and activities

Figure 2. Flow of the outbreak management process and interaction between the Outbreak Triage Group, Incident Management Team and Lead Government Department.

Appendix II: Plant health Incident Management System (IMS)

An IMS provides the following:

- Adaptability and scalability – the size and structure of the IMT should reflect the size and complexity of the outbreak and the stage of the response and recovery;

- Uniform terminology – agreed terminology and definitions will enable effective communications between agencies and between members of the IMT;

- Defined management structure – clearly defined and agreed management structures that can be applied and understood by all based on functional management;

- Defined roles and responsibilities – clearly defined and agreed responsibilities for all appointed to a function in the management structure;

- Defined information flows – clear reporting lines within the management structure;

- Common operating picture – a description of the shared and consistent understanding the IMT has of the outbreak, gathered from a variety of sources to support decision making.

Incident management structure

A key element is that one person, the Incident Controller, oversees an outbreak. The Incident Controller will set up a management structure to deliver the functions of incident management. By delegating these functions, the Incident Controller creates an IMT, thereby retaining accountability, but no longer the responsibility, for the delegated task.

When creating a management structure, the outbreak determines its size and nature. It must be adaptable and reflect the complexity and scale of the outbreak. For a small outbreak, such as for a Black alert or during the early stages of what may become a large or complex outbreak, the Incident Controller may manage all functions. While for large or complex outbreaks, groups of tasks may be delegated to allow for a manageable span of control. The management structure may expand to have separate people and teams managing delivery of each management function. This will be determined by the volume of information, need for specialisation, level of threat, size and complexity, duration and available resources. A fully expanded structure is demonstrated in Figure 3.
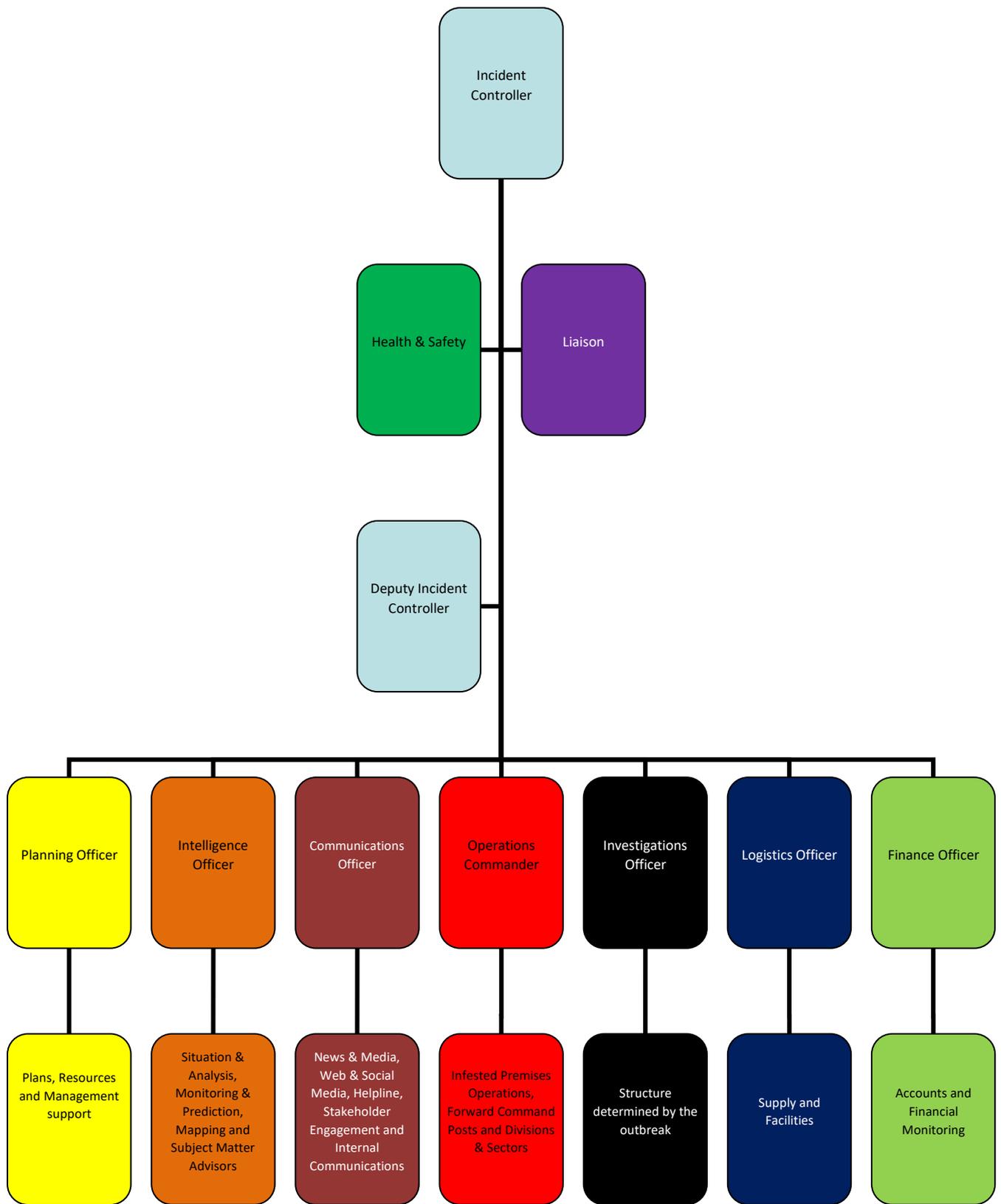
Figure 3. Fully expanded incident management structure.

Appendix III: IMT Functions

Incident Controller – responsible for agreeing, implementing, and monitoring the IAP.

Deputy Incident Controller – responsible for providing support to the Incident Controller to implement and monitor the IAP.

Planning Officer – responsible for establishing and managing a planning function; evaluating and analysing intelligence; developing potential objectives and strategies; preparing and disseminating plans; and providing oversight of resource allocation. The planning function may include the following:

- Plans unit – develops and documents the IAP, and any supporting plans, needed to deal with the outbreak

- Resources unit – gathers, maintains, and presents information on outbreak resources

- Management support unit – provides administrative and document management services

Intelligence Officer – if required, the planning officer will delegate responsibility to an Intelligence officer, who will be responsible for establishing and managing an intelligence function; collecting, processing, and presenting information; assessing evidence needs and recommending evidence work; and putting together the COP. The intelligence function may include the following:

- Situation and analysis unit – collects, analyses, and organises situation information and data for the COP ensuring it is relevant and current

- Modelling and predictions unit – uses modelling tools to predict outbreak developments and potential outcomes of actions to feed into the planning process

- Mapping unit - provides mapping information with relevant supporting documentation

- Subject matter advisers unit – communicates professional and technical advice and ensures this is fully considered in the IAP

Communications Officer – responsible for establishing and managing a communications function; identifying issues of interest to the media and public; managing communications with the media and stakeholders; and assisting policy with key messages. The communications function may include the following:

- News and media unit – develops materials for use in media briefings, obtains the relevant approval for media releases, informs media and conducts media briefings, arranges for tours and other interviews or briefings as requested and obtains media information that can be useful to incident planning and management

- Web and social media unit – posts information relating to the incident onto government websites and other web-based interfaces including social media

- Helpline unit - supervises and facilitates the establishment and maintenance of a helpline, as a source for stakeholder information. Such helplines may be internally hosted or outsourced to another organisation or commercial provider.

- Stakeholder engagement unit – relates to the affected stakeholders including the local community. This may involve engaging with individuals either directly or indirectly affected, as well as affected industries and their member organisations.

- Internal communications unit – ensures staff receive timely, appropriate and accurate information on the outbreak including staff lists with responsibilities and the IAP

Operations Commander – responsible for establishing and managing the operations function; the implementation of tasks, activities and resources that are used to resolve the outbreak; the review of health and safety procedures; and effective communication of the IAP, situation reports and intelligence to operational staff. The operations function may include the following:

- Infected/infested premises operations – conducts activities to eradicate or contain the pest

- Forward command posts – these will report directly to the Operations Commander.

- For large incidents, divisions and sectors are defined and communicated to help management

Investigations Officer – responsible for identifying how a pest entered, where it has spread and proving freedom from the pest

Subject Matter Advisor – if required, will report to the Planning Officer or the Investigation Officer to ensure specialist advice, such as scientific and technical advice is used in the most effective and efficient manner to help resolve the incident rapidly and effectively.

Logistics Officer – responsible for establishing and managing the logistics function; and obtaining and maintaining human and physical resources, facilities, services, and materials. The logistics function may include the following:

- Supply unit – acquires and distributes equipment required

- Facilities unit – obtains and manages necessary facilities and accommodation e.g. portable welfare units

Finance Officer – responsible for establishing and managing the finance function; and the management of contracts, procurement, payments, account records and time records. The finance function may include the following:

- Accounts unit – manages accounts of purchases and manages contracts

- Financial monitoring unit – collects cost data, performs cost-benefit analysis and provides cost estimates for the outbreak

Liaison Officer – an assistant to the Incident Controller, responsible for representing the Incident Controller to the LGD, other government departments, DAs, or other relevant stakeholders.

Health and Safety Officer – an assistant to the Incident Controller, responsible for providing professional advice to ensure the incident and tasks are conducted in a safe and secure manner.