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CONTINGENCY PLAN FOR OUTBREAKS OF

THE OAK PROCESSIONARY MOTH
(*Thaumetopoea processionea*)

in Great Britain

Forestry Commission
Plant Health Service
Edinburgh
2007

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CONTINGENCY PLAN FOR OUTBREAKS OF THE OAK PROCESSIONARY MOTH (*Thaumetopoea processionea* IN GREAT BRITAIN.

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1. Background

The Oak Processionary Moth (*Thaumetopoea processionea*) is a major defoliator of oak in Europe, with the larvae (caterpillars) feeding on the foliage of many species of oaks including English or pedunculate oak (*Quercus robur*), sessile oak (*Q. petraea*) and Turkey oak (*Q. cerris*). It has also been known to attack hornbeam (*Carpinus betulus*), hazel (*Corylus avellana*), beech (*Fagus sylvatica*), sweet chestnut (*Castanea sativa*) and birch (*Betula spp.*) although these species tend to be attacked only when growing next to severely defoliated oaks.

T. processionea is native to central and southern Europe, where it is widely distributed. However it has spread north, possibly as a result of climate change and it is now firmly established in the Netherlands, northern France and has even been reported as far north as southern Sweden. During 2006 it was found in London around Kew Gardens and Richmond.

Whilst a threat to oak, *T. processionea* is also a risk to human health. The larger (late stage) larvae are covered in irritating hairs that contain a toxin and contact with these hairs, or their inhalation, can lead to skin irritation and allergic reactions. These problems are very significant where *T. processionea* is abundant on urban trees, along forest edges and amenity woodlands where contact with the public is greatest.

If *T. processionea* was to become established in Britain, it could pose a serious threat to native oaks and provide serious management problems for arboriculturalists, local authorities and tree owners in both urban and rural situations. In addition, the health risk posed by the larvae cannot be underestimated. Although the current outbreak is confined to a limited area of London this Contingency Plan will be applicable to the whole of GB

2. Objectives of the Contingency Plan

- 2.1 To raise awareness of the potential threat posed by *T. processionea* and therefore ensure that stakeholders are aware of the symptoms caused by infestation by this pest..
- 2.2 To provide guidance on steps to be taken whenever symptoms of attack by *T. processionea* are observed
- 2.3 To ensure that all infestations of *T. processionea* are managed promptly with the aim of eradicating pioneer populations of the moth.
- 2.4 To ensure that all relevant Forestry Commission staff, other Government agencies and Local Authorities are conversant with the contents of this Contingency Plan so that effective and immediate action is implemented.
- 2.5 To ensure that good communications are put in place so that all stakeholders (including the media) are kept fully informed of the scale of infestation both at regional and national levels.
- 2.6 This Plan will be in the public domain on the Forestry Commission Internet site.
- 2.7 This Plan will be updated regularly in the light of new information, changes in policy, amendments to legislation (EU or national) or changes in contact details.

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3. Action

The main criterion for action has been:

- The discovery of *T. processionea* on *Quercus* spp. in the London area

4. First contact

- 4.1 Reports of *Quercus* spp displaying symptoms of infestation have been received by Tree Health Division (THD) Advisory Service of Forest Research who have subsequently investigated these reports.
- 4.2 *T. processionea* has been confirmed by THD and the Head of Plant Health (PH) has been informed.
- 4.3 The Head of PH shall be responsible for initiating this Contingency Plan.
(NB- initiated 21st May 2007)

5. When an infestation is found

- 5.1 A formal Pest Risk Analysis (PRA) on *T. processionea* will be completed by the Head of THD and submitted to the Head of the Plant Health (PH)
(NB: PRA - commissioned 21 May 2007)
Based on the evidence contained in this PRA the Head of PH will consider whether *T. processionea* should be classified as a quarantine pest, which will require action through the EU Standing Committee on Plant Health .
- 5.2 The Head of PH, shall inform the Head of Corporate & Forestry Support (CFS) of the outbreak. **(NB: informed 21 May 2007)**
- 5.3 An Outbreak Management Team (OMT) will be convened in London **(NB: planned for 13 June 2007)**
- 5.4 The Head of Plant Health shall immediately inform the Forest District Manager (FDM) (if FC), the Local Authority or the owner or their elected agent (if private) that an infestation of *T. processionea* has been confirmed on their land and that this Contingency Plan is to be implemented within 2 working days. **(NB: FC and stakeholders advised 22 May 2007)**
- 5.5 The FDM, Local Authority or owner shall be asked not to carry out any activities in any area where *T. processionea* infestation is suspected or confirmed pending the arrival of the Plant Health Regional Manager (PHRM) who shall, in consultation with specialists in FR THD, advise on strategy for the infestation. In particular, no material of *Quercus* spp. shall be removed from the outbreak site without the written authority of a Plant Health Inspector. If necessary, on non-FC land, statutory notice shall be served on the owner or occupier. On FC land, the FDM shall be asked by the Head of PH to confirm in writing (e-mail) that no activities will be carried out without first consulting the PHRM. **(NB: all parties aware – no notices served)**

6. Determining the extent of the infestation

Rapid gathering of information in the field will provide the basis not only for immediate action but will also be used to formulate a more comprehensive and

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longer term Action Plan. Discussion between the Head of PH, the Head of THD and the relevant PHRM will identify what information is required. This is likely to include:

- known extent of the infestation - this will involve further survey work in the known infested area and its immediate surroundings
- level of damage
- any other factors which might affect eradication or containment.
- likely impact of recommended actions and their outcome.
- extent and level of advice which should be given.

Supplementary information will also be sought on:

- likely origin of the pest with its likely point of entry into GB, and date and means of arrival, if possible
- consignment details including the source and supply and other possible points of destination (traceforward).

(NB: action plan in draft 21 May 2007)

Any phytosanitary certificates or plant passports, which are available, must be sent to the Head of PH who will report details to relevant National Plant Protection Organisations, the European Commission and other member States.

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7. Pest Risk Analysis

As part of a Pest Risk Analysis (PRA) prepared by the Head of THD, pest management options for *T. processionea* will be outlined. The management options, in conjunction with the information gathered on site by FR shall be used to formulate the detailed action plan. The PRA will be published on the FC website (www.forestry.gov.uk/planthealth) and shall be kept updated

8. Outbreak Management Team (OMT)

Following confirmation of tree damage caused by *T. processionea*, which in the opinions of the Heads of PH and CFS is serious, an OMT has been formed. This shall be centrally based at FC Edinburgh (Silvan House) and will comprise the following personnel.

Chairperson	Head of PH
Scientific Advisor	Head of THD
FC Liaison officer	Conservator of Forests, London
Press Officer	Head of Communications
Finance Officer	PH Operations Manager
Investigating Officer	PH Regional Manager
Secretariat	Corporate & Forestry Support

If necessary the OMT shall seek to co-opt other staff e.g. Defra or SEERAD Plant Health personnel, Defra Legal, Local Authority Environmental Health as well as an Environmental advisor from, for example, the Environment Agency (EA)

The OMT shall be responsible for:

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- i. instigating any investigations to determine the scale of the problem, both locally and nationally, and directing action to eliminate the problem.
- ii. mobilising appropriate resources.
- iii. preparing reports as and when required.
- iv. liaising with the press, both locally and nationally, stakeholders including owners, growers and nursery owners as well as Forestry and Plant Health Ministers.

Roles:

Chairperson: (Head of PH)

- receives and interprets advice from all quarters including phytosanitary, scientific, political and financial.
- liaises with the Head of Corporate and Forestry Support, Director General and the Executive Board, the Chairman of the Forestry Commission, Forestry Ministers and other government departments.
- acts as the link between the Plant Health Regional Managers and the OMT.
- liaises with Head of THD in relation to scientific and management aspects.
- seeks legal advice as required
- liaises with the Heads of the Plant Health of Defra and SEERAD.
- is the FC representative to the EU Standing Committee on Plant Health and will liaise and advise the European Commission and the member States on the outbreak situation in GB and the steps which are being taken or planned to contain and/or eradicate the pest.

Scientific Advisor: (Head of THD)

- advises the Head of PH and the OMT as and when required.
- advises and comments on data gathered on the pest infestation.
- advises on safe disposal of contaminated material.
- advises stakeholders on any aspect of the control programme as required.
- informs the media (via the press office).

Forestry Commission Advisors:

- shall be a nominated representative from each of the three countries, although initially it shall only be from FC England where the outbreak has occurred.
- shall be responsible for maintaining a record of any expenditure incurred while pursuing an eradication or containment policy on FC land.
- shall be responsible for co-opting any further expertise from the country they represent.

Press Officer:

- shall liaise with the press officers from each country.
- advises the Head of PH and the OMT on media releases.
- shall keep the OMT updated on all media coverage and advise where responses are considered necessary.

Secretary:

- keeps accurate minutes of all meeting of the OMT

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- distributes the minutes to members and others as agreed by the OMT in a timely manner
- gives additional administrative support as and when required.

9. The Investigating Team

An Investigating Team or Teams may be initiated by the OMT as and when required. The make up of these teams shall include:

9.1 Outbreaks on Forestry Commission land:

- i. the Plant Health Regional Manager who shall act as Team Leader
- ii. specialists from Tree Health Division of Forest Research
- iii. the Technical Services Unit (TSU) of Forest Research for survey work.
- iv. the local Forest District Manager (FDM)
- v. others may be co-opted e.g. local GIS officer, local beat forester.

9.2 Outbreaks on private land or public open space:

- i. the Plant Health Regional Manager who shall act as Team Leader
- ii. the owner or Local Authority tree officer
- iii. others may be co-opted e.g. FC Woodland Officer
- iv. appropriately qualified personnel for survey work.

9.3 The Investigating Team Leader shall be responsible for the implementation of the Contingency Plan at all outbreak sites within his region

9.4 The FDM, the owner or the tree officer, as appropriate, shall be responsible for carrying out or overseeing all eradication operations in accordance with safe working practice.

10. Role of the Plant Health Regional Manager

- 10.1 The Plant Health Regional Manager shall report directly to the Head of PH on the scale of any outbreak.
- 10.2 The Plant Health Regional Manager shall report to the Head of the PH any problems associated with implementing the agreed plans.
- 10.3 In conjunction with the Head of PH and the Head of THD, shall arrange for surveys to be carried out on any outbreaks identified outside London using the basic procedure in Appendix I and using an appropriate pro forma for logging survey details.
- 10.4 The Plant Health Regional Manager shall liaise with the OMT to agree who will be responsible for carrying out the survey. This may be Forest District staff, TSU, or other appropriately qualified personnel
- 10.5 Where infested trees is to be destroyed by burning, the Plant Health Regional Manager shall liaise with the local police, fire brigade, Environment Agency, owners, and neighbours as well as the local media on the proposed course of action particularly where it leads to the closure of public access areas (NB: this may require enabling legislation before this can be executed).
- 10.6 Where infested material is to be buried in a landfill site, the Plant Health

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Regional Manager will liaise with the local Environmental Health Officer and potential landfill operators on the proposed method of transport from the site of infestation to the landfill site.

- 10.7 The Plant Health Regional Manager shall be responsible for gathering all necessary information required for the completion and serving of all statutory notices.
- 10.8 Where the outbreak is on premises (including land) which is used wholly or mainly as a dwelling and the landowner, their agent or the occupier is absent or uncooperative, the Plant Health Regional Manager shall contact the Head of PH who shall decide whether to obtain a warrant to enable entry.
- 10.9 The Plant Health Regional Manager will, when appropriate, liaise with Plant Health officers from other agencies e.g. PHSI (Defra) or EPHAS (SEERAD).

11. Role of the local FDM,

- 11.1 If any outbreaks are confirmed on FC land, the local FDM shall liaise with the Plant Health Regional Manager on the method of control and disposal of infested material. This work to be carried out using safe forestry or arboricultural practices and in accordance with due concern for health and safety.

12. Survey protocol

Immediate action to delimit the extent of infestation

If any new infestation by *T. processionea* is reported, initial efforts shall be concentrated on the infested trees and on oak trees in their immediate vicinity. Surveys shall be used to determine the extent of the infestation and will concentrate on providing information for the Heads of PH and THD to make initial decisions on the action to be taken. Survey protocols for all inspections of individual trees are in Appendix II.

Supplementary action to assess potential infestations in Great Britain

- a) FR to design and co-ordinate a survey across London, based on the current epicentre, for *T. processionea* combining visual surveys and, particularly, an extensive pheromone trap network
- b) Surveys shall be carried out in accordance with the following procedures:
 - the survey shall be co-ordinated by THD who shall advise on timing of the surveys.
 - all enquiries on damage shall be handled by THD with the details entered on to a database.
 - data on interceptions of presence of larvae, symptoms of attack, adult moths (based on pheromone and light traps) or presence of egg masses to be logged on to the central database by THD.
 - trees around an area where positive identification of symptoms shall be inspected first.

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- THD shall organise training of surveyors, as appropriate on damage symptoms, when samples should be taken if required, health and safety issues, completion of an agreed pro-forma and the time scale for surveys to be carried out.
- any positive findings shall be submitted, within 24 hours, to the Head of Plant Health for discussion with the OMT where further decisions on action to be taken and/or extending the scope of the survey will be discussed.
- a survey report, to be submitted to the OMT shall be completed by THD and shall include information on enquiries, surveys and any action arising from the surveys.

13. Staffing

Appropriate expertise and staff resources shall be identified by the OMT. The PH Operations Manager shall liaise with the OMT and others, as appropriate, to identify funding and resource requirements and agree procedures for provision of these requirements.

14. Other resources

Other resources may be required e.g. support staff, accommodation, equipment, computer links and maps and publicity material. These shall also be discussed and agreed by the Heads of CFS, PH and THD

15. Contact with the local media

- 15.1 FC members of the OMT shall consult with the Press Officer and the Head of PH on the OMT before contact with the local media is made.
- 15.2 With the agreement of the Press Officer, the local Conservator or the Head of THD may deal with media. Non-FC members of the OMT are requested to inform the Press Officer of any contact with the media
- 15.3 Any questions on the outbreak at national level shall be directed to the national press from the Press Officer.
- 15.4 In accordance with policy on disclosure, details of locations of individual outbreak sites shall not be made public without the owner's written consent.

16. Courses of Action to prevent further infestations/outbreaks and, if possible, avoid permanent establishment of *T. processionea* in Great Britain

a. Monitoring of imported stock

Head of PH shall request inspectors of PHSI and EPHAS to be on the lookout for symptoms of infestation on all imported plants and to take or order remedial action to deal with infested material (**NB under review**).

b. Biological control

The use of biological control is being investigated by scientists in the main infestation areas in Europe. Any use of a biological control agent (BCA) will need to be considered by the Head of THD in the light of available knowledge. It

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should be noted that the release of any non-native BCA shall require to be licensed under the Wildlife and Countryside Act 1981. .

17. Termination of Emergency Action

The role of the OMT shall be considered to be ended when the procedures for the long-term management of the outbreak have been implemented, a long term strategy has been put in place, a report has been provided, and the handling of the crisis is reviewed.

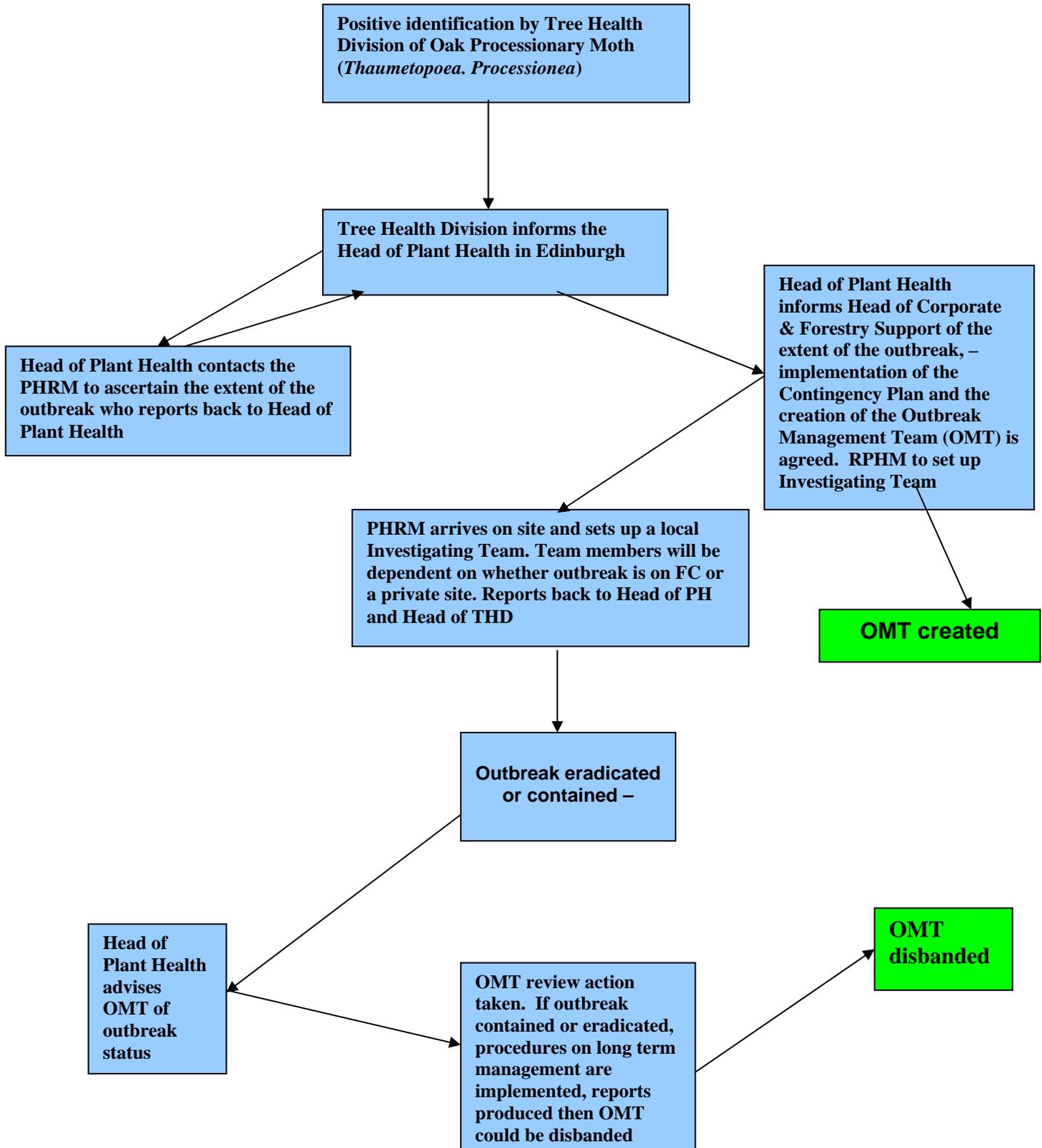
18 Review of the Plan

This plan will be updated as necessary and will be completely reviewed every three years.

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Appendix I

Flow diagram showing series of events leading to the implementation and cessation of this contingency plan



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Appendix II

Surveying & Sampling Procedure

The following survey procedure shall be used to assess trees for infestation by *T. processionea*

Surveys for symptoms characteristic of attack by *T. processionea* shall be carried out from the ground with the naked eye or using binoculars. On taller trees, climbing apparatus or hoists may be employed if it is not possible to see the upper crown clearly from the ground.

Symptoms & what to look for

- Severe defoliation of the tree
- The presence of groups of larvae individually or, more usually, in groups. During non-feeding periods larvae congregate in communal nests made of a white silk webbing spun under a branch or on the trunk. The larvae follow each other head to tail in a long "procession" when moving from the nest to from one feeding location to another, giving rise to the common name – processionary moth.

Action if infested trees are found during surveys

- i. All *Quercus spp.* within a radius of 1km of an infested tree shall be inspected for sign of infestation. This distance from the initial infestation may be revised on the advice of the Head of THD.
- ii. The positions of any trees with confirmed infestation (based on both presence of nests and larvae of OPM) will be recorded by street location, supplemented by a GPS reading of the position of the affected tree. This information shall be included in the pro-forma previously agreed by the OMT to be used during surveying and sampling operations.
- iii. In most cases, the combination of damage symptoms and presence of evidence of larval activity (live larvae, presence of nests, cast skins of moulted larvae) will enable field identification of *T. processionea* to be confirmed. If there is any doubt about the identification, samples of larvae or other signs of attack shall be removed and sent to THD, Forest Research.
- iv. Samples shall be placed in a sealed polythene bag, which shall also contain a pre-prepared identity slip used to record the location of the suspect tree and the sample number. Any insect specimens shall be placed in a sealed insect-proof container and placed in the polythene bag with other samples.
- v. Monitoring shall take place for a period to be agreed by the OMT but shall not be less than 3 years.

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Area-wide monitoring using pheromone traps

A network of pheromone traps baited with the lure for OPM will be established in locations based on the known epicentres of infestation from ground surveys and extending up to 10 km. outside the centres. The traps will be set up in mid-June and will run for 6 weeks. Precise location of the traps and their inspection will be done by consultation with stakeholders identified through the OMT interactions with interested parties in London.

- i. Place pheromone traps (delta traps) in suitable locations high in the canopies of potential host trees. Identify by street location and GPS the position of each trap and indicate on a master map of London.
- ii. Inspect traps at intervals by arrangement with volunteers and OMT staff.
- iii. Arrange for traps to be collected, folded and sent to FR THD for final checking and mapping of any positive finds.
- iv. Analyse the data to identify hotspots and to provide information for planning insecticide applications for 2008.

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Appendix III

The Treatment of Infested Material

The issues of skin irritation and adverse reactions arising from handling material contaminated with hairs from the larvae make it essential that any handling of infested material (larvae, nests, foliage, etc.) should be done using full protective clothing. The OMT will provide a specification for protective clothing but it is important that non-specialists do not become involved in handling infested material.

It is likely that any larvae found during the 2007 visual inspections will be past a suitable development stage for insecticide application. Insecticide application during the remaining development period in 2007 is, therefore, not recommended.

Nest removal

If there is a public health requirement to remove nests, specialist advice should be sought. The recommended method is to 'fix' the nest material using a laquer-based hair spray followed by careful removal and destruction or by direct destruction of the nest on the tree itself. This is best achieved using spot flame application.

Application of insecticides

Further assessment of the most suitable insecticide active ingredients and application methods will be carried out during 2007. This, combined with development of procedures for early detection of egg hatch, will be used to draw up plans for treatment, in spring 2008, of newly hatched larvae in any areas of infestation identified during the 2007 surveys.

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Outbreak Management Team – contact details

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Position	Name	E-mail	Office 'phone	Other 'phone
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