

UK Bluetongue Control Strategy

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1. Disease Control Strategies

1.1 Strategic Objective

An agreed Government and Stakeholder strategy to limit the impact of an incursion of bluetongue (BTV) in the United Kingdom by:

- Defining the extent of infected populations of ruminants and vectors.
- Containing the spread of BTV by surveillance and movement controls into, out of and through the Restricted Zone.
- Adoption of procedures to mitigate against exposure of susceptible animals to infected vectors.

Each country of the UK has different factors to consider e.g. geographic proximity, and will respond to their situation accordingly within the framework.

1.1.1 Assumptions

The OIE International Animal Health Code specified infective period¹ of 60 days will be used for contingency planning while being mindful of the shorter periods of high risk of viraemia.

Midges of the *Culicoides* group, such as *C. obsoletus*, *C. pulicaris*, *C. dewulfi* and others will act as BTV vectors where they occur across Britain. *C. imicola* which is the main vector for BTV transmission in southern Europe and Africa is not known to be present in the UK.

1.2 Reference laboratories and expert group

1.2.1 National Reference Laboratory for bluetongue virology

The National Reference Laboratory for bluetongue virology is:

Institute for Animal Health
Pirbright Laboratory
Arbovirology Unit
Ash Road
Pirbright
Woking
Surrey GU24 0NF

This laboratory has also been designated by the European Commission as the Community Reference Laboratory for bluetongue (Directive 2000/75/EC, Annex II), and by OIE as a World Reference Laboratory for bluetongue.

In this role, the Institute for Animal Health, Pirbright Laboratory (IAH Pirbright) shall be responsible for:

- Maintaining a capability of performing the tests required to confirm a diagnosis of BTV and typing of the BTV involved²

¹ OIE International Animal Health Code, Chapter 2.2.13 Bluetongue, Article 2.2.13.1. (in part) "For the purposes of the Terrestrial Code, the infective period for bluetongue virus (BTV) shall be 60 days."

- Maintaining a supply and quality of diagnostic reagents for BTV
- Undertaking testing of vaccines for BTV if required by a commercial partner.
- Assessing the vector competency of the *Culicoides sp.* from areas where BTV is present
- Organising of comparative testing with other laboratories within the European Union at regular intervals to assess the sensitivity and specificity of the diagnostic procedures being used.
- Preserving isolates of BTV isolated from cases in the UK, EU and worldwide.
- Undertaking molecular epidemiological investigations to determine the origin of virus incursions
- Provide suitable people for Expert Groups that may be established by the CVO, to advise on BTV planning and control.

1.2.2 National laboratory for bluetongue vector (*Culicoides sp.*) entomology

The national laboratory for bluetongue vector (*Culicoides sp.*) entomology shall be:

Institute for Animal Health
 Pirbright Laboratory
 Arbovirology Unit
 Ash Road
 Pirbright
 Woking
 Surrey GU24 0NF

The *Culicoides* vector entomology reference laboratory shall be responsible for:

- Providing staff to collect vectors and, if required, to train others in vector collection
- Identification of insects collected to determine *Culicoides sp.* acting as vectors
- Advice on the ecology and control of the vectors.

1.2.3 Expert Advisory Group

An Expert Advisory Group for BTV will be established with experts in

- Veterinary epidemiology
- *Culicoides* entomology
- BTV virology and diagnosis
- Veterinary surveillance
- Operational delivery

² Testing of samples from premises in Northern Ireland may be undertaken by Agri-Food & Biosciences Institute (AFBI). This option is being considered.

- Geographical Information Systems (GIS) technology
- Meteorology

The roles and responsibilities of the Expert Group for BTV are to provide advice to the CVO on:

- Interpretation of data from investigations into cases and BTV and/or vector surveillance
- Epidemiology of the disease in the outbreak
- Measures to control BTV infection, the disease and the vectors
- Design of surveillance programmes for BTV and vectors
- Projections of future spread, distribution and persistence of the virus.
- Providing input to cost benefit analysis

1.3 Heightened Risk of BTV infection to the UK from another country

Depending on the international bluetongue situation, the UK may find itself at a 'Heightened Risk' of infection from another country e.g. as demonstrated by the 2006 incursion of BTV8 into northern Europe, where the proximity of outbreaks in Belgium in particular put the UK at risk of meteorological incursion by infected vectors.

Priority in this situation will be to keep disease out of the UK, therefore, depending on risk assessment at the time the following measures may be considered during heightened risk periods to the UK (or an identified 'risk' area in the UK)

1.3.1 Trade/Imports

- Ban on imports of susceptible animals from Restricted Zones in other countries.
- Post import testing of all susceptible livestock (and zoo animal at risk) from free areas of BTV affected EU Member States and from BTV free EU Member States (where risk assessment supports this) within 10 days of arrival. Imported animals to remain on first premises of destination until negative results received (with advice to isolate from other susceptible animals where possible).

1.3.2 Raising stakeholder awareness

- Using industry and Government communications channels, information on risk periods will be disseminated to farmers and vets. In addition to existing stakeholder awareness programmes i.e. encouraging vigilance in looking for disease, appropriate training or advice for vets and farmers may be provided where necessary i.e. clinical signs of disease.

1.3.3 Active sero-surveillance

- Where deemed appropriate, such a regime would be defined following risk assessment, resources available and cost benefit analysis. Where required it would target large herds (mainly cattle) following a period of heightened risk. This would allow development of specific antibodies. In addition other targeted surveillance may be undertaken, e.g. bulk milk testing.

1.3.4 Clinical surveillance

- Early signs of disease may be mild and difficult to differentiate from other diseases so clinical surveillance may be of limited value. Therefore, no increased clinical surveillance recommended, apart from raising stakeholder awareness of disease signs (1.3.2).
- However, BTV may be an acute disease, presenting as sudden death in sheep without displaying classical symptoms.

1.3.5 Vector Control

- No vector control methods would be recommended, as the UK is disease free at this stage.

1.3.6 Meteorological Surveillance

- The Met Office monitors meteorological data on a daily basis and assesses the potential for windborne spread of BTV infected vectors to the UK. The information is provided to Defra and The Institute for Animal Health (Pirbright). The assessment takes into account the following factors:
 - The meteorological conditions
 - The presence of infected vectors
 - Likelihood of vectors being airborne (in affected countries and UK)
- Combining these elements, the Met Office Atmospheric Dispersion Model can produce a plume trajectory, and a series of alerts can be issued
 - Black = low risk
 - Red = heightened risk
- The heightened risk periods and areas can be published on the Defra website with the caveat that the model is only an estimation of potential incursions from infected vectors using the relevant information available and is not a definitive picture.
- Within areas identified in a Red risk period, additional practical measures or precautions with regard to their animals by animal keepers are not required (but guidance will be available on potential

vector mitigation measures). However, we would advise a heightened state of vigilance from 7-10 days post 'incursion' date, in looking for any signs of disease amongst susceptible animals.

1.4 Bluetongue restriction zone(s) in another EU member state demarcated such that they extend to UK

During the 2006 BTV8 outbreak, parts of SE England were effectively within 150km zones from Infected Premises on the Belgian coast. In the European Commission Standing Committee on Food Chain and Animal Health (SCoFCAH), the UK successfully requested exclusion from the zones because of geographical reasons, passive surveillance work being undertaken i.e. post-import testing, and pro-active stakeholder awareness raising. The UK would probably seek to avoid demarcation including its territory if the scenario occurred in the future.

All of the measures at 1.3 would be considered in such a scenario.

1.5 Suspicion of Bluetongue Infection

EC Directive 2000/75/EC determines that BTV is **confirmed** when the CVO, based on laboratory results, declares that BTV is circulating in a specific area, or in the case of an epidemic, on the basis of clinical and/or epidemiological results. It is therefore possible that a single infected animal may not be sufficient to demonstrate circulation.

The first case of BTV may not produce classical overt clinical signs in sheep. It is quite possible, even likely, that sub-clinical BTV infection will occur and circulate for some time, particularly in cattle, before it is recognised. Thus, it will be necessary to establish both that

- BTV is present
- BTV is being transmitted between vertebrate hosts and vectors.

Irrespective of the origin or the means of introduction of the initial infection, the initial response to suspicion of infection will be similar as it is unlikely the origin of infection will be immediately obvious (unless it is an imported animal).

However 4 distinct scenarios are likely to occur at the start of a new outbreak.

- Investigation on premises where disease first suspected
- Pre-confirmation of disease i.e. virus has been isolated from a suspect case, but it has not been possible to demonstrate circulation to other animals, therefore, disease will not necessarily be confirmed in the UK.
- Disease not confirmed as no evidence of onward circulation of virus. (and virus positive animal slaughtered)
- Disease confirmed

1.5.1 Investigation of suspect premises

See also 2.5.2 on suspect cases during a large outbreak

1.5.1.1 Veterinary Inquiry

In response to a suspect case a veterinary inquiry would be conducted by an official veterinarian, taking the following into account:

- Clinical examination
- History
- Examination of records, e.g. movement, medicine use
- Numbers of animals by species and class.
- Numbers of animals by species clinically affected, died of infection, slaughtered for diagnosis or welfare, and clinically normal.
- Movements of BTV-susceptible animals onto and off the suspect premises in the 60 days prior to the first identified infected case (unless epidemiological assessment prescribes a longer or shorter period)
- Identification of likely vector breeding sites.

1.5.1.2 Diagnostic investigation

If disease cannot be ruled out on clinical grounds, samples from suspect animal(s) should be submitted for laboratory testing.

1.5.1.3 Restrictions

The suspect premises will be placed under restrictions at the time of the veterinary inquiry. Movement of ruminant animals onto or off the premises shall be prohibited pending the outcome of the investigations. In the event of welfare issues occurring which require movement of animals, certain licensed movements may be permitted under veterinary supervision.

1.5.1.4 Outcome of investigation on first suspect premises

There are two possible outcomes:

- BTV is not confirmed - restrictions will be revoked.
- BTV is isolated in animal(s) tested – proceed to Pre-confirmation Stage

1.6 Pre-confirmation Stage

If virus has been isolated from a suspect case, but it has not yet been demonstrated that virus is circulating in vectors and other susceptible species, disease will not necessarily be confirmed.

We will wish to determine whether virus is circulating through epidemiological investigations. Prioritisation of these investigations will be based on epidemiological assessment, and 2 main factors will be considered:

- Assess possible spread in the local area, so prioritise investigations on the largest cattle farms up to 3km from the suspect premises.
- Assess potential long distance spread. Prioritise investigations on tracing premises furthest from suspect premises, and in particular those involving cattle movements (as most likely hosts).

1.6.1 Diagnostic Investigation

If bluetongue virus is isolated The Institute for Animal Health (Pirbright) will identify the serotype of the virus and undertake standard molecular epidemiological techniques to determine the origin of the virus. This involves sequencing of the virus and phylogenetic analysis. Viral neutralisation tests will also be set up in parallel in order to confirm the serotype of the viral isolate.

1.6.2 Action on premises where BTV is isolated

- Clinical examination of affected animals and/or by post mortem examination for confirmation of the disease, with further laboratory tests if necessary.
- Submit such samples of susceptible animals for laboratory examination as are necessary to carry out epidemiological assessment at 1.6.6.
- Review the clinical history and movement/medicine use records of the herd/flock (i.e. to investigate possible iatrogenic contamination from infected, equipment, medicines or biological products).
- Re-testing of negative animals will not be required unless specifically requested.
- Treatment of clinical cases - owners will be advised to contact their private veterinarian for advice.
- Insect collections may be made on the premises and submitted to The Institute for Animal Health (Pirbright) for identification (see 1.6.5.1).

1.6.3 Slaughter of animals in which BTV has been isolated

- Slaughter of animals in which BTV is isolated might, in some circumstances, be considered as a control measure at this stage, e.g. a single infected imported animal where no further disease is detected.
- The decision whether to slaughter would be taken by the relevant CVO (or Ministers in Scotland), and will take account of the epidemiological circumstances and the veterinary risk assessment of the infected case and will take note of the views of experts and stakeholder partners. Each case will be judged on the situation at the time.
- Severely affected animals may need to be slaughtered for animal welfare reasons. The keeper should get advice from a private veterinary surgeon in such cases.

1.6.4 Tracings investigations

The following movements will be identified for BTV-susceptible animals:

- onto and off the suspect premises in the 60 days prior to the first identified infected case (unless epidemiological assessment prescribes a longer or shorter period).
- from the same origin as the animal in which BTV has been isolated.

On each premises to which such animals are traced the following actions will normally be taken:

- Clinical examination of traced animals
- Submit samples for laboratory examination from traced animals only, except on a premises where the traced sheep are unidentifiable from the existing flock when all animals must be tested.
- Review the clinical history and movement/medicine use records of the herd/flock (i.e. to investigate possible iatrogenic contamination from infected equipment, medicines or biological products).
- Subsequent retesting should be undertaken on the traced animals and any other animals on the premises depending on epidemiological assessment.
- Movement restrictions on susceptible animals

1.6.5 Actions in area surrounding the premises where BTV isolated

To identify extent of local circulation of disease the following factors may be considered:

- Targeted surveillance of susceptible species. Where required, priority given to cattle farms up to 3km from premises where BTV is isolated.
- Collection and identification of vectors to establish distribution and abundance in local area and, if appropriate on premises housing susceptible species within down-wind areas as identified by plume modelling by Met Office.
- If necessary The Institute for Animal Health (Pirbright)/Met Office may put in place a local weather station.

1.6.5.1 Vector investigation

It is unlikely that a single vector type could be identified, as previous UK surveys show multiple vectors at most surveyed sites. However, early information assessing general vector populations and spread (as required by EU) might be useful if an outbreak widened.

- Establishing the *Culicoides* species present and the abundance of each species will assist to determine which vector species are involved in transmitting BTV.
- Insect collections may be made on the suspect premises or in the local area of the affected animals and be submitted to The Institute for Animal Health (Pirbright) for identification.
- Collection should be undertaken by The Institute for Animal Health (Pirbright), or individuals trained in using light traps. 1 light trap per suspect premise for 2 nights is recommended.
- BTV isolation may be attempted (but not essential) from the collected *Culicoides* sp., although this may be unrewarding if the vector involved has low (1-2%) competency. Best success will be achieved with vectors from farms where disease is known to be present.

1.6.6 Epidemiological assessment

An epidemiological assessment of the data obtained by the measures described above shall be done (on a case by case basis) by the National Emergency Epidemiology Group (NEEG), particularly addressing

- The possible origin of BTV infection
- The period during which BTV may have been present on the premises
- Other premises possibly infected with BTV from the same source
- Movement of possibly BTV infected animals from the suspect premises
- Presence and distribution of vectors (including modelling of recent local meteorological conditions, to estimate possible vector spread in the area) if considered necessary.

1.6.7 Vector mitigation measures

Evidence from the 2006 BTV8 outbreak suggests that husbandry modification, e.g. housing of susceptible species and vector control, insecticide use or removing breeding sites have a limited effect on disease control.

The *Culicoides* species native to Northern Europe and the UK (unlike those in Southern Europe) are known to move indoors, and there are no authorised insecticides for use against *Culicoides*. However, some risk mitigation measures may be taken to decrease the risk of vectors biting susceptible animals.

1.6.8 Outcome of investigation

There are two possible outcomes:

- Circulation of BTV is not confirmed – proceed to “Disease not Confirmed” (1.7).
- Circulation of BTV is confirmed – proceed to “Confirmation of Disease” (1.8).

1.7 Disease not confirmed

If BTV has been isolated from an individual animal, **and** there is no evidence of onwards circulation of disease, disease will not be confirmed.

However the EU, OIE and trading partners etc. will likely seek reassurance of the UK's disease free status. To achieve this some of the measures referred to in Section 1.3. may be implemented.

1.8 Confirmation of disease

1.8.1 Criteria for Confirming Disease

Circulation of disease will not necessarily be confirmed with the first identified case, further epidemiological investigations may be required to prove circulation in local animal and vector populations.

To confirm the circulation of disease, the decision would be taken by the CVO, taking into account, amongst other things:

- Number of infected animals
- Geographical distribution of disease
- Movement history of infected animal(s)
- Veterinary history of infected animal(s)
- Sero-prevalence in herds/flocks
- Vector data / meteorological conditions
- Other epidemiological information

2. Strategy when Disease Confirmed

2.1 Overall Strategy

Once circulation of disease is confirmed, the following measures will be implemented to minimise the impact of BTV in the UK:

- Identification of BTV infected premises.
- Maintain controls (as at suspicion stage) on infected premises.
- Declaration of a 20km zone and a Protection Zone (and optional Surveillance Zone) and implementing movement controls to prevent the spread of BTV by infected animals.
- Surveillance in the Protection Zone to monitor any change in distribution of BTV and vectors (where considered necessary).
- A communication programme to inform owners/keepers of susceptible animals, veterinarians and other stakeholders of the disease situation and measures being implemented and to provide advice on clinical signs of disease and vector mitigation measures.

A two-phase approach will be applied, taking into account epidemiological information and cost benefit analysis:

- **Phase One** - Rigorous controls in the very early stages of an incursion with the aim of containing disease and eradicating it if possible.
- **Phase Two** – Adaptation of controls once the impact of rigorous controls becomes disproportionate to the likelihood or benefits of eradication (i.e. evidence no longer supports the Phase One approach);

Once disease is confirmed, the measures described in 1.6. will continue, in order to assess how far/if disease has spread/circulated.

- If there appears to be limited local spread and no evidence of widespread circulation of disease, efforts will continue to focus on containing disease with a view to eradicating disease if possible.
- If there is evidence that any local spread cannot be contained and/or disease has spread widely or across significantly long distances, consideration will be given to moving to Phase Two.

The decision when moving from Phase One to two will take account of the following factors:

- Epidemiological information
- Season/Time of year
- Cost benefit analysis

If the control strategy moves to Phase Two, the controls are addressed at “living with disease” rather than eradication. This would include:

- an exit strategy from inappropriately restrictive controls
- implementing the legal minimum requirements to allow us to live with disease
- minimising economic impact

In applying control measures in this way, flexibility is maintained to act according to the circumstances of a particular outbreak as it is not possible to be too prescriptive in advance.

2.2 Slaughter of affected animals

Slaughter of susceptible animal(s) infected with bluetongue might, in some circumstances, be considered as a control measure, for example, in the context of single infected imported animal where no further disease is detected (as a precautionary measure to try to stop disease establishing).

The decision would be taken by the relevant CVO (or Ministers in Scotland), based on the epidemiological circumstances, a veterinary risk assessment of the confirmed case, and the views of the livestock industry. It would not be expected to form part of our control strategy beyond the earliest stages of an outbreak (although each case would be judged on the situation at the time).

Severely affected animals may need to be slaughtered for animal welfare reasons. The keeper should get advice and treatment from a private veterinary surgeon for such animals.

2.3 Notification obligations

Bluetongue is an Office International des Epizooties (OIE) Serious Notifiable A disease that has the potential for rapid spread with significant production loss for the sheep industry and is of major importance to the international trade in livestock (including sheep, goats, cattle and deer).

On confirmation and declaration by the CVO that BTV is circulating in a part of the UK, the CVO will notify, within 24 hours of confirming disease, the European Commission and the OIE Central Bureau.

2.4 Declaration of Zones

2.4.1 Declaration of Zones

On confirmation Ministers shall declare, by Order, the following zones:

- A *20km Zone* of at least 20km radius around the infected premises
- A *Protection Zone* of at least 100km radius around the infected premises, and
- An optional *Surveillance Zone* of 50km radius beyond the *Protection Zone*³

³ *An additional Surveillance Zone would greatly increase the economic impact of controls (for the avoidance of doubt, we consider that the movement controls apply separately to both PZ and SZ). On the basis that single 150km Protection Zones (without SZ) were implemented by most affected Member States in the 2006 BTV8 outbreak (and Decision 2005/393 makes reference to this at article 2), a single zone is likely to be the default for an outbreak in the UK. A SCoFCAH decision would be required to formally ratify this at the time.*

- The above zones combined shall be referred to as the *Restricted Zone*
- Areas outside the *Restricted Zone* i.e. free from disease restrictions will be referred to as *Free Areas*

2.4.2 Extent Of Zones

The extent of the Restricted Zone will take account of natural boundaries to the dispersal of vectors, and geographical (e.g. the sea or a high mountain range), administrative, ecological and epizootiological factors.

Due to the size of the zones, substantial proportions of the UK may be within the restricted zone and subject to movement restrictions irrespective of where BTV is confirmed. The nature of the UK sheep and cattle industry means that the zones will have a serious economic impact on movement of animals, in particular at certain times of the year with regard to movement of breeding or fattening stock.

There may be occasions when it is proportionate to extend the boundaries of a zone to minimise the impact of the restrictions on industry; e.g. to provide access to a slaughter house. This may mean the PZ could cover the whole country as part of our “exit strategy” to keep the impact of movement restrictions proportionate to the disease situation.

The boundaries of the Restricted Zone may be varied in response to disease spread to maintain the minimum boundaries of the Protection Zone and Surveillance Zone outside the 20km zone.

The boundaries may also be amended by SCoFCAH decision after consideration of results of investigations and surveillance submitted by the UK responsible authority.

2.4.3 ‘Cross-border’ zones

Although the UK reserves the flexibility to declare zones as appropriate in response to outbreaks in another country (or not as the case may be), a different approach will be taken to outbreaks close to land borders between devolved territories in the UK which are sufficiently close (i.e. within 150km) to warrant control zones across the border.

It is expected that zones will be declared on both sides of the border, to meet the default minimum area required in the Directive⁴. However the process and criteria still apply in terms of adjusting zones to the specific circumstances of the outbreak.

⁴ *Zones in the UK may be demarcated to take account of the geographical situation.*

In a scenario where the whole of England is a Restricted Zone but there are no IPs within 150km of the land border with a devolved territory, the Devolved Governments may choose whether to be included within the Restricted Zone.

2.5 Measures within the Zones

2.5.1 Registration of premises

There are existing statutory requirements for all premises with susceptible animals to be registered with their local Animal Health Divisional office (or Divisional Health Office in Northern Ireland). Any unregistered premises that have susceptible animals (temporarily or permanently) will have to be identified and recorded. These registers will be used for investigation and surveillance activities within the Restricted Zones.

2.5.2 Movement restrictions

Some movement of susceptible animals within the Restricted Zones will be restricted, as the movement of a BTV-infected animal could result in a new focus of infection.

Bluetongue legislation requires controls on movement of susceptible animals

- within, to and from the 20km zone
- out of the Protection Zone,
- out of the Surveillance Zone (these controls may be subject to amendment by SCoFCAH Decision).

Some movements may be permitted under the authority of a licence issued by an inspector. The conditions of licences would be aimed at minimising the risk of disease spread.

Under certain circumstances, embryos derived from clinically normal donors and semen from normal donors may be permitted to be removed from the Infected Area under licence in accordance with the Commission Decision 2005/393.

2.5.3 Movement Derogations

Commission Decision 2005/393 sets out the derogations from the movement restrictions in the Directive. The effect of these derogations is that some provision is made for categories of movements.

Zone-based (rather than premises-based) restrictions are appropriate, and movement derogations apply “to infected premises” in the same way as the rest of the 20km zone.

In most cases, the Decision says moves “shall” be allowed (i.e. most derogations apply absolutely, and are only discretionary in two cases – 20km zone to PZ/SZ, or 20km zone to free area).

Because the Bluetongue Order 2003 (or relevant Order in devolved governments) prohibits all movement from/within/to the entire Restricted zone, any move would be subject to licence.

2.5.4 Movements Table

The table below sets out the movements which are allowed (as per the Decision).

A Veterinary Risk Assessment would be undertaken on the licensing regime which is appropriate to the specific circumstances of each outbreak.

	To 20km	To PZ	To Free Area
From 20km	All moves allowed, providing no transit of Free Areas (Licence – no conditions)	Moves to slaughter (Licence – direct, and without leaving zone). Moves to another premises subject to “approval/health guarantees” or testing (Licence – testing condition, PCR as default).	Exit ban exemptions: Moves to slaughter (Licence – official supervision). Moves to another premises (Licence – subject to “approval/health guarantees” and “Annex II conditions” – Sero-testing or PCR).
From PZ	All moves allowed (Licence – no conditions)	All moves allowed (Licence – no conditions)	Exit ban exemptions: Moves to slaughter (Licence – official supervision). Moves to another premises (Licence – subject to “Annex II conditions” – Sero-testing or PCR).
From FA	All moves allowed (Licence – no conditions)	All moves allowed (Licence – no conditions)	Unrestricted (unless involves transit through restricted zone, in which case Licence and treatment with insecticide required)

Where permissible and conditions allow this, General Licences will be published on the website.

2.6 Surveillance

2.6.1 Infected Premises

The control measures detailed in paragraphs 1.6.2 shall be continued on all premises in which BTV is confirmed.

The infected premises should be contacted regularly, and details of any further cases and/or deaths or change in the flock /herd obtained. From these details any need to revisit the premises can be reassessed.

Re-testing of negative animals will not be required unless specifically requested.

2.6.2 Suspect Cases

Depending on the scale of the outbreak, and the resources available, it may not be possible to visit all suspect cases immediately. In this situation the suspect cases will be prioritised on epidemiological assessment at that time. Suspect cases visited should follow the procedure set out in 1.5.1 and if necessary 1.6, but criteria for confirmation of disease may differ.

2.6.3 Premises within 20 kilometre radius from an infected premises

Subject to derogations by Commission decision from movement restrictions, the measures implemented during the initial investigation (see **1.6 Pre-confirmation Stage**) must be extended to all premises with susceptible animals within a 20-kilometre radius of the infected premises, or such other area determined by the CVO on the basis of epidemiological, geographical, ecological and meteorological circumstances, when BTV has been confirmed.

2.6.3.1 Prioritising tracings and suspect cases

If resources are limited or the scale of the outbreak suggests it is not a proportionate use of resources, priority within the 20km zone will be to:

- investigate tracings from infected premises.
- investigate new report cases.

At these premises the following should be undertaken

- Full inventory of premises i.e. susceptible animals on the premises.
- Clinical investigation of the premises. Only sick/suspect animals should be tested and sampled.
- Epidemiological survey (including tracings to/from the premises, and identification of vectors and their habitats if required)

2.6.3.2 Other visits within 20km Zone

If it is considered necessary by the CVO, other premises within the 20km Zone should be visited. If required, priority should be given to investigating

large cattle farms, working from the Infected Premises outwards though this may be refined in light of meteorological findings e.g. plume that indicates wind-borne spread.

At these premises the following should be undertaken

- Full inventory of premises i.e. susceptible animals on the premises.
- Serological surveillance of bovine animals as required by epidemiological assessment (+ clinical investigation if required)

Re-visits to these premises would only be necessary on veterinary risk assessment or if disease was reported.

2.6.3.3. Premises not visited or awaiting routine visit

All premises not visited as a priority should be contacted by phone and/or sent guidance on what to be vigilant for in their flocks/herds. The owner, and the veterinary surgeon if consulted by the owner, must notify the DVM (or the Divisional Veterinary Officer in Northern Ireland) if any suspect clinical cases occur. In the absence of suspect cases, visits to these premises would only be necessary on veterinary risk assessment or if disease was reported.

2.6.4 Epidemio-surveillance (in Protection and Surveillance Zone)

2.6.4.1 Surveillance

Sero-surveillance for bluetongue will be required within the Protection Zone (and Surveillance Zone if declared). A programme of active surveillance for susceptible animals would be developed at the time of an outbreak depending on the epidemiological assessment

2.6.4.2 Bulk milk Testing

Bulk milk testing might be used as a method of disease surveillance (if validation data from the countries trialling this for BTV8 supports its use).

2.6.4.3 Vector monitoring

Where considered appropriate, vector sampling will also be undertaken in the Protection Zone and Surveillance Zone at sites selected for serological monitoring to establish whether competent vectors are present, their abundance and their prevalence. This data will assist in planning resource deployment, modelling and predicting spread of the outbreak.

Isolation of BTV from vectors is not suitable technique for disease monitoring or surveillance.

2.6.5 Nature Reserves

Serological surveillance of free-ranging wild ruminants and vector sampling may be undertaken on nature reserves or other locations if deemed necessary. Control measures may be implemented if deemed necessary.

2.7 Vaccination

No BTV vaccine currently has a marketing authority from the Veterinary Medicines Directorate for use in the United Kingdom. The CVO may permit the use of an unauthorised vaccine in an emergency. This might mean that the Food Standards Agency could impose restrictions in relation to the use of vaccinated animals for human food.

Use of a live-vaccine would not be considered for use in the UK.

Plans will be developed regarding the delivery of a vaccination programme including regulation of vaccination procedures and identification of vaccinated animals, etc.

Vaccination is prohibited within the Surveillance Zone and Commission approval is required for vaccination in any area (including Free Area)

2.8 Activity outside the Restricted Zones

Appropriate surveillance will be undertaken elsewhere in the United Kingdom outside of the Restricted Zone.

Suitable publicity will be provided to stakeholders emphasising the requirement that any person who suspects BTV in an animal must immediately notify their local Animal Health offices (or the Divisional Veterinary Officer in NI), who will undertake a veterinary inquiry and initiate the procedures detailed in section 1.5.1.1.

2.9 General issues

2.9.1 Compensation

Compensation is payable in accordance with the *Animal Health Act 1981* (or the *Disease of Animal (NI) Order 1981*) for animals destroyed for the purpose of disease control, including animals destroyed for diagnosis.

Compensation would not be payable in the following circumstances:

- Imported infected animals slaughtered on a discretionary basis (under Import Regulations) as a disease risk, and the remaining herd monitored.
- Seriously affected animals destroyed for welfare reasons by decision of the owner, with or without advice of a veterinary surgeon.

2.9.2 Carcass disposal

Carcasses and contaminated materials must be disposed of, in accordance with statutory requirements.

There is no BTV disease risk associated with carcasses.

2.9.3 Cleaning and disinfection

Normal cleansing should be performed. There is no BTV disease risk associated with contamination of housing, equipment or fomites.

2.10 Information Management

The NEEG will lead on an information management system to collect, collate and disseminate information relating to an outbreak of BTV and the associated surveillance activities.

2.11 Stakeholder awareness and communication

Information must be provided to all livestock owners, veterinary surgeons and other stakeholders, particularly within the Restricted Zone . This information must explain the signs of BTV and action to take if the disease is suspected.

Information about movement restrictions and licensing procedures must be made widely available.

Additional information setting out clearly the responsibilities and restrictions applicable to infected premises and those within the designated area must be provided to these owners. Information must be provided on

- Recording of animals, illness, deaths and births and any authorised introduction
- Measures to limit exposure of susceptible animals to vectors
- Vector control methods
- Safe use of insecticides and any with-holding periods after treatment before animals or products can be used for human consumption
- Results and interpretation of tests.

Owners must be advised of the results of any BTV tests performed on their animals and what the results mean.

The general public will be kept informed about the disease, the outbreak and control measures being implemented. The public will be re-assured that Bluetongue does not affect humans and has no public health implications. The public also needs to be informed that BTV is not spread in carcasses or fomites. Food Standard Agency and Department of Health have lines prepared in the event of an outbreak.

3 Long-term action following confirmation of disease

3.1 Surveillance in Immediate Subsequent Years

3.1.1 Sero-surveillance

This will be required in the years following an outbreak in areas where BTV had been circulating the previous year with the objective to determine the following

- has BTV persisted over winter,
- has it been reintroduced,
- confirmation that BTV is no longer present.

Appropriate sampling should begin when vector numbers are increasing, usually May and should continue on a monthly basis until vectors are unlikely to still be present, usually November

If BTV is circulating, an appropriate response program will have to be implemented.

The surveillance programme will be designed according to the circumstances of the previous outbreak.

3.1.2 Vector monitoring

Vector sampling using light traps may also be undertaken to determine their geographical and seasonal distribution and prevalence in risk areas.

3.2 Attaining Bluetongue-free Country or Zone status

The OIE International Animal Health Code, Chapter 2.2.13.2. Bluetongue specifies as below. Any Member State wishing to obtain disease free status would also need to seek agreement at EU SCoFCAH Committee.

3.2.1 BTV free country or zone

A country or a *zone* may be considered free from BTV when bluetongue is notifiable in the whole country and either:

- the country or *zone* lies wholly north of 53°N or south of 34°S, and is not adjacent to a country or *zone* not having a free status; or
- a surveillance programme in accordance with Appendix 3.8.10. has demonstrated no evidence of BTV in the country or *zone* during the past 2 years; or
- a surveillance programme has demonstrated no evidence of *Culicoides* likely to be competent BTV vectors in the country or *zone*.

A BTV free country or *zone* in which surveillance has found no evidence that *Culicoides* likely to be competent BTV vectors are present will not lose its free status through the importation of vaccinated, seropositive or infective animals, or semen or embryos/ova from infected countries or *zones*.

A BTV free country or *zone* in which surveillance has found evidence that *Culicoides* likely to be competent BTV vectors are present will not lose its free status through the importation of vaccinated or seropositive animals from infected countries or *zones*, provided:

- the animals have been vaccinated in accordance with the *Terrestrial Manual* at least 60 days prior to dispatch with a vaccine which covers all serotypes whose presence in the source population has been demonstrated through a surveillance programme in accordance with Appendix 3.8.10., and that the animals are identified in the accompanying certification as having been vaccinated; or
- the animals are not vaccinated, and a surveillance programme in accordance with Appendix 3.8.10. has been in place in the source population for a period of 60 days immediately prior to dispatch, and no evidence of BTV transmission has been detected.

A BTV free country or *zone* adjacent to an infected country or *zone* should include a *zone* as described in Article 2.2.13.1. in which surveillance is conducted in accordance with Appendix 3.8.10. Animals within this *zone* must be subjected to continuing surveillance. The boundaries of this *zone* must be clearly defined, and must take account of geographical and epidemiological factors that are relevant to BTV transmission.

3.3. Removal of the restrictions and the Restricted Zone

3.3.1 Restricted Zone

The Restricted Zone (20km Zone, Protection Zone and Surveillance Zone) will remain in place and these measures will continue to be implemented until amended or repealed by an Order of the Secretary of State or devolved government with the approval of the SCoFCAH.

This may require demonstration that vector activity has ceased for at least 60 days and that BTV circulation is no longer occurring.

Surveillance as described in paragraph 3.1 may be required to demonstrate that BTV transmission is no longer occurring

The period may be no less than 12 months where vaccination has been carried out.

Glossary of abbreviations

BTV	Bluetongue Virus
BTV8	Bluetongue Virus serotype 8
cELISA	Competitive enzyme-linked immunosorbent assay
CVO	Chief Veterinary Officer
DVM	Divisional Veterinary Manager
EC	European Commission
FA	Free Area
IAH	Institute for Animal Health, Pirbright
IP	Infected Premise
NEEG	National Emergency Epidemiology Group
NI	Northern Ireland
OIE	Office International des Epizooties
PCR	Polymerase chain reaction
PZ	Protection Zone
RZ	Restricted Zone
SCoFAH	Standing Committee on Food Chain and Animal Health
SZ	Surveillance Zone