



Animal &
Plant Health
Agency

Notifiable Diseases

A Guide for Official Veterinarians

Learning Objectives

- To understand the mechanisms in place for dealing with notifiable disease
- To improve awareness of which diseases are notifiable
- To know what to do if you, as an OV, suspect a notifiable disease in the animals under your care.

What is a Notifiable Disease?

A disease named in ...

Section 88 of the Animal Health Act 1981

or

An Order made under the Animal Health Act

Your legal obligation is to notify your suspicion of notifiable disease to APHA as soon as possible.

National and International Organisations

Once confirmed, APHA must notify certain organisations of an outbreak:

- Local Authorities
- European Commission
- OIE (the World Animal Health Organisation).

Why are some diseases made notifiable?

- International Trade
- Public Health
- Animal welfare
- Wider society

Having due regard for:

- Cost to the community
- Availability of appropriate solutions.

Reasons for making diseases notifiable

1. International Trade

- Once a notifiable disease is identified and declared, many countries will refuse to accept animals or animal products until the situation is resolved
- Many export health certificates require confirmation of freedom from notifiable diseases
- Transparency and openness when reporting notifiable diseases ensure mutual trust between trading partners.

Reasons for making diseases notifiable

2. Public Health

- Clearly, it is essential to control any disease with significant public health risk
- Close working with the relevant public health authority is important
- Education and provision of information is very important when dealing with zoonotic notifiable disease.

Reasons for making diseases notifiable

3. Animal Welfare

- Some notifiable diseases cause welfare problems; for example, foot and mouth disease can cause severe pain, and rabies probably causes extreme confusion and discomfort
- Never overlook the fact that having notifiable disease confirmed in a group of animals can cause human welfare problems too.

Reasons for making diseases notifiable

4. Wider society

- Restrictions on farms will limit other businesses, such as tourism, feed merchants, contractors and vet practices
- In some cases, disease outbreaks can generate over-reactions to animal products; for example, reduced purchase of meat due to fears about vaccine residues or contamination of meat
- The national reputation can also suffer.

Other Considerations

- The cost of applying the legal requirements to disease control must be reasonable
- The other aspect to think about is the availability of solutions: if there is no single, effective solution, then making a disease notifiable is not really viable.

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A legal basis for disease control

- Notifiable diseases are controlled using legal powers
- These powers include compulsory movement restrictions, diagnostic testing and slaughter or other controls
- Compensation is paid in many cases
- Local Authorities enforce the relevant legislation.

Something to think about

Why is lameness in dairy cows not notifiable?

(Think before you move to the next page)

Lameness in dairy cows

Lameness in dairy cows is not notifiable because:

- It is multifactorial; this would make definitive diagnosis difficult, so confirming eradication would be impossible
- It is very prevalent, making the costs excessive
- It is not zoonotic
- There is no international agreement on the diagnostic criteria.

Notifiable Disease Summary

- Significant diseases are dealt with via legislation, rather than through traditional, practice-based control
- This allows a co-ordinated approach to disease eradication across the entire affected area
- Consideration must be given to the cost, proportionality of response and ultimate likelihood of success
- Having a legal basis for control helps ensure co-operation and successful eradication.

How do we maintain Disease Free Status?

1. Making diseases notifiable

- Report cases of suspicion of disease
- Consultation cases (APHA vets meet with private vets at the location to help make a decision)

2. Testing programmes

- Active (targeted) surveillance (TB testing, avian influenza)
- Passive (scanning) surveillance (carcase and sample submission to labs, slaughterhouse surveillance).

Maintaining Disease Free Status

Here are some of the things APHA does to reduce the risk of notifiable disease outbreaks:

- We do not allow imports from infected areas or countries (either temporarily or permanently)
- We require pre-export tests and or isolation
- We carry out post-import documentary, identity and physical checks
- Where deemed necessary, we require post-import isolation or quarantine
- We develop trusting relationships with trading partners, and support international co-operation.

Endemic and Exotic Notifiable Disease

- Most notifiable diseases are exotic.
 - They are not present in this country. Examples include:
 - foot and mouth disease,
 - rabies and
 - avian influenza
- Some notifiable diseases are endemic.
 - They are present in this country. Examples include:
 - bovine TB,
 - scrapie and
 - EBL(2) bat rabies.

Reporting Suspicion

- Section 15(1) of the Animal Health Act 1981 says that:
- *"any person having in their possession or under their charge an animal affected or suspected of having one of these diseases must, with all practicable speed, notify that fact to a police constable."*
- *But that was in 1981.*

What should you do in reality?

- Notify the Duty Vet at the nearest APHA office
- Be sure you have a record of the phone number: in some cases, there are different numbers for office hours and evenings/weekends
- Stay on the farm; don't spread disease
- Have clear information ready as you make your call.

In Reality...

- Section 15(1) of the Animal Health Act 1981 says that:
- *"any person having in their possession or under their charge an animal affected or suspected of having one of these diseases must, with all practicable speed, notify that fact to a police constable."*

~~Divisional Veterinary Manager~~

Duty Vet

Reporting Disease Suspicion to APHA

- We offer a 24 hour / 7 day a week service
- We aim to respond quickly to reports , depending on the disease suspected.
- Numbers of report cases:
 - 2010: 194
 - 2011: 117
 - 2012: 161
 - 2013: 133
 - 2014: 138.

Over five years, that's almost three per week.

Don't hesitate, or think you might be making a fuss.
Contact your local APHA office to discuss your concerns.

Exotic Notifiable Diseases

How many notifiable diseases are there?

That depends on how you categorise them (for example, grouping all Brucellosis types together or separately).

Notifiable Diseases

- African Horse Sickness
- African Swine Fever
- Anthrax
- Aujeszky's Disease
- Avian Influenza
- BSE
- Bluetongue
- Brucella abortus
- Brucella melitensis
- Classical Swine Fever
- Contagious Agalactia
- Contagious Bovine Pleuro-pneumonia
- Contagious Epididymitis
- Contagious Equine Metritis
- Dourine
- Echinococcus multilocularis
- Enzootic Bovine Leukosis
- Epizootic Haemorrhagic Virus Disease
- Epizootic Lymphangitis
- Equine Viral Arteritis
- Equine Viral Encephalomyelitis
- Equine Infectious Anaemia
- Foot and Mouth Disease
- Glanders and Farcy
- Goat Pox
- Lumpy Skin Disease
- Newcastle Disease
- Paramyxovirus in pigeons
- Peste des Petits Ruminants
- Porcine Epidemic Diarrhoea
- Rabies
- Rift Valley Fever
- Rinderpest
- Scrapie
- Sheep Pox
- Sheep scab
- Swine Vesicular Disease
- Teschen Disease
- Tuberculosis (Bovine)
- Vesicular Stomatitis
- West Nile Virus

Notifiable Diseases: Cattle

- African Horse Sickness
- African Swine Fever
- Anthrax
- Aujeszky's Disease
- Avian Influenza
- BSE
- Bluetongue
- Brucella abortus
- Brucella melitensis
- Classical Swine Fever
- Contagious Agalactia
- Contagious Bovine Pleuro-pneumonia
- Contagious Epididymitis
- Contagious Equine Metritis
- Dourine
- Echinococcus multilocularis
- Enzootic Bovine Leukosis
- Epizootic Haemorrhagic Virus Disease
- Epizootic Lymphangitis
- Equine Viral Arteritis
- Equine Viral Encephalomyelitis
- Equine Infectious Anaemia
- Foot and Mouth Disease
- Glanders and Farcy
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- Paramyxovirus in pigeons
- Peste des Petits Ruminants
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- Rabies
- Rift Valley Fever
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- Scrapie
- Sheep Pox
- Sheep scab
- Swine Vesicular Disease
- Teschen Disease
- Tuberculosis (Bovine)
- Vesicular Stomatitis
- West Nile Virus

Notifiable Diseases: Sheep and Goats

- African Horse Sickness
- African Swine Fever
- Anthrax
- Aujeszky's Disease
- Avian Influenza
- BSE
- Bluetongue
- Brucella abortus
- Brucella melitensis
- Classical Swine Fever
- Contagious Agalactia
- Contagious Bovine Pleuro-pneumonia
- Contagious Epididymitis
- Contagious Equine Metritis
- Dourine
- Echinococcus multilocularis
- Enzootic Bovine Leukosis
- Epizootic Haemorrhagic Virus Disease
- Epizootic Lymphangitis
- Equine Viral Arteritis
- Equine Viral Encephalomyelitis
- Equine Infectious Anaemia
- Foot and Mouth Disease
- Glanders and Farcy
- Goat Pox
- Lumpy Skin Disease
- Newcastle Disease
- Paramyxovirus in pigeons
- Peste des Petits Ruminants
- Porcine Epidemic Diarrhoea
- Rabies
- Rift Valley Fever
- Rinderpest
- Scrapie
- Sheep Pox
- Sheep scab
- Swine Vesicular Disease
- Teschen Disease
- Tuberculosis (Bovine)
- Vesicular Stomatitis
- West Nile Virus

Notifiable Diseases: Pigs

- African Horse Sickness
- **African Swine Fever**
- Anthrax
- **Aujeszky's Disease**
- Avian Influenza
- BSE
- Bluetongue
- Brucella abortus
- Brucella melitensis
- **Classical Swine Fever**
- Contagious Agalactia
- Contagious Bovine Pleuro-pneumonia
- Contagious Epididymitis
- Contagious Equine Metritis
- Dourine
- Echinococcus multilocularis
- Enzootic Bovine Leukosis
- Epizootic Haemorrhagic Virus Disease
- Epizootic Lymphangitis
- Equine Viral Arteritis
- Equine Viral Encephalomyelitis
- Equine Infectious Anaemia
- **Foot and Mouth Disease**
- Glanders and Farcy
- Goat Pox
- Lumpy Skin Disease
- Newcastle Disease
- Paramyxovirus in pigeons
- Peste des Petits Ruminants
- **Porcine Epidemic Diarrhoea**
- **Rabies**
- Rift Valley Fever
- Rinderpest
- Scrapie
- Sheep Pox
- Sheep scab
- **Swine Vesicular Disease**
- **Teschen Disease**
- Tuberculosis (Bovine)
- **Vesicular Stomatitis**
- West Nile Virus

Notifiable Diseases: Poultry

- African Horse Sickness
- African Swine Fever
- Anthrax
- Aujeszky's Disease
- Avian Influenza
- BSE
- Bluetongue
- Brucella abortus
- Brucella melitensis
- Classical Swine Fever
- Contagious Agalactia
- Contagious Bovine Pleuro-pneumonia
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- Scrapie
- Sheep Pox
- Sheep scab
- Swine Vesicular Disease
- Teschen Disease
- Tuberculosis (Bovine)
- Vesicular Stomatitis
- West Nile Virus

Notifiable Diseases: Horses

- African Horse Sickness
- African Swine Fever
- Anthrax
- Aujeszky's Disease
- Avian Influenza
- BSE
- Bluetongue
- Brucella abortus
- Brucella melitensis
- Classical Swine Fever
- Contagious Agalactia
- Contagious Bovine Pleuro-pneumonia
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- Sheep scab
- Swine Vesicular Disease
- Teschen Disease
- Tuberculosis (Bovine)
- Vesicular Stomatitis
- West Nile Virus

Notifiable Diseases: **Zoonoses**

- African Horse Sickness
- African Swine Fever
- **Anthrax**
- Aujeszky's Disease
- **Avian Influenza**
- **BSE**
- Bluetongue
- **Brucella abortus**
- **Brucella melitensis**
- Classical Swine Fever
- Contagious Agalactia
- Contagious Bovine Pleuro-pneumonia
- Contagious Epididymitis
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- Epizootic Lymphangitis
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- **Equine Viral Encephalomyelitis**
- Equine Infectious Anaemia
- Foot and Mouth Disease
- **Glanders and Farcy**
- Goat Pox
- Lumpy Skin Disease
- **Newcastle Disease**
- Paramyxovirus in pigeons
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- **Rabies**
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- Rinderpest
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- Sheep scab
- Swine Vesicular Disease
- Teschen Disease
- **Tuberculosis (Bovine)**
- Vesicular Stomatitis
- **West Nile Virus**

Recently Eradicated

• Aujeszky's Disease	1989
• Brucella abortus	2004
• Brucella melitensis	1956
• Classical Swine Fever	2000
• Contagious Equine Metritis	2012
• Enzootic Bovine Leukosis	1996
• Equine Viral Encephalomyelitis	2004
• Equine Infectious Anaemia	2010
• Foot and Mouth Disease	2007
• Newcastle Disease	2006
• Swine Vesicular Disease	1982

Eradicated Historically

- Contagious Bovine Pleuro-pneumonia 1898
- Epizootic Lymphangitis 1906
- Glanders and Farcy 1928
- Rinderpest 1877
- Sheep Pox 1866

Reporting suspicion of disease

- Be aware of the notifiable diseases that can affect the types of animals you regularly see
- Make sure you have contact details for APHA in the area you work in. This includes out of hours numbers
- Make that decision: you are with the animal, and if you cannot decide, APHA can help.

On-farm Investigation

- An APHA vet will serve legal restrictions (verbally and then in writing)
- A full investigation will follow
- If disease cannot be ruled out, samples will be taken
- Make sure that your own biosecurity arrangements prevent disease spread.

Disease suspected or cannot be ruled out



Samples taken – bloods, swabs, tissue

Disease Confirmation

The UK CVO confirms disease

- Approach depends on disease confirmed (Pigeon paramyxovirus is dealt with differently to foot and mouth disease)
- Many diseases, such as foot and mouth disease, avian influenza and swine fever (classical or African) are dealt with by slaughter of animals on farm
- Other diseases, such as bluetongue, are controlled by vaccination and movement controls.

On confirmation of disease

- A variety of zones are legally defined and put into effect
- These zones help prevent the spread of disease, largely by stopping movement of animals and animal products
- The original premises(s) are also restricted
- Movements are only allowed under licences issued by APHA.

Control Zones

- The zones are based on the geographical location of the infected premise(s)
- The inner circle, 3km radius, is called the protection zone
- A further circle, 10 km radius, is called the surveillance zone
- Other zones may be applied
- Rules are complex, risk-based and gradually relaxed as the disease eradication process is applied.

Control Zones



Usually 3km and 10km



Or 20km and 150km

Control Zones

- Control zones are legally defined areas where specific rules are in force
- These rules serve to prevent disease spread, and vary according to the disease. They can involve movement restrictions, requirements for veterinary inspections or other biosecurity actions
- The rules are publicised via various routes:
 - On restriction notices
 - The APHA website
 - Other information sources, such as vet practices, local radio, newspapers and direct mail.

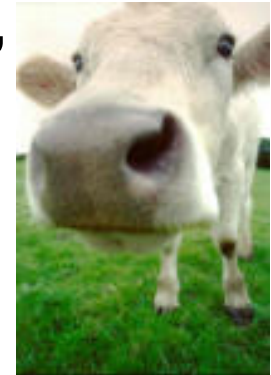
The following section will look at a variety of notifiable diseases.

More information on all notifiable diseases is available at:

<https://www.gov.uk/government/collections/notifiable-diseases-in-animals>

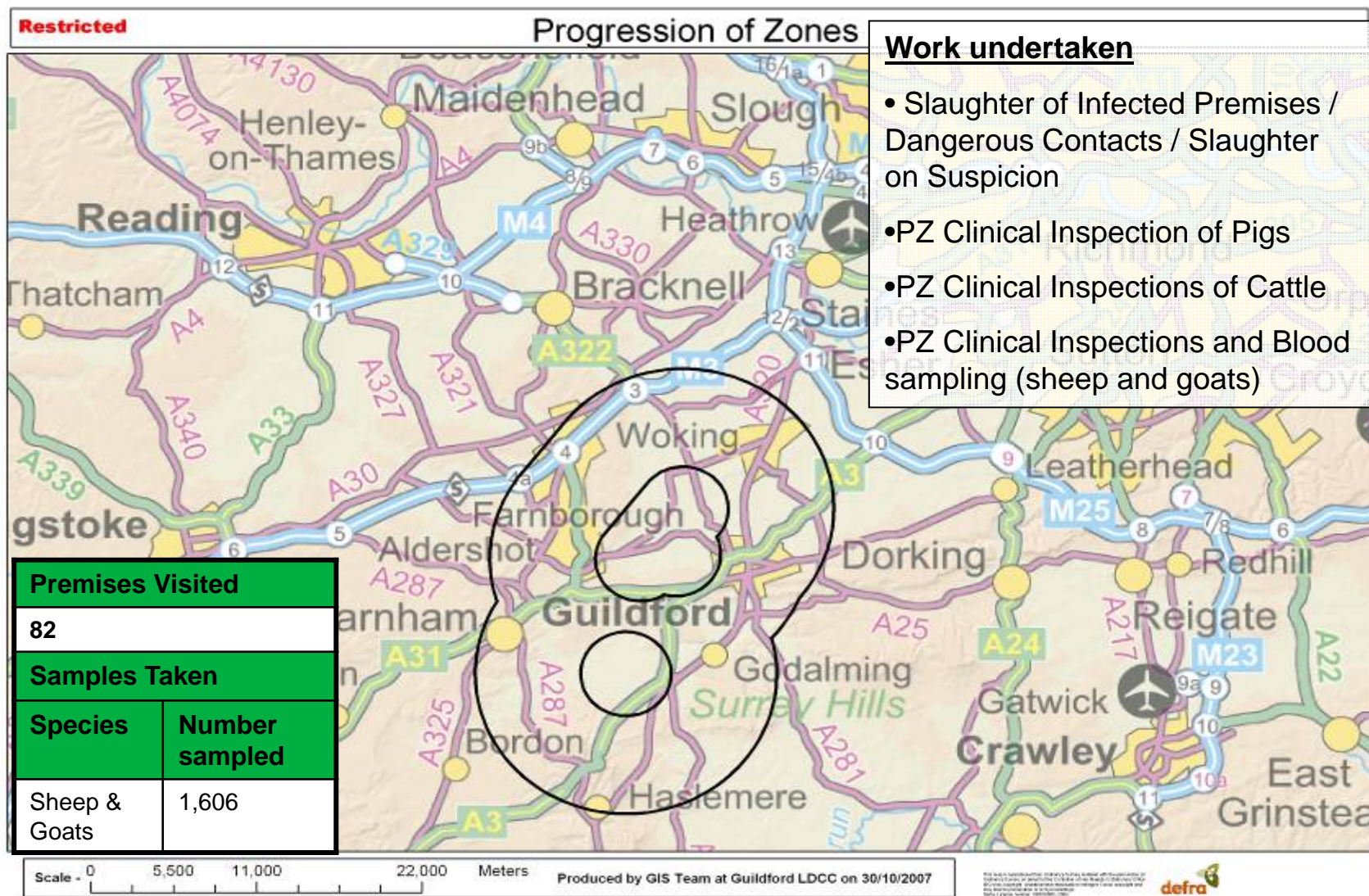
Foot and Mouth Disease

- Affects even-toed ungulates (cattle, sheep, goats, pigs, camelids, some exotics)
- A highly infectious viral disease, with severe implications for international trade and the economy
- 2001: 2026 confirmed cases
- 2007: 8 confirmed cases
- Huge dependence on mapping and information on locations of stock and land.

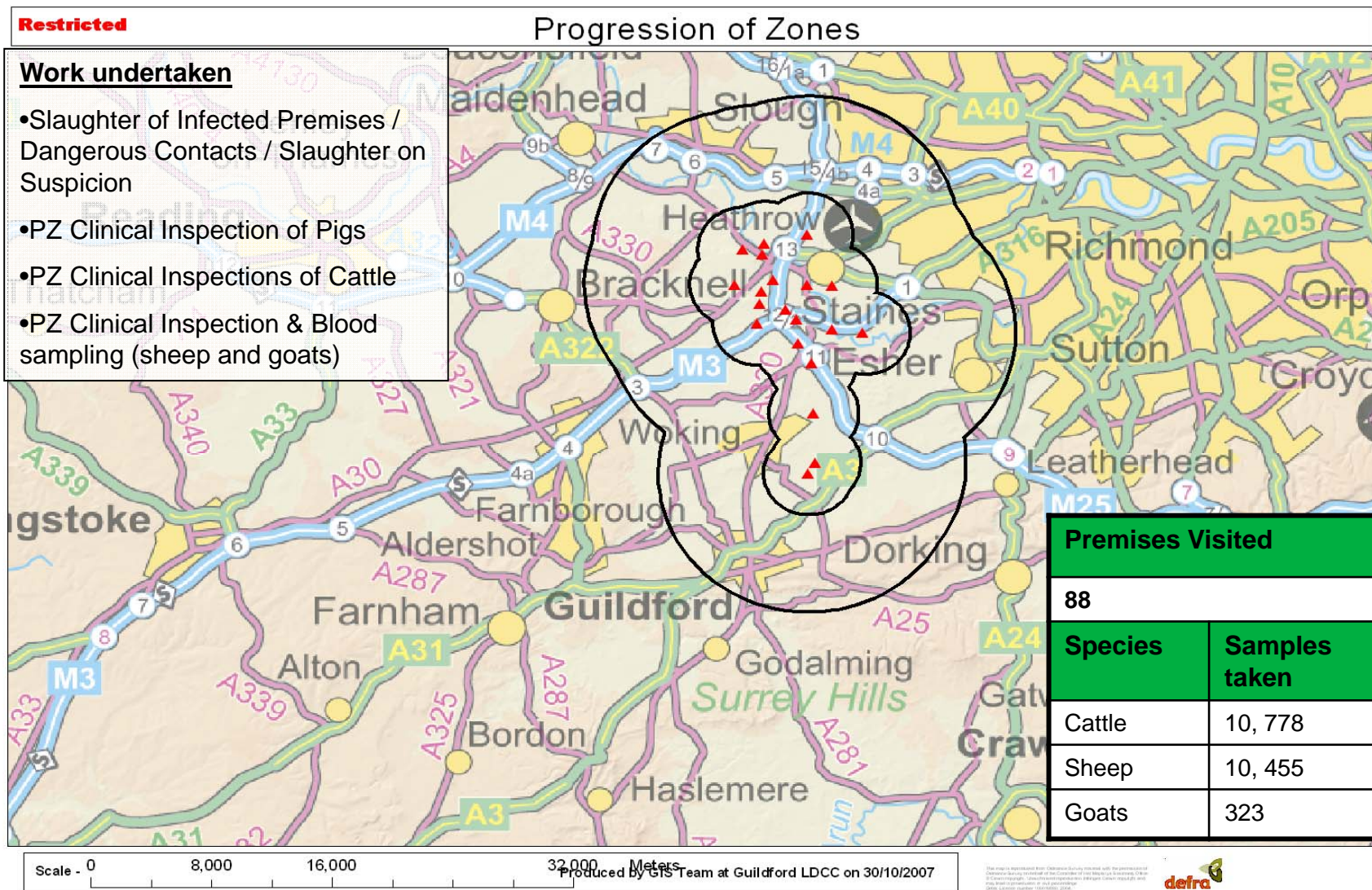


The following maps illustrate the converged protection and surveillance zones which developed during the foot and mouth disease outbreak in 2007.

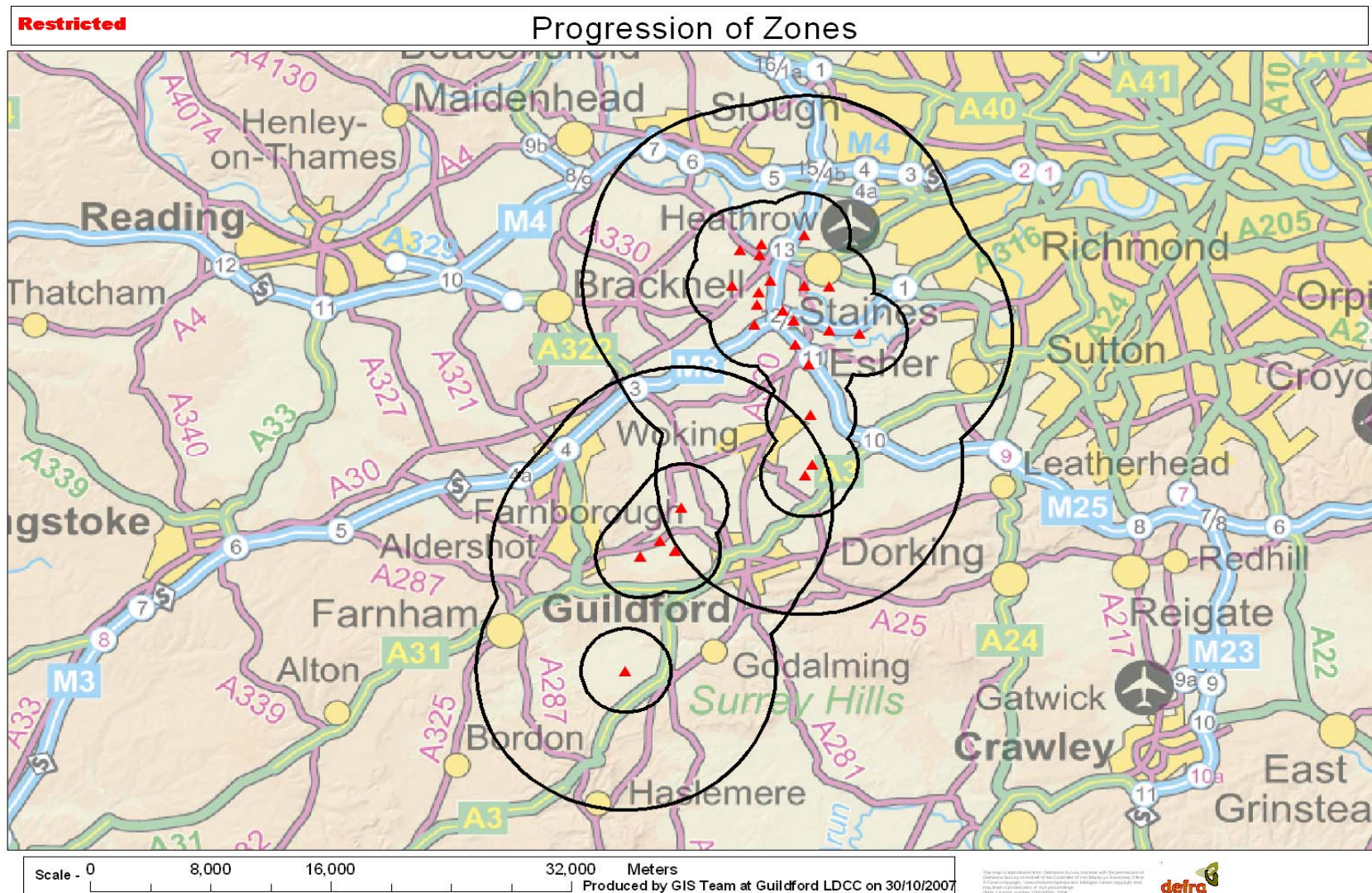
FMD – August 2007



FMD – LDCC Protection Zone – Surveillance Work



FMD 2007 – August and September PZ/SZ Overlaps



Highly Pathogenic Avian Influenza

- First case confirmed in 2006 in Scotland
- Occasional cases since then
- Potentially zoonotic, so additional biosecurity precautions required
- Commonly linked to wild bird infection.

When to suspect avian influenza

- Increased mortality, reduced egg production or growth rate
- Sick birds show cyanosis of comb, respiratory distress, anorexia and diarrhoea
- Clearly, these signs are non-specific; you need to decide whether the suspicion of disease is strong enough to notify APHA.

The following map illustrates the zones, including a wild bird surveillance zone, which developed during an outbreak of avian influenza in 2008.

MAP SHOWING THE BOUNDARY OF THE WILD BIRD CONTROL AREA
AND THE WILD BIRD MONITORING AREA



Rabies

- Classical rabies was eradicated in the UK in 1922
- The last case in an unquarantined mammal was in 1970
- PETS (the pet travel scheme) and quarantine help protect UK
- Watch out for illegally imported puppies, and report your suspicions immediately to the Local Authority.

Rabies

- A fatal viral disease of the nervous system
- Can affect all mammals, including humans
- It is spread via saliva from bite of an infected animal
- Incubation period 3-8 weeks (dog & fox)
- Once in the brain, clinical signs develop within 1-7 days, and death normally occurs by the 8th day after signs emerge.

Rabies in Bats

- European Bat Lyssavirus 1 and 2 are different strains of Lyssavirus, related to classical rabies
- Since 1977 in Europe there have been five human deaths
- Infected EBLV2 bats are found in GB: ten confirmed since 1996
- Avoid handling bats unless you are vaccinated against rabies.

Bluetongue in ruminants

- Bluetongue Serotype 8 emerged in 2007: there were over 2000 outbreaks in Europe
- September 2007: First detected in UK
- It is a vector-borne disease: Culicoides midges spread it between animals
- During cold months, the vector-free period occurs, and disease does not spread.

Signed of bluetongue in ruminants

- Nasal discharge
- Oral lesions
- Pyrexia
- Coronary band lesions

Clearly, foot and mouth disease can look similar.

The following map illustrates the protection and surveillance zones which were put in place during the bluetongue outbreak in 2007.

MAP SHOWING THE BOUNDARIES OF THE PROTECTION ZONE
AND THE SURVEILLANCE ZONE



African Horse Sickness

- Highly fatal (70-95%) and infectious
- Affects horses, donkeys, mules
- Endemic in sub-Saharan Africa
- Spread by *Culicoides* midges
- Has never occurred in GB.

African Horse Sickness

Pulmonary Form: Fever, Incubation period 3-5 days, laboured breathing, foamy discharge. 90% mortality.



Cardiac Form: Swellings over face, eyes, death from heart failure. Incubation period 7-14 days. 60% mortality.

West Nile Virus



- Viral infection of birds, horses and humans
- Spread by bites from infected mosquitos (Culex, known to occur in UK)
- Causes encephalitis and meningitis
- Migrating birds most likely mechanism into UK
- Africa, Middle East, Asia, France and USA recently
- Has not occurred in GB



- Most cases are subclinical (humans and equidae)
- USA 2002
 - 4161 people infected
 - 277 died
- No licensed vaccine for humans
- There is a vaccine licensed for horses
- Horses – 35% mortality in those showing clinical signs

Horizon Scanning

- APHA staff constantly scan the horizon for disease problems:
 - Notifiable disease outbreaks in other countries
 - New and emerging diseases (for example, Porcine Epidemic Diarrhoea)
 - Disease patterns in GB for existing notifiable diseases
 - Risks are assessed and action taken accordingly.

What is the OV's role in notifiable disease?

- Be aware of how notifiable diseases are transmitted
- Consider the type of premises affected; markets and shows are particularly difficult
- Make sure you know how to contact APHA, including out of hours arrangements.

And above all...

**Contact APHA if you
suspect notifiable
disease.**

A reminder of your Learning Objectives

- To understand the mechanisms in place for dealing with notifiable disease
- To improve awareness of which diseases are notifiable
- To know what to do if you, as an OV, suspect a notifiable disease in the animals under your care.