

Chronic Wasting Disease (CWD), a Transmissible Spongiform Encephalitis (TSE) of deer

An overview of the situation in the UK perspective

Updated 18 June 2016

Notifying the GB agencies of our interest in CWD

In recent weeks The British Deer Society has been in discussions with policy and veterinary officers in Scottish Government (SG) and Department for Environment Food and Rural Affairs (DEFRA) to remind them about on-going concerns over the possibility of disease incursion.

Within DEFRA and the Animal Plant Health Agency (APHA), specialist departments have been engaged, including the Livestock & Livestock Products (TSE Team), Food & Farming Group, the International Disease Monitoring and Risk Analysis Unit and Veterinary Exotic and Notifiable Diseases Unit. Collectively, they are the relevant UK policy advisors on TSEs and exotic animal diseases who helped produce the recent DEFRA Qualitative risk assessment for CWD¹:

http://webarchive.nationalarchives.gov.uk/20140507133914/http://www.defra.gov.uk/animal-diseases/files/gra_chronic-wasting-disease-121029.pdf

They provide a direct link into CWD policy at UK, EU and International levels, (including countries where CWD is present). APHA's TSE and wildlife specialists have also offered considerable support.

As a result all relevant officials have been made aware of the issues and concerns involved via DEFRA's Veterinary Risk Group and the situation will continue to be closely monitored, particularly with respect to the importance of implementing appropriate import controls both at UK and EU levels (for which DEFRA are also the competent authority).

DEFRA have been very supportive of the action taken by DMRT sub-group partners and have assisted with publicising the DMRT- sponsored CWD information leaflet (annex 1) via their own website as well as targeting it towards UK Border Agency staff. This process will continue as central part of a wider scoping review of existing Animal health biosecurity controls.

In addition, DEFRA have also provided the following comments on areas of particular concern identified by DMRT sub-group members:

Worldwide situation

The disease was first recognized in 1967 in captive mule deer in Colorado. CWD has also been documented in captive and/or free-ranging deer in 24 states and 2 Canadian provinces. In Texas, the disease was first discovered in 2012 in free-ranging mule deer along a remote area of the Hueco Mountains near the Texas-New Mexico border, and last summer was detected in two, separate captive white-tailed deer breeding facilities in Medina and Lavaca counties. In wild deer the infection rates reported are 0.01% for deer and 0.04%

¹What is the risk of chronic wasting disease being introduced into Great Britain?
A Qualitative Risk Assessment October 2012

for wapiti. In contained deer in one state the infection level was as high as 24% of sampled carcasses.

Currently three cases have been identified in Norway, the first a female reindeer and then 450 km away an adolescent moose female and then an adult moose female have been identified.

To read an excellent CWD overview composed and maintained in USA² refer to; <http://cwd-info.org/cwd-overview/>

Symptoms in live deer:

Only animals in the late stages of the disease will appear sick, meaning that the disease has probably been given time to establish itself within a population. The deer will be below average body condition, listless, probably salivating or grinding its teeth, repetitive behaviour and unafraid of normal stimuli, if able to move the tendency is to move downhill due to the loss of locomotive power to climb; this is one reason why they are often found on surfaced roads and in watercourses. Sampling the brain post mortem is the only conclusive diagnosis of infection.

Live animal testing:

The development of a live animal test for CWD in deer³ permits sample collection, marking, and release of sampled animals, and selective elimination of CWD-positive animals. CWD-negative animals do not need to be killed, an important factor where public opposition to such killing would be strong.

Monitoring:

CWD, like any TSE, is a notifiable disease and suspicion of the disease in any animal must by law be reported to the Animal and Plant Health Agency (APHA). In addition Defra and Scottish Government funds APHA and Scotland's Rural College as part of the GB Wildlife Surveillance Partnership, to undertake and share intelligence on scanning surveillance in wildlife to detect new and re-emerging animal diseases that may be a threat to animal health and welfare or to public health

Live animal translocation:

Now that the disease has been found in a country from which we have imported deer previously monitoring previous international and intra-national trade and future trading must be reconsidered.

Trophies:

²Excerpted and modified from a paper presented at the 67th North American Wildlife and Natural Resources Conference, April 2002. By Elizabeth S. Williams, Michael W. Miller and E. Tom Thorne.

³Wild, M. A., T. R. Spraker, C. J. Sigurdson, K. I. O'Rourke, and M. W. Miller. 2002. Preclinical diagnosis of chronic wasting disease in captive mule deer (*Odocoileus hemionus*) and white-tailed deer (*Odocoileus virginianus*) using tonsillar biopsy. *Journal of General Virology* 83: 2629-2634.

The EU has imposed harmonised conditions for importing game trophies from Non EU countries to ensure that these products do not pose an animal health risk which thus only protects against imports from USA. This agreed policy for treatment of non-EU material thus becomes of lesser utility now the disease is already in Europe.. All imports of game trophies and other preparations must be imported via a Border Inspection Post, and veterinary checks are carried out on imports of game trophies consisting of bone, horns, hooves, claws, antlers or teeth, and on untreated game trophies. The trophies must originate from premises which have been registered or approved by the competent authority in the country of export.

There are no restrictions to import game trophies which consist of entire animals or parts of those animals which have undergone a complete taxidermy treatment. This is because the product has undergone a process which is deemed a safe treatment and it is therefore not a risk to animal health.

Game trophies consisting solely of bone, horns, hooves, claws, antlers or teeth must comply with specific conditions which include a treatment to ensure the removal of all tissue. The game trophy must be accompanied by a specific model health certificate which has been signed by an Official Veterinarian/Official Inspector of the competent authority of the country of origin.

Untreated trophies must be accompanied by a specific model health certificate which has been signed by an Official Veterinarian or Official Inspector of the competent authority. Conditions for this type of import include an attestation that the product does not come from an area where there are restrictions due to diseases to which the animal is susceptible and also confirmation that the product does not contain any specified risk material (i.e. tissue, including the brain and spinal cord, which in an infected animal contains the agent that may transmit TSEs).

Feed:

Defra's qualitative risk assessment noted the risk of introducing CWD to the UK via infected animal feed. This risk is very low because the EU introduced a total ban on Processed Animal Protein (PAP) in farmed livestock feed in 2001, to prevent the spread of TSEs in animals through eating contaminated feed which included infective meat and bone meal (intra-species recycling). Scientific evidence has identified contaminated feed as the principal vector of BSE transmission. In line with the recommendations of the TSE Roadmap 2, which recommends a proportionate approach to the TSE epidemic as it declines, and in the light of the latest advice from EFSA, the European Commission is considering ways to relax the feed ban. As a first step, EU legislation which permits the feeding of pig and poultry processed animal protein (PAP) to farmed fish came into force on 1 June 2013. PAP is derived from lowest risk by-products e.g. from animals or birds fit for consumption. However, strict controls will remain in place to keep all ruminant PAP Meat and Bone Meal (MBM) out of all livestock feed.

Contaminated equipment:

The qualitative risk assessment also notes the potential risk that hunters, who have hunted in North America and now also Norway, could import the CWD prion, which binds to soil particles and remains infectious, via contaminated boots and clothing. This seems to be a factor in transmission between wild deer in North America. The GB biosecurity system is

being scoped to create a risk-based and proportionate national strategy, officials in the United Kingdom Border Agency (UKBA) are being contacted to align their resources with our risk areas. Preventing the introduction of CWD is one of the areas currently under discussion.

Informative material:

Scottish National Heritage (SNH), in partnership with the Scottish Government (SG) and other members of the deer management round table (DMRT) published an initial leaflet, “**Chronic Wasting Disease – Protecting Scotland’s Deer**”, which is aimed at raising awareness of the disease among key target groups, including hunters from the UK who visit North America, hosts and sporting agents who have guests from North America, and border control staff. It highlights the serious consequences if CWD were to become established to the UK and sets out ways of limiting the risk of introducing the disease. The leaflet can be found on the British Deer Society, SNH, SG and DEFRA websites and has been further distributed to UKBA and APHA staff with the following notification:

Please see the first leaflet at the link below which provides further information about Chronic Wasting Disease (CWD) of deer⁴.

<https://www.gov.uk/guidance/chronic-wasting-disease>

The disease affects deer and incidence is currently increasing in North America, and has now been identified in Norway. It had also been identified in Korea, possibly as a result of importing infected Wapiti from Canada. The UK Deer Industry are increasingly concerned about the possibility of infection being introduced to the UK and have been working with Government to review current risks and controls.

1. The leaflet content should hopefully be fairly self-explanatory
2. We are keen to ensure colleagues in BIPs remain aware of this disease
3. You should note potential concerns associated with bringing infection in via contaminated live animals, equipment, trophies or contaminated feed.
4. You should remain vigilant with respect to possible high risk groups e.g. hunters visiting or returning from North America and trophy importer.
5. You should try to ensure that travellers bringing in equipment and trophies are aware of the risks and adhere to the advice in the leaflet
6. Please continue to ensure that all commercial imports of trophies and animal feed are subject to appropriate veterinary checks and certification.

If you have any questions about the disease please contact the APHA Specialist Service Centre –imports@apha.gsi.gov.uk

⁴Guidance **Chronic wasting disease: how to spot and report the disease**
From: [Animal and Plant Health Agency](#) and [Department for Environment, Food & Rural Affairs](#)
First published: 2 June 2015 Part of: [Notifiable diseases in animals](#)

Updated information leaflet.

The new working Group reviewed and redrafted the initial paper and strengthened the terminology and attitude due to the increasing risks of CWD gaining traction in Europe.

Chronic Wasting Disease of Deer.docx

Other activities to raise awareness of the risks of CWD amongst Industry and the wider public:

The deer sector have circulated the first pamphlet to all organisations and articles and comments have been placed in organisation press releases, newsletters, magazines and media releases in Scotland and in England. SNH and DMRT have also been promoting the leaflet at major game fairs throughout Scotland over the summer. Newspapers across Scotland, The Scotsman, The Glasgow Herald, The Courier and The Press & Journal also nationally the Times has printed several articles and the Sun had up to half a page on the issue. The topic was also on some of the newspaper internet editions. Secondary internet interest has been shown on some online forums. No formal international media release has been undertaken.

Research into associated matters.

In 2015 The British Deer Society recognised a previously unconsidered relevant matter; the use of deer urine as a lure for deer for hunting or photographic or other purposes. This activity is not common, mainly practised in USA, uses either naturally collected urine or synthetic urine, natural urine is unhygienic in that many diseases can be transmitted in urine, (CWD, bTB and leptospirosis), however trade in these lures is considerable, mostly in or from the USA but internet shopping makes it easy for natural urine to be bottled in USA and traded all over the world. The British Deer Society survey 12,000 of found 1700 responses, (15%), 29 used lures, 93% for shooting any species of deer, some used more than 1 litre per annum, 50% of the material was sourced in USA and 72% used natural urine 50% was acquired abroad, 37% here, 37% UK website and 18% USA website⁵.

<http://www.bds.org.uk/index.php/news-events/135-deer-urine-lure-survey-july-2015>

These findings alerted DEFRA to a new risk, a review of the previous paper was undertaken and published in March 2016⁶.

<https://www.gov.uk/government/publications/qualitative-risk-assessment-risk-of-chronic-wasting-disease-being-introduced-into-great-britain>

Reaction to the first case in Europe.

It was unexpected that the first case of TSE in a cervid in Europe was found in March 2016, a mature reindeer female in Norway, also coincidental that the herd she was a member of

⁵ deer urine lure survey july 2015, The British Deer Society website

⁶ What is the risk of chronic wasting disease being introduced into Great Britain? An updated Qualitative Risk Assessment
March 2016

was being closely monitored for RAMSAR research, her collapse was observed and her body was found soon after, post mortem found TSE, this was later confirmed by Canadian laboratory analysis⁷.

<http://cwd-info.org/the-first-detection-of-chronic-wasting-disease-cwd-in-europe/>

also, DEFRA, APHA paper:

“Preliminary Outbreak Assessment, Cervid Spongiform Encephalopathy in Norway”
7th April 2016, Ref: VITT/1200 Cervid disease in Norway

It was again extraordinary that the second case should be found in May 2016 in Norway in another solitary species, Moose or Elk as the Norwegians call them, (not the same as an Elk in America which is related to our red deer), some 450 Km away a young pregnant female moose was found dead, she was diagnosed as CWD.

This second case was reported by DEFRA APHA on 8 & updated on 9 June 2016. The report looks at the coincidences of these two cases in different species 450 km apart in Norway but finds no correlation nor evidence of connection.

The report states **that Norway will implement a ban on the trade of live cervids**, which will include exportation; which is a relief⁸.

<https://www.gov.uk/government/publications/cervid-spongiform-encephalopathy-in-norway>

It was reported on 15 June 2016 that a further case was identified in a mature female moose, not far from case 2.

CWD National Working Group formed.

It was agreed at a meeting of informed organisations in Edinburgh on 15 June 2016 that the small Scottish working group be enhanced by invitation to include specialists in diseases, disease outbreak management, sectorial representation and those with European connections. The group discussed the current scenario and agreed that the Norwegian cases represented a considerable increase in risks, (new continent, new species, new species), and that the raising awareness should be a major action, surveillance and monitoring should be undertaken and that a sectorial review of the current risk assessment should be undertaken, and to meet in 14 days.

Legislation and contingency plans for disease control:

The Animal Health Act 1981 provides ministers with a broad range of powers to introduce control and eradication measures in the event of an outbreak of a notifiable exotic disease. It also (along with associated European Regulations) authorises them to implement

⁷The first detection of Chronic Wasting Disease (CWD) in Europe. Tuesday, 05 April 2016 17:07

⁸ Research and analysis: Cervid spongiform encephalopathy in Norway
From: Department for Environment, Food & Rural Affairs and Animal and Plant Health Agency First published: 8 April 2016 Last updated: 9 June 2016, see all updates Part of: Animal diseases: international and UK monitoring and Animal and plant health
Preliminary outbreak assessment and updated situation assessment for cervid spongiform encephalopathy in reindeer in Norway.

regulations which specify more detailed control measures. In this instance the following are the most relevant regulations and sections (these are for Scotland but similar regulations have also been implemented in other parts of UK.):

Schedule 5 of the TSE (Scotland) Regulations 2010 covers the control and eradication of TSE in animals that are not bovine, ovine or caprine. Cervids would come under this schedule.

The paragraphs in Schedule 5 also refer to articles 11 and 12 of Regulation (EC) No 999/2001 (the EU TSE Regulation) which covers the control and eradication of TSEs in animals. Again these two articles would include cervids.

In the event of disease being identified, the exotic disease contingency plan would be implemented as described here:

<http://www.scotland.gov.uk/Topics/farmingrural/Agriculture/animal-welfare/Contingencies>

(again this is for Scotland but there is also a link to the overarching GB & NI plan)

These plans are generic but the relevant parts would be implemented if CWD (or another exotic TSE) was identified. The page also links to the communications strategy which would be invoked to ensure key stakeholders (including industry) were kept aware of what was happening and could contribute towards assisting with control measures.

Diagnostic protocols for suspected cases:

The protocols and reference labs for TSE diagnosis in the event of suspect cases are already in place with VLA Weybridge, VLA Lasswade and Moredun Institute already involved, BUT final confirmation must be obtained from OIE reference laboratory in Ontario, Canada. At present Moredun undertakes neuropathology on samples submitted by SRUC which is where deer carcasses for investigation would most likely be deposited. Both pathologists presently working at Moredun have extensive experience with, and have published on, TSEs, but confirmation is only obtainable from Canada.

Scottish SRUC laboratory locations can be found at.

http://www.sruc.ac.uk/directory/17/locations_directory/category/52

England & Wales local office addresses can be found at

<https://www.gov.uk/government/organisations/animal-and-plant-health-agency/about/access-and-opening>

Future work for maintaining heightened awareness and surveillance:

Scottish Government will continue to liaise with DEFRA on behalf of the DMRT Subgroup to maintain awareness and will seek feedback on how the leaflet has been received by the Border Agency. The issue has been put on the agenda for forthcoming DEFRA/UKBA security review meetings to ensure it remains visible. Further discussions with counterparts in the United States will also take place to obtain more information about local controls

currently being applied to try to contain the disease and to further reduce the risk of transmission to other countries.

In addition to GB wildlife surveillance measures discussed above, Various organisations and agencies involved with animals, including deer on the highway, should also get copies of the leaflet and be directed towards information on clinical signs which can be found on the DEFRA website to help ensure prompt reporting of any disease suspicions. DMRT-subgroup members will request support from industry in identifying organisations they deem to be relevant to this and for assistance with identifying contacts for further distribution.

Legislation covering bio-security issues:

Commercial import controls for Products of Animal Origin (POAO) are covered under the Trade in Animals and Related Products (Scotland) Regulations 2012, (These are commonly known as the TARP regulations). There is UK coverage under equivalent legislation in England, Wales and NI.

http://www.legislation.gov.uk/ssi/2012/177/pdfs/ssi_20120177_en.pdf

TARP exempts personal imports but these are covered under Commission Regulation (EC) No 206/2009 of 5 March 2009 on the introduction into the Community of personal consignments of products of animal origin and amending Regulation (EC) No 136/2004:

<http://eur-lex.europa.eu/legal-content/en/ALL/?jsessionid=Jnw0TWzRYV7yCdHtZxs3Z5tnJT7DRytdhjGQ7yl7QNhZJ1FhZY8Q!-1092494742?uri=CELEX:32009R0206>

Both pieces of legislation are necessarily broad in scope (given the wide variety of sources and products involved) but provides sufficient legal basis for regulating the importation of potentially infected material from third countries.

It might also be worth reading the annual report on import controls linked to from the DEFRA Guidance:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/218794/pb13600-animal-products.pdf which provides a more readable legislative summary, some statistics on seizures and a commentary on activities being undertaken by the various agencies involved. An updated report covering 2012/2013 is currently in preparation.

Transporting infected material from diseased carcasses in the event that disease is found in the UK would largely be controlled under the Animal Health Act 1981

<http://www.legislation.gov.uk/ukpga/1981/22?view=extent> which, alongside the subsequent TSE regulations, provides overarching legislation for imposing movement restrictions and other disease control measures in the event of an outbreak of a notifiable exotic disease.