

CWD Research News – April 2017

DNA Samples Required for new BDS CWD Research Project

The 2016/17 winter hunting season surveillance undertaken in Scandinavia of tens of thousands of various deer has not found any more CWD infected deer.

This result is a massive relief, but, after several rounds of meetings the EU has determined a pan EU surveillance system to monitor the populations to detect any fresh cases is required.

Finding a new case will cause a degree of discomfort and questions will be asked as to how it arrived and what will happen next. The problem of determining what might happen next depends on many variables but one of the most significant is how susceptible are our deer to CWD? Will they succumb rapidly, or slowly?

In accordance with the Society's interests a new research project is underway to perform DNA typing of deer found in Britain to establish the extent of their susceptibility to CWD, which will assist us with "modelling" how CWD might develop in the UK should it ever arrive. This is an essential part of disease surveillance and monitoring to determine how to react to the presence of CWD.

Using techniques developed to manage scrapie, a similar disease of sheep and goats, the Roslin Institute, (University of Edinburgh), can analyse the gene that determines susceptibility to CWD, and needs a wide representative sample of our UK deer to see how many different variants of the gene exist in each species.

The project's second stage is therefore to see if, under laboratory conditions, CWD can be multiplied in samples representing the major gene variants. If there are any differences in how it develops, for example, it develops rapidly or possibly slowly with a degree of retarded development, this would allow identification of potentially resistant groups or species.

The analysis of samples has begun already by using samples collected previously by Dr Karis Baker and Dr Josephine Pemberton who have kindly offered their samples for analysis but now we need some fresh samples of certain species from certain distinctly differing populations, We don't necessarily need many samples for the initial project - please don't be surprised as we have many samples already - but fresh samples from these areas would be extremely useful.

The sample species, areas and numbers of samples required are listed below, if you can supply all or some of each batch required please volunteer by email to John Bruce, scottishoffice@bds.org.uk. You will be asked for quarry species, your postal address, and post code and email. The sampling kit will ask you for the reference number of the bottle, the species and sex and class of deer and the post code in which it was shot. The envelope will be pre-stamped and addressed for return.

Species and sampling required

- Red Deer 140, Cumbria, 20, East Anglia, 20, New Forest 20, South West / Exmoor, 20, Midlands, 20, Humberhead ,20, London 20.
- Fallow Deer 185, Tayside, 10, Lomond, 10, Islay 5, pan England 16 sites of 10 samples.
- Sika Deer 50, 10 sites of 5 samples. To include Arne
- Muntjac 50, 10 sites of 5 samples.
- Chinese Water Deer 40, ten sites of 4 samples.
- Pere David 5
- Axis deer 5
- Reindeer Scottish herd 5, pan England 30.
- Roe deer 200 total 125 across Scotland, 25 East Anglia, 25 Dorset, 25 various,

Samples can be of dead deer's ear tip, or, nasal swabs of live deer.

When offering to supply samples we will send an appropriate sampling kit to you. It will have a pre-registered sampler ID to identify you and a request that the samples are returned as soon as possible with the data of the donor animal recorded.

It is already evident that some species have extremely narrow variance, if any, due to a restricted founding population especially in the introduced species such as Sika, Muntjac, Chinese Water deer, Pere David, Chital/Atlas and indeed Roe deer diversity was greatly reduced due to their annihilation across England and the subsequent re-stocking from Scottish and German stock. The variance explained by Karis Baler's work does not affect this DNA site for CWD so there is little difference between them evident currently.

Red deer and roe deer from Scotland exhibit considerable variance so we need to check the English strains now as well. Fallow deer are of particular interest as there are rumours of a degree of retarded susceptibility, so we need many samples from diverse locations and provenance to find evidence of this trait.

The project has begun by analysis of the existing samples and fresh samples will hopefully be submitted before August, this being the case all samples will be analysed and findings should be evident by May 2018, it is hoped to deliver the findings at the Society AGM 2018.