Report of Deer Removed under Licence C123/2014 covering areas in Wicklow East.

A total of 103 deer were removed from an area covered by DEDs Z102, Z115, Z134, Z146 in Wicklow East between October 2014 and January 2015. An extension was granted to the licence in March and a further 30 deer were removed during March and April from two adjacent DEDs (Z133 and Z139). This report contains data on the 103 deer removed in the October to January period. Completion of necropsy and the culturing component of the laboratory procedures take roughly 12 weeks, so a further report covering the March/April removals will follow when these results are available.

The 103 deer were shot by a licensed deer hunter (HCAP) and entire carcases of all deer were examined. The carcases and viscera were chilled prior to transport to the Central Veterinary Research Laboratory (CVRL) and in general were delivered within 24 hours of harvest. Carcase examinations were all performed by the same pathologist.

All 103 deer were Sika; 50 Males ( 48.5%) and 53 females (51.5%). The mean age of the deer was 3.5 years (median 6.5 years, range 0.5 to 11 years).

Of the 103 deer examined, no evidence of *M. bovis* was found in 87 carcases. The result of the detailed necropsies where evidence of *M. bovis* was found is presented in Table1 below. The results are ordered that approximates to the evaluated risk of each animal being infective to other animals.

The data in the table is categorised into three broad categories, by colour. The data coloured red are the results of the 5 animals that had gross lesions identified at necropsy and also had multiple sites positive on culture. These deer showed evidence of being tuberculous and were likely to be a source of infection to other animals that they intermingled with.

The next category, coloured orange (2 animals), had multiple tissues culture positive, but no evidence of gross visible lesions were found during the necropsy procedure. These animals had the potential to go on to develop more severe signs and would have to be considered a risk of being a source of infection to other animals they were in contact with. There is no way of assessing the exact risk these animals represent, but it would represent a lower risk relative to those coloured red.

The final category, coloured grey (9 animals) , had localised tissue samples that were culture positive and these are animals that likely represent a low risk of being capable of infecting other animals.

**Table 1. Results of 16 Deer that showed evidence of *M. bovis***

| Age | Sex | GL | GH | GT | GA | GC | BactL | BactH | BactT | BactA | BactC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **4** | **F** | **VL** | **VL** | | **VL** | | **P** | **P** | **P** | **P** | |
| **11** | **M** | **VL** | **VL** | | | | **P** | **P** | **P** | **P** | |
| **4** | **F** | **VL** | **VL** | | | | **P** | **P** | **P** | | |
| **8** | **F** | **VL** | | | | | **P** | **P** | **P** | | |
| **4** | **M** | | **VL** | | | | **P** | **P** | | | **P** |
| | | | | | | | | | | | |
| **2** | **M** | | | | | | **P** | **P** | **P** | | |
| **1.5** | **M** | | | | | | **P** | **P** | | | **P** |
| | | | | | | | | | | | |
| **4.5** | **F** | | | | | | | **P** | **P** | | |
| **5** | **M** | | | | | | **P** | | | | |
| **9** | **M** | | | | | | | | **P** | | |
| **8** | **F** | | | | | | | | **P** | | |
| **8** | **M** | | | | | | | | | | **P** |
| **5.5** | **F** | | | | | | | | | | **P** |
| **4** | **M** | | | | | | | | | | **P** |
| **3** | **F** | | | | | | | | | | **P** |
| **1.5** | **M** | | | | | | | | | | **P** |

| | | | |
|---|---|---|---|
| GL | Gross Necropsy Lungs | BactL | Culture positive isolates from Lung |
| GH | Gross Necropsy Head | BactH | Culture positive isolates from Head |
| GT | Gross Necropsy Tonsil | BactT | Culture positive isolates from Tonsil |
| GA | Gross Necropsy Abdomen | BactA | Culture positive isolates from Abdomen |
| GC | Gross Necropsy Carcass | BactC | Culture positive isolates from Carcase |



**Conclusion.**

These data relate to a sample of deer removed from farms in 4 DEDs that had serious TB problems in cattle in the recent past. The area is north of Roundwood and south of the Sugar Loaf mountain. These deer therefore, represent part of a localised animal population within which there were relatively high numbers of other animals infected with TB (cattle and badgers). The results of this sample describe what was found in the 103 animals from the 4DEDs concerned and can't be used to infer prevalence estimates of TB in deer in this or in any other area because the sample was collected from specific farms within the 4DEDs only and is therefore not representative of all the land in the locality.

The necropsy and culturing methodology was unique in that a single person collected all the samples and a wide range of samples were collected for culture. These results are therefore not directly comparable to other studies carried out on deer. A previous study on 80 deer from a number of sites in Wicklow carried out in 2007/2008 (Byrne et al.) used a different

protocol, that if used on this sample would have indentified 9 of the 16 positive. Where studies of this type are undertaken in deer, entire carcases are not normally submitted by hunters. In this study, access to the carcases of the deer permitted the harvesting of carcase glands, the culturing of which yielded 5 of the 16 positives in this sample. Other studies have not cultured tissue from the tonsil, which in this case yielded a further 2 positives. Care must be taken, therefore, if comparisons are being attempted between these results and the results from other work where less extensive post-mortem procedures were applied.

A full report on these animals will be prepared by colleagues in the CVRL when all culture results are to hand. Strain typing has yet to be undertaken and samples have also been examined from badgers and cattle sourced from the same areas.

I will submit a report on the deer removed in March and April in roughly 12 weeks time as the last deer of the 30 removed only shot on Tues of last week, 28th. April.

James O'Keeffe.
8th. May, 2015.