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## **Comments on “Timeline – the Glen Esk Road fox incident 1 August 2006” by Dr David Obendorf and associated documents.**

At the request of Jane McGee of the Fox Free Taskforce Resource Conservation Management DPIW Tasmania I have reviewed documents supplied to me by Dr Richmond Loh on 30 Jan 2007.

### **Documents**

#### **Document 1**

Covering fax sheet from Jan McGee Fox Taskforce dated 29 Jan 07 to Richmond Loh (indicating 14 pages including coversheet)  
Ministerial data management sheet - Resource management and Conservation  
Hand written covering note dated 17 Jan 2007  
2-page report dated 10 January 2007  
9 page extracts from a file note “Authenticity of a report of a red fox reportedly found recently on a Glen Esk Rd 1<sup>st</sup> August 2006” with comments by David Obendorf not dated.

#### **Other documents**

1 DPIW Animal Health Lab case report 06/2128 - 12 pages.  
2 File note. “Preliminary report on my examination of a fox reportedly found dead on Glen Esk Rd near Cleveland (the Cleveland fox) 1/8/06.” By Nick Mooney and dated 2/8/06 – 3 pages.  
3 File note. “Authenticity of a report of a red fox reportedly found recently killed on Glen Esk Rd, 1<sup>st</sup> August 2006.” By Nick Mooney dated 28/8/06 – 5 pages.  
4 DPIW web pages printed 30/1/07 article “Investigation of Latest Fox Evidence” by Nick Mooney dated 1/9/07 8 pages.  
5 DPIW Animal Health Lab histopathology work sheet for case 06/2128 listing tissues on slides A1-U1, A2-I2  
6 Two emails from Monique Careless of MBB/DPIW dated 30 Jan 07 to me with 3 attachments:  
    “Timeline – the Glen Esk Rd Fox Incident” – no author, no date - 2 pages  
    “About the Glen Esk Rd Fox Incident” by D Obendorf 10 Jan 2007 – 2 pages  
    “Text Only doc” by D Obendorf undated - 6 pages

### **Comments**

#### **Cause of Death**

I have reviewed these documents and in my opinion as a veterinary pathologist with over 30 years experience with farm animals and wildlife in Australia the summary of events and findings by Mr Nick Mooney is detailed and clear. The most likely interpretation of events is the one he has put forward - that the fox was killed by severe crush injuries consistent with being run over. The large skin flap and spine and pelvic fractures may have occurred either before or after death. There is little haemorrhage visible in the photos of the skin flap on the body. However, they are consistent with road trauma either way.

### **Time of Death – based on descriptions and photos of the body.**

The descriptions of the carcass at the site and later at Launceston Veterinary Hospital and the photos and descriptions at the Animal Health Laboratory Mt Pleasant appear to be of a freshly dead animal. They are consistent with death within 12 hours. The actual time of death is more likely to be shorter than 12 hours rather than longer.

It is possible but highly improbable that a carcass could be kept for several days and remain in such a fresh state. After a day or so, even in refrigerated and bagged bodies kept under the best conditions in laboratories - it is usual for the eyes to become dry and sunken, the lining of the mouth to become dry, blood to become dark and exposed flesh and organs to become dry and discoloured. The photographs of the fox show that this was not the case. In addition rigor mortis would have been completed and disappeared – however in this case onset of rigor was noted during the post-mortem at Mt Pleasant laboratory. This is consistent with a fresh carcass killed 12 hours or less prior to examination.

### **Time of Death – based on the autolytic changes in the microscopic slides of tissues.**

There is a variable amount of autolysis (putrefaction) in the tissues. They vary from well preserved with little to mild autolysis (eg some muscles, oesophagus, oral epithelium, and testis) to moderate autolysis (eg brain, stomach, some intestinal sections, and heart) to severe autolysis (eg liver and kidney). It is unusual to find any intestine still preserved when liver and kidney are completely autolysed. However both liver and kidney were severely crushed and fractured. This may account for the unusual order of autolysis. Usually all intestinal mucosa (inner lining) is completely autolysed after 24 hours, as are liver and often kidney and lung. Based on this generality most veterinary pathologists do not do routine post mortem examinations on animals that have been dead for 24 hours.

I recommend that further microscopic sections of other areas of liver and the 2 kidneys be examined in case only part of each organ is affected by autolysis. The lung was not completely autolysed, nor were many of the gastrointestinal sections. I would expect them to be far more autolysed if the carcass was 3-4 days old.

In summary, having looked at all the microscope slides (A1-U1, A2-I2) I must revise my estimate of time of death to closer to 24 hours from the time tissues were placed in preservative – which Dr Loh informs me was between 3.30pm and 5.30pm on 1 August 2006.

I am not in complete agreement with Dr Obendorf about the amount and pattern of degeneration in the tissues, the concern about the rate of body temperature drop, etc. These are technical issues, which I am happy to address in greater detail in another report if required.

## **Other Observations**

\* I believe government staff did an excellent job in collecting and interpreting an extensive amount of information in the field and in the laboratory.

\* Estimating time of death is a very inexact science despite television programs portraying the opposite. I initially agreed with the carcass being freshly dead based on the gross descriptions and photos. However like Dr Obendorf I felt it necessary to revise my estimate of time of death. My revised estimate is around the 24 hours before tissues were placed in formalin between 3.30 PM and 5.30 PM on 1 Aug 2006. I think it is more likely that this fox died 1 day before lab examination rather than Dr Obendorf's estimate of 4 days.

\* I am not a fox expert but have lived and worked in rural fox infested country in NSW for over 35 years. Most fox road kill episodes are in the hours of darkness including early dawn and late dusk. Predation from birds usually occurs in the hours of daylight. Therefore this animal may have died at dusk and been found the next morning and tissues preserved that afternoon.

## **Summary**

The fox died soon after receiving injuries consistent with road trauma. Descriptions and photos of the body suggest it was freshly dead (up to 12 hours) but microscopic examination of tissues suggests a longer time from death (around 24 hours). Some injuries such as the large skin tear and the bone fractures may have occurred after death implying the body was run over more than once.

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