IFOA Transect and Asterix Koala Survey in Murrah Forest 10-15 June 2010

Notes from Chris Allen

Surveys of Transects 6,7 & 8, Compartment 2051
I accompanied Simon van Holst whilst he surveyed transects 6, 7 & 8 in Compartment 2051 on 10/6/10.

These were in relatively open ridgetop and upper slope areas of forest where *E. longifolia* (often relatively large) and *E muelleriana* being the predominate overstorey species and *Al. littoralis* dominant as understorey. Probably the area had been cut for sleepers 40/50 years ago, but was otherwise undisturbed. Litter levels were typical for this forest; somewhat sparse in a few places, but mostly several centimeters thick.

Simon undertook the survey interpreting the IFOA Koala Survey Guidelines to mean: a) the quadrat searches at each 25m interval involve looking carefully <u>at</u> the litter in each quadrat, not sifting through it; and b) only trees in a direct line between the 25m intervals are scanned for koala evidence, with no deviation to look at near potential trees.

I understand from Simon that this interpretation is one that he learned from the forest ecologist formerly employed with SFNSW, Chris Slade. Simon is the most experienced FNSW staff member in regards these surveys and I understand he has guided other staff members in the field as to how they should be applied.

As such they have probably been the norm for the IFOA koala surveys in the region for many years.

Within that interpretation, Simon undertook the work diligently, competently and efficiently. I recorded approximate times taken from 25m interval to 25m interval. This averaged slightly less than 4 minutes. I do not think it would be possible to do this assessment in the way described above more quickly.

Sifting though the litter (as the poorly worded IFOA guidelines probably intended), and scanning the litter more trees along the transect would probably have doubled the time taken to undertake this work.

In addition to monitoring the survey undertaken by Simon I searched for pellets at other trees as we moved along.

I located pellets that are probably koala at AGD66 0762920/5956043, close to the 10m search band of Transect 8. Barbara Triggs later confirmed these as koala.

These were very big pellets, with hardly any ridgelines, suggesting that they came from a large older male. Steve Phillips has advised that even in old age a displaced dominant male will usually remain within its home range, albeit contracting to a smaller area.

Comments on survey method and FNSW application

The probability of locating koala pellets decreases (reference Achurch) the further the search is away from trunk of the tree. There is a probability of >50% that if there is a koala pellet under the canopy of a tree that one will be located within 1m (need to chase up this reference).

The method allows the surveyor to examine 4 50cm2 patches of litter in 4 quadrats anywhere under the dripline.

In the 2007-9 Bermagui/Mumbulla Koala Survey, on most occasions, koala pellets were not located on the litter surface, but only when sifting through the litter in a search area 1m from the trunk of the tree.

Given the above, the survey, as currently applied by FNSW, will have a low probability of locating koala pellets.

Comments on initial FNSW survey and subsequent correspondence

1. It is impossible to undertake this kind of survey, even in a cursory manner, in one or two minutes between 25m intervals.
2. Transect 7, Compartment 2052, was reportedly assessed at 0.94 minutes per 25m interval. Some of this is on a relatively steep, south-facing slopes where understorey and litter levels are likely to be high. It may be appropriate to examine this transect to assess whether it is possible to even walk this transect at the pace reported.
3. In his correspondence, Mr Petty states a *comprehensive review of each transect survey* was undertaken by FNSW. It is difficult to understand how the review found that the time taken to assess this and other transects acceptable.
4. Mr Petty states *Whilst some sites required active lifting of leaf litter within the quadrat, others had only bare ground to check*. Thus Mr Petty states he believes that the litter was searched at the quadrats, whereas I understand this was not the case –and indeed, could not have occurred in the time taken at any of the transects; a major difference in approach that was missed in the comprehensive review.
5. It is obvious that there are some FNSW staff who have not undertaken this work with appropriate diligence, and it clearly should have been obvious to Mr Petty.
6. I only looked at the forest in the vicinity of the transects searched with Simon. This area where I was does not resemble that described by Mr Petty. The statements that the area was *very poor in tree biomass, very few large trees, very light ground litter* are not accurate descriptions for the area of forest where I was, and I suspect is the case in other areas surveyed as well.

Implementation of the IFOA Protocol the "Asterix Technique".

Simon Von Holst and I set up and commenced the Asterix Technique survey on the 11/6/10 (aiming to complete this on the 14/6/10) to enable an assessment of four 100m transects extending in four cardinal point directions from the site where koala pellets were positively identified.

The Protocol requires all trees within 15m of the transect to be searched for koalas and scratchmarks and the litter beneath to be scanned for pellets. If any scratchmarks are observed then the litter is to be searched more intensively,

Neither Simon nor I had implemented this before. We delineated the transects using a hipchain then surveyed two 15 X 100m quadrats, walking out from the centre tree on one side of the transect and returning on the other.

FNSW ecologist, Pete Kambouris joined us to assess one of the transects.

Issues

Because the predominant overstorey species along the transects were *E. longifolia*, *E muelleriana* and *E. tricarpa* it was not possible confidently identify scratchmarks, the trigger for a more intensive survey of the litter under specific trees.

If this method is to be continued to be employed in this kind of forest, the more intensive survey of litter needs a different trigger. Perhaps one tree could be selected in every 10 X 15m quadrat along the transect, the selection of the tree to be guided by a range of agreed factors.

In the case of this survey we searched the litter under most of the *E longifolia* (these were relatively widely scattered) occurring in the transect band. However, as the case with quadrat searches in the transect survey, it is unclear whether the litter should be just looked at or sifted.

Another issue that arose is that there are no requirements to document this part of the survey. There will no record of what was done and no capacity to audit.

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14/6/10