

Hi Don,

I'm hoping you may be able to reduce uncertainties about information previously provided by the Koala Action Network along with what information will be available at the community koala day (CKD).

The koala with joey on the flyer is claimed to have been photographed near the Murrah hall in February 2020. However speaking on ABC radio about another koala sighted near the Murrah hall in September 2020, koala survey contractor Mark Lemms said the female and joey were on private land at Cuttagee. Which of these locations are correct and will the results of genetic and disease analysis undertaken since the last (2017) report be available at the CKD?

With regard to the recent acoustic monitoring, undertaken by the LLS on selected private properties. The post fire koala survey report indicates - "Passive acoustic and volunteer community surveys currently underway should offer further opportunities for comparative analyses that may increase our confidence that this low-density population of koalas at least remains stable, even though koala numbers remain low." Will the results of these acoustic surveys and the comparative analysis of both survey methods undertaken by Canberra University be available at the CKD?

The post fire koala survey report also indicates the "Indigenous Firesticks Alliance's cultural burning program "aims to improve soil-moisture retention capacity and reduce fuel hazards." The major reason for the reduction in soil Water Holding Capacity (WHC) was identified as a result of the Murrah/Mumbulla residents group engaging a highly experienced CSIRO soil chemist in 1994. A total of 84 soil samples were taken from depths up to 160cm at several locations on State Forests and private land in the Murrah river catchment. Laboratory analysis found soils in all auger samples were dispersible and increasingly so at increasing depth due to a reduction of Calcium in the soils, relative to Sodium.

This outcome is directly associated with the long-term reduction in biodiversity and associated nutrient inputs into these soils. Based on this local science, increasing water infiltration into soils by burning will contribute to decreasing soil fertility by increasing the rate of subsoil dispersion.

According to the post fire survey report, there has been " . . . massive post-fire germination of *E. sieberi* and *A. littoralis* seedlings, both of which respond well to disturbances such as fire and logging." The report post fire survey also indicates " . . . *E. sieberi* had lower available nitrogen (AvailN) and total nitrogen than most other eucalypt species, and the highest concentrations of unsubstituted B-ring flavanones, a herbivore-deterrent plant secondary metabolite for the koala. Simulations of forests with increasing proportions of *E. sieberi* showed that Avail N decreased from 1.1% when *E. sieberi* was $\leq 10\%$ of all eucalypts to 0.7% AvailN when *E. sieberi* was the only species present. Consequently, forests dominated by *E. sieberi* are unlikely to support koala populations based on existing knowledge of koala nutritional requirements. "

Other credible forest soil research (1) has found " . . . When organic matter is combusted, total N on the site is always decreased, although increases in the available forms of N are likely to occur as is discussed in a later section, "Nitrogen." Therefore, managers must be alert when interpreting the significance of the sometimes contradictory changes in different nutrients during a fire that are reported in the literature."

Forestry reports theorise that there is too much Nitrogen in forest soils. That this excess is making forests unhealthy, leads to irruptions of koalas and regular burning will reduce this unspecified form of Nitrogen.

At a location where there were few midstory trees prior to the Indigenous Firesticks Alliance's fire, a recent brief assessment identified 81 wattle seedlings in an area of 65 m².

While the Review of Environment Factors (2) for the project has not been publicly released. There is a reasonable concern that the main purpose of this project appears to be a focus on collaboration with government forest managers and the native forest logging industry. Hence, changes to overstory species will

continue to be ignored (3) and current management, with its associated reductions in biodiversity and nutrient inputs into soils, will continue. Is there an intention to provide information at the CKD hat would disprove the local soil science and the documented outcomes from forest mismanagement in favour of unproven theories?

Regards

Robert Bertram

(1) Neary, Daniel G.; Ryan, Kevin C.; DeBano, Leonard F., eds. 2005. (revised 2008). **Wildland fire in ecosystems: effects of fire on soils and water**. Gen. Tech. Rep. RMRS-GTR-42-vol.4. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 250 p. https://www.fs.fed.us/rm/pubs/rmrs_gtr042_4.pdf

(2) Envirokey 2020, *Review of environmental factors – Burning for Healthy Country, not hectares*, report prepared for the Firesticks Alliance Indigenous Corporation and the NSW National Parks and Wildlife Service, Department of Planning, Industry and Environment, Sydney.

(3) Bentley PD and Penman AB 2017, Is there an inherent conflict in managing fire for people and conservation? *International Journal of Wildland Fire*, vol.26, pp.455–468, viewed 16 July 2020, <http://dx.doi.org/10.1071/WF16150>.