

22 September 2015

## CVO Bulletin to Veterinarians: Eastern Grey Kangaroo Mortalities in NSW, ACT and Victoria, July - September 2015

Significant numbers of unwell and dead juvenile Eastern Grey Kangaroos have been reported in the Queanbeyan, Bombala, Coffs Harbour and Port Macquarie areas of NSW. The sub adult (up to 15kg, 18-21 month age) sector of the population is worst affected. Similar presentations and mortalities have been noted recently in ACT as well as over the past 20 years and, similar seasonal die-offs have also been reported in Victoria in the past.

### Clinical Signs

Affected kangaroos appear thin and unwell and fail to move off when approached, allowing humans to come within 2-3 metres before they move a short distance away. The kangaroos have poor coat condition and continue to graze. More specific clinical signs associated with the individual location of mortalities include:

- Queanbeyan - emaciated, pale mucous membranes, lethargic sub adult kangaroos which tend to die within a day of commencing care
- Bombala – similar presentation to Queanbeyan
- Coffs Harbour – 2 distinct syndromes
  - Young, weak kangaroos in poor condition with facial swelling
  - Young, weak kangaroos in poor condition with blindness
- Port Macquarie – presentations similar to Coffs Harbour

### Aetiology

The cause of the mortalities is multifactorial and includes over population, under nutrition, cold stress and parasitic burden. Starvation related to restricted resources is the underlying cause. The affects of endemic gastro-intestinal parasites, normally found in kangaroos, play a larger role in populations where feed is limited. Populations where controlled culling is practiced are not showing mortality. The mortalities impose a natural population regulatory effect and serve to protect the established population when food resources are restricted. The existing restricted food resources are the result of climatic conditions including low temperatures and rainfall.

Laboratory investigations have revealed severe and chronic emaciation of muscle mass, an absence of sub-cutaneous, abdominal or thoracic adipose tissue, reduced bone marrow cellularity and reduced or no colloid in follicles of the thyroid. These signs are indicative of chronic starvation. Variable gastro-intestinal parasite<sup>1</sup> burdens have also been noted, some associated with the clinical signs of anaemia, hypoproteinaemia, and in three animals, oedema (facial swelling). Parasitism is not an unusual finding in this age class of animals.

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<sup>1</sup> Parasite species seen include: *Globocephloides trifidospicularis* - which is associated with clinical signs of anaemia, hypoproteinaemia, and oedema (facial swelling); *Labiosimplex* spp. *Rugopharynx australis*; *Cloacina* spp.; *Paramacropostrongylus toraliformis*; *Pharyngostrongylus kappa*; *Alocostoma clelandi*; *Macropoxyuris* spp.; *Eimeria* spp. and an unidentified protozoan species associated with villous atrophy and inflammation

## Recommendations for Veterinarians

Veterinarians who service carer organisations which are presenting kangaroos with severe and chronic emaciation should probably recommend euthanasia based on conducting a PCV and TPP with results of anaemia and hypoproteinaemia.

New clusters of Eastern Grey Kangaroo mortalities or unusual presentations should be reported.

Samples suitable for testing include;

- Whole fresh dead animals for post-mortem,
- Or full post-mortem sampling (histo and fresh) with peripheral blood smears or splenic impression smears

## Disposal of carcasses

Carcasses should be left in situ, where possible. Carcasses have been identified as a biodiversity hotspot and promote an array of invertebrate and plant life.

Kangaroos euthanased by Veterinarians with a barbiturate overdose should be disposed of in accordance with clinic policies and procedures to avoid barbiturate contamination of the environment and scavenging wildlife.

## Further information

1. Ring your local wildlife rescue group e.g. WIRES for assistance with individual sick or injured kangaroos.
2. To report new disease incidents or for advice on wildlife health investigations contact your state or territory Wildlife coordinators see <https://www.wildlifehealthaustralia.com.au/AboutUs/ContactDetails.aspx>
3. For sampling inquiries;  
Customer Service Unit  
State Veterinary Diagnostic Laboratory  
Elizabeth Macarthur Agricultural Institute Ph:02 4640 6327  
1800 675623  
[vetlab@industry.nsw.gov.au](mailto:vetlab@industry.nsw.gov.au)

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (8 October 2015). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of NSW Department Primary Industries or the user's independent adviser.

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