Progress Report STP 2014-016 (FY 2014-2015)

The ecology and interactions of dingoes and feral cats in the arid Rangelands of Western Australia

Animal Science

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Progress Report

Research investigating the interactions between feral cats and dingoes at Lorna Glen began in the winter field season of 2013. During this time we initiated a pilot camera trap study to trial different camera trap techniques and investigate changes in predator activity following annual Eradicat baiting. Eighty cameras were placed either alongside roads or 100m off roads and were either left unbaited or else baited using an audio call lure. The study showed that the best method for detecting both feral cats and dingoes was to deploy either baited or unbaited cameras along roadsides. Cameras alongside roads that were baited showed a slightly higher detection rate although this difference was not significant while cameras off road showed virtually no detections whether baited or unbaited.

Using the on-road camera data from this study we also examined activity levels of feral cats and dingoes before, during, and after Eradicat baiting. The results of this study showed that activity of both predators (measured by the number of photo captures per trap night) decreased immediately following the baiting. However, by 30 days post-baiting, dingo activity had decreased to about 23% of pre-bait levels whereas cat activity increased to near pre-bait levels. By 60 days, dingo activity rebounded to about 53% and cat activity fell to 45% of pre-bait levels. This suggests that high levels of dingo activity may have some role in supressing cat activity.

The current phase of research for the project seeks to investigate fine-scale habitat use and diets of these two species to better understand their extent of spatial and dietary overlap. At present, we have deployed 136 camera traps across three major habitat types. This study will run for 21 days prior to the annual Eradicat baiting and again for 21 days starting two weeks after the baiting. An occupancy modelling approach will be used to analyse this data and will help us understand habitat use of dingoes and feral cats and how this habitat use is impacted by baiting.

To complement the current camera trap study, we have also fitted 16 dingoes and 21 feral cats with high precision GPS collars. These collars take a location fix every two or four hours and will give us detailed information on the movements of these predators through space and time and also help us understand how the baiting impacts their movement ecology. Finally, by analysing scat contents of these species we can get a good understanding of both their level of dietary competition and the impacts that these predators have on their prey species. To date, we have over 100 scats collected of each species and collections will continue until the end of 2014.

Preliminary analysis of movement data indicates that dingoes and feral cats maintain some spatial separation from each other and use different habitats. This PhD thesis is now being written up and will be submitted for examination in February 2016.