

Media Release

Chiefs of Staff, News Directors

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Devil decline leads to significant ecosystem changes

New research published today in scientific journal *Proceedings B* has found the decline of the Tasmanian Devil population is having significant impacts on the Tasmanian ecosystem.

The paper is titled *Relaxation of risk-sensitive behaviour of prey following disease-induced decline of an apex predator, the Tasmanian devil*.

The paper is authored by Tracey Hollings (formerly University of Tasmania, now of University of Melbourne), Menna Jones (University of Tasmania), Kaely Kreger (University of Tasmania), Hamish McCallum (Griffith University) and Nick Mooney (DPIPWE Tasmania).

Devil Facial Tumour Disease (DFTD) is a transmissible cancer that has decimated the Tasmanian Devil population.

The devil, as an apex predator, is at the top of the food chain in the Tasmanian bush. Now with devils severely declined, their absence has affected the behaviour and feeding patterns of brushtail possums.

Associate Professor Jones said the possums are responding to the changes in their ecosystem, most notably by their ground-use behaviour.

“Devils are now functionally extinct in eastern Tasmania as far as possums are concerned, and our research found that possums are spending more time on the ground and are moving further from the safety of trees to feed.

“This change in behaviour has occurred very quickly and shows how the decline of the devils has disrupted the ecosystem.”

The team carried out the research by setting out sultanas in specially-designed containers with adhesive tape on the outside, which allowed the possums to reach either their head or paws in to get the food.

The tape picked up traces of their fur, which in addition to video cameras, allowed the researchers to figure out which of their “food patches” attracted the most possums, how much the possums ate, and how much time they felt comfortable spending on the ground.

The team placed the food in areas that were deemed risky for the possums, and areas that were safer.

As possums use trees to get to safety and avoid predators, the amount of time they spent on the ground foraging indicated the level of safety they felt.

Dr Hollings said the research found that possums forage as much on the ground in eastern Tasmania as they do on an offshore island with no devils at all.

“With a 90 per cent decline of devils as in eastern Tasmania, possums do not fear being killed by a devil if they feed on the ground,” she said.

Associate Professor Jones said the loss of the devil as apex predator had the potential to greatly change other prey behaviour and species interactions.

“Devils will be at low densities for decades to come and we need to manage the changes in the ecosystem with this in mind.”

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