The Tasmanian devil is an iconic top-order predator

Ferocious and distinctive, the iconic Tasmania Devil is a top-order carnivore which plays a key role in the Tasmanian ecosystem. The species have been under threat by an unusual form of transmissible cancer – known as Devil Facial Tumour Disease - that is nearly always fatal to infected devils. This disease has driven significant declines in the Tasmanian devil population resulting in the species now being endangered, and a dedicated program is underway to manage their conservation.

Dr Samantha Fox is the Acting Program Manager of the Save the Tasmanian Devil Program that currently monitors several local devil populations across Tasmania.

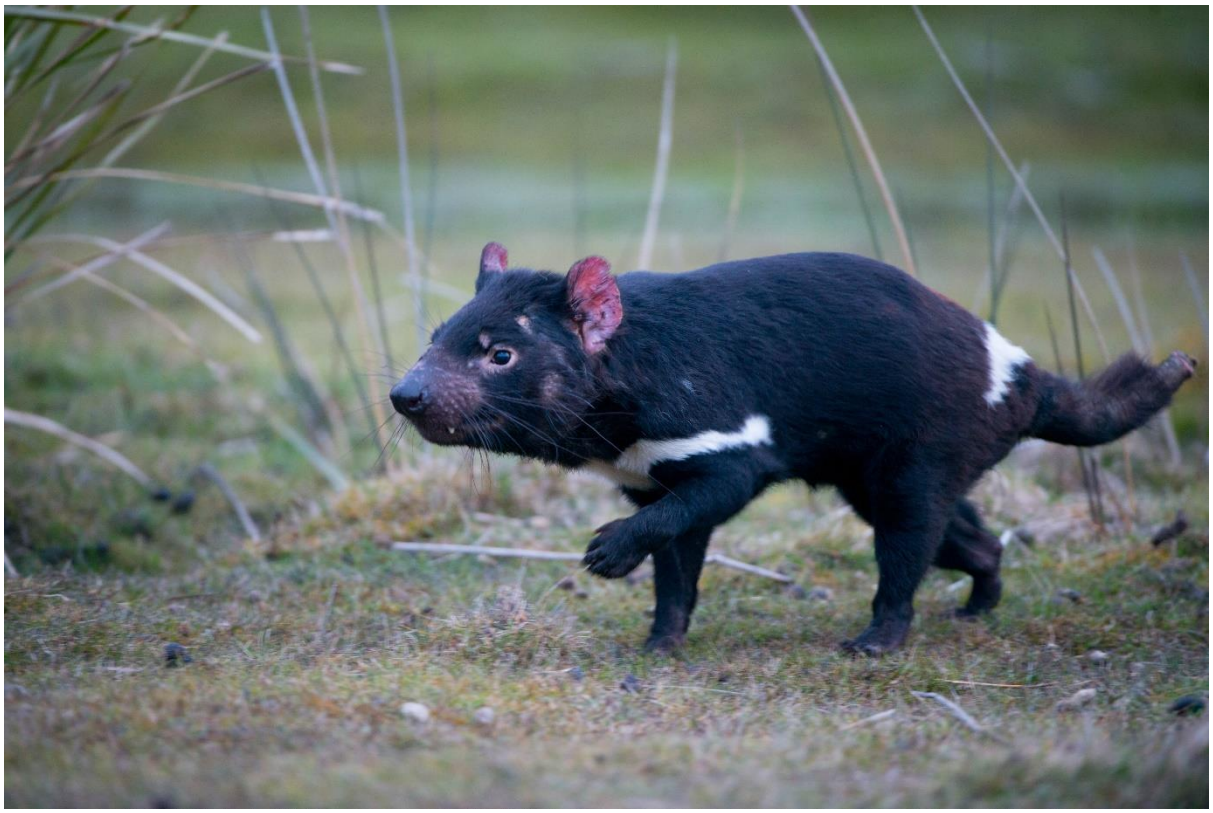
“Since it was first detected in 1996, Devil Facial Tumour Disease has spread widely throughout the devil population and driven significant declines - of up to 80%, wherever it has established. There are some pockets of Tasmania that are disease-free. Despite early fears that Devil Facial Tumour Disease would drive the species to extinction, 20 years of research now suggest this scenario is unlikely,” said Dr Fox.

Through the use of monitoring data of the species in the wild and modelling scenarios, research suggests that while further population declines are anticipated as the disease spreads, the Tasmanian devil population is predicted to stabilise somewhere between 7000-10,000 individuals in the next decade or so.

“While the overall trend is for Devil Facial Tumour Disease to have driven significant declines in density, there are variable trends observed subsequent to this initial response, ranging from ongoing decline, stable, to increasing density. While persisting in the wild in the face of this disease, the reduced devil population is more susceptible to other threats like roadkill, inbreeding, habitat loss and fragmentation,” explained Dr Fox.

A primary focus of conservation and management efforts for the Tasmanian devil is on reducing these impacts and maximising resilience for the species.

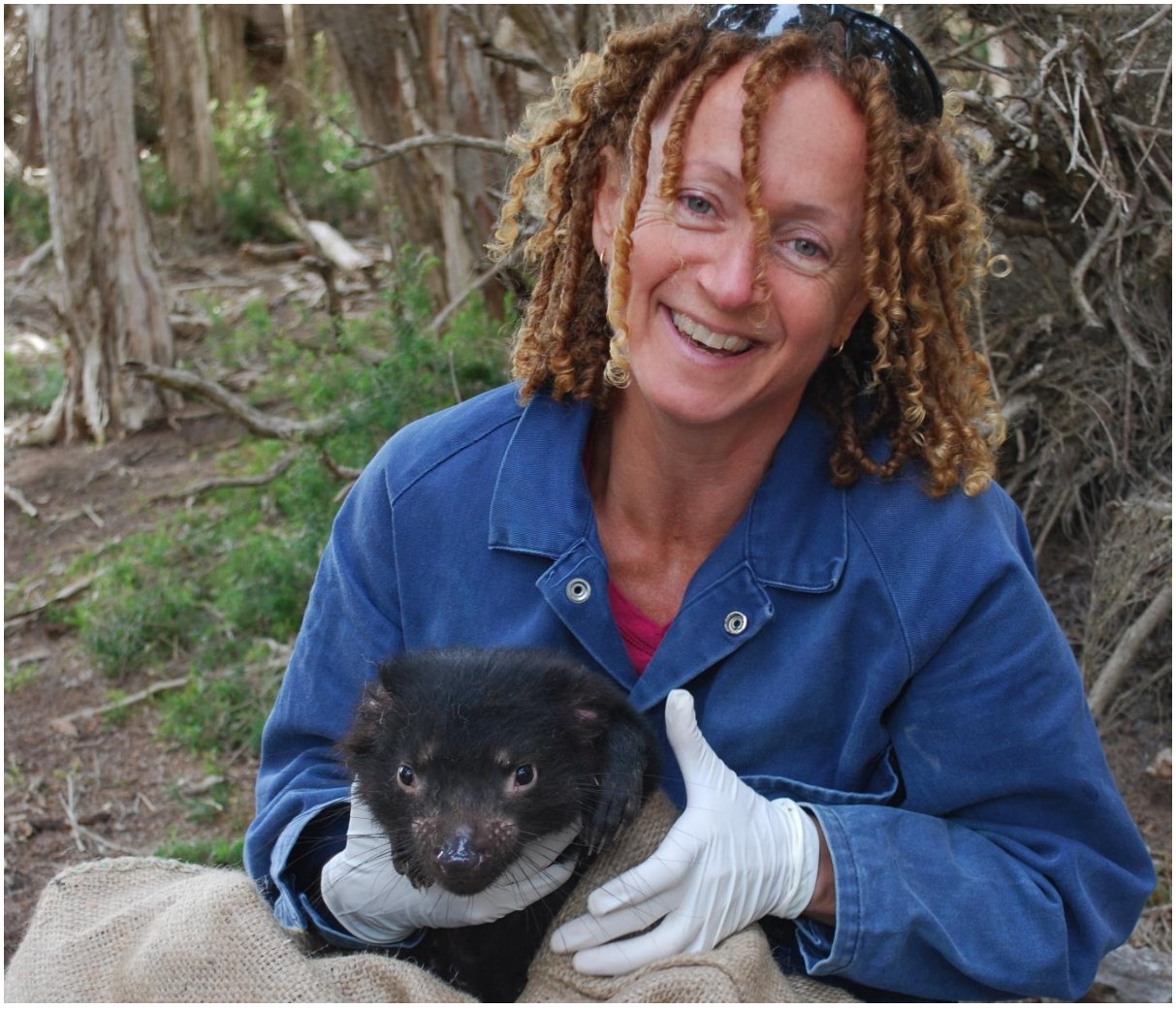
“Given the nature of this transmissible, and nearly always fatal disease, the Tasmanian devil population is not expected to recover to pre-disease levels unless there is a change that reduces the severity of impact of the disease. This could occur through the development of a vaccine or through natural evolution of either the devil or the disease,” said Dr Fox.



The advent of COVID-19 has seen the rapid advancement of vaccine technology in a remarkably short timeframe, and research into a vaccine for Devil Facial Tumour Disease is drawing on these new developments in the search for an effective vaccine for the Tasmanian devil.

“Researchers at the Menzies Institute for Medical Research of the University of Tasmania are working to develop a ‘pre-clinical test’, which would allow us to quickly determine whether a Tasmanian devil is infected with Devil Facial Tumour Disease before the trademark tumours emerge on the face,” said Dr Fox.

“A vaccine or pre-clinical test would facilitate a number of potential management approaches that are currently not feasible – such as transferring devils quickly into and out of captivity, or potentially transferring wild devils between sites to reduce localised inbreeding.”



The Save the Tasmanian Devil Program continues to monitor the status and trends of the wild Tasmanian devil population. It also monitors the prevalence and evolution of Devil Facial Tumour Disease to focus management efforts where they are most needed.

“Ongoing collaboration with research institutions to fill knowledge or management gaps is critical. Development of an effective vaccine against Devil Facial Tumour Disease that reduced the rate of mortality of devils infected with the disease would represent a significant step in our efforts to conserve devils,” shared Dr Fox.

“Another key focus of the Save the Tasmanian Devil Program, along with key partners around Australia, is the maintenance of the captive devil population, designed as a safeguard against species extinction.”

To help conserve the Tasmania devil, donations can be made to vaccine research via the Save the Tasmanian Devil Appeal at www.utas.edu.au/community-and-partners/giving/the-tasmanian-devil-appeal. When driving on Tasmanian roads, locals and visitors can also help by slowing down between dusk and dawn to reduce the risk of devil roadkill.

Article by Dr Phil Tucak, Wildlife Outreach Vet. Images thanks to the Save the Tasmanian Devil Program and NRE Tasmania.