

# FREQUENTLY ASKED QUESTIONS

## DEVIL FACIAL TUMOUR DISEASE



### What is Devil Facial Tumour Disease?

Devil Facial Tumour Disease (DFTD) is a term used to describe a fatal condition in Tasmanian devils. The tumours or cancers are first noticed in and around the mouth as small lesions or lumps. These develop into large tumours around the face and neck and sometimes even in other parts of the body. In the mid 1990s, the first signs were observed of the fatal and infectious cancer, Devil Facial Tumour Disease. Sightings of the Tasmanian devil have since declined by more than 70%.

As the cancers develop in affected devils, they find it hard to ingest food. The animal weakens further making it difficult to compete with other animals for food, and the devils can die within three to five months of the lesions first appearing, as a result of starvation, dehydration and the breakdown of their bodily functions.

### Can you treat the Devil Facial Tumour Disease in individuals?

Treatment for individuals has not yet been trialled for the following reasons:

- Most importantly, if a cure for this disease is found, we need to be able to use it from a wildlife management point of view rather than on individual animals.
- Surgery and chemotherapy would be difficult, if not impossible, to implement from a population point of view. Nevertheless, nothing is ruled out that may help to save the devil, and research is proposed to investigate the possibility and feasibility of cancer treatment for devils in some limited situations.

### Can Devil Facial Tumour Disease spread to other animals?

No - to date, they have found no evidence of Devil Facial Tumour Disease in other animals.

### Are Tasmanian devils endangered?

In May 2009, the Australian Government listed the Tasmanian devil as Endangered under national environmental law. It is also listed as Endangered under the Tasmanian Government's Threatened Species Protection Act 1995. The Tasmanian devil has also been listed as Endangered on the Red List of the International Union for the Conservation of Nature and Natural Resources (IUCN) – the benchmark for the global conservation status of plant and animal species.

### How do Tasmanian devils catch Devil Facial Tumour Disease?

It is a transmissible cancer and the cancerous cells are passed directly between devils with DFTD spread by the cancer cells themselves as they are passed from one animal to another during mating, fighting and feeding.

## **If Devil Facial Tumour Disease is a form of cancer, how can it be contagious?**

Devil Facial Tumour Disease is extremely rare. It is one of only three recorded cancers that can spread like a contagious disease. Under normal circumstances cancer cannot be “caught”. The cancer cells from one individual are completely different to another individual, and when transferred should be rejected by the immune system. So the fact that DFTD breaks this rule raises many questions about the immune system of the Tasmanian devil. The devil-to-devil transmission suggests that this cancer is similar to a transplant - but rather than a transplant of a life-saving organ, such as a heart or kidney, the transplant is a life-threatening cancer.

Studies show that Tasmanian devils fail to recognise cells from other devils as different. This provides strong evidence that a lack of genetic diversity contributes to the cancer being infectious. When a healthy devil is infected with DFTD from another animal, the infected devil’s immune system assumes that the new cancer cells are the same as its own cells and fail to reject them.

## **If there are still thousands of Tasmanian devils left in the wild, then how can they be classified as ‘endangered’?**

There has been a decline across Tasmania of more than 70% in average sightings per spotlighting survey since DFTD emerged. In the north-east region, where signs of the disease were first reported, there has been a 95% decline (approximately) of average sightings.

Due to its alarming rate of decline, the Tasmanian devil has been listed as Endangered under Tasmania’s Threatened Species Protection Act 1995, as well as the Commonwealth’s Environment Protection and Biodiversity Conservation Act 1999. The Tasmanian devil has also been listed as Endangered on the Red List of the International Union for the Conservation of Nature and Natural Resources (IUCN) – the benchmark for the global conservation status of plant and animal species.

It’s hard for us to know exactly how many Tasmanian devils remain in the wild, but our best estimate is between 20,000 – 50,000 mature individuals. One of the reasons why it’s difficult to be more precise is that there are population number estimates for only a few places across the State. Good estimates for anywhere in the World Heritage Area, for instance, aren’t available because there are no roads and it’s hard to check traps on a daily basis.

## **Why is it so important that Tasmanian devils don’t become extinct in the wild?**

We are already seeing the early signs of changes in the landscape from the decreasing devil population, impacting on our agricultural industries as well as our environment.

The decline in devil numbers means there are now large amounts of surplus carrion in the landscape and other carnivores are already responding to that surplus. One of the biggest threats is posed by introduced, invasive species – such as feral cats and dogs - which now have an opportunity for major expansion.

Most significant of all is the fox threat that is facing Tasmania. Devils have probably previously acted as a buffer to fox establishment in Tasmania. With their decline, that measure of protection for the State is drastically reduced.

A fully established fox population would prey on at least 70 vertebrate species, directly endangering seven. In short, the annual cost to the Tasmanian economy of the fox establishing here would be up to \$20 million. This figure includes the on-going damage to our ecology, primary industries, eco-tourism and market image.