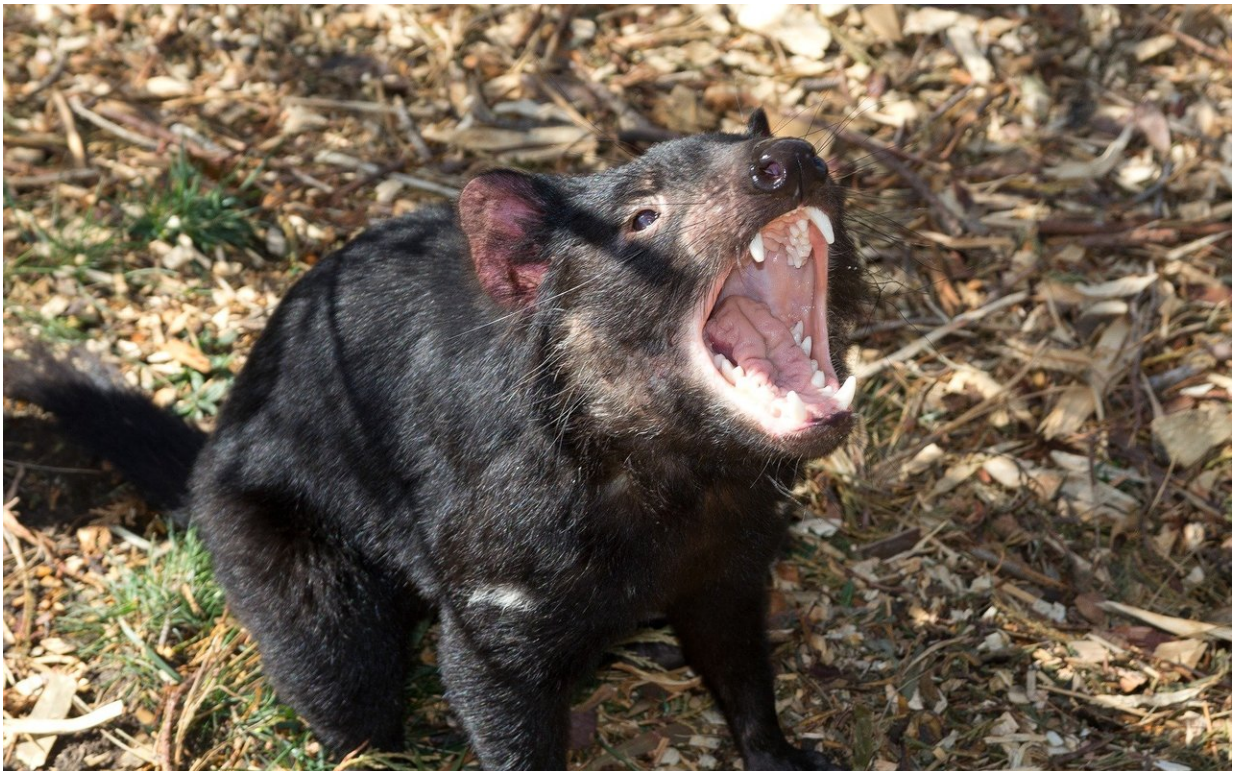


# Possums bounce back from Devils on Maria Island

September 23 2019

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Credit: CC0 Public Domain

The recent introduction of healthy Tasmanian Devils to Maria Island was initially bad news for the local possum population, a species blissfully ignorant of the predator's existence.

But the ability of the prey species to rapidly modify its foraging behavior is the subject of a new report from the University of Tasmania published in the journal *Ecography*.

"In response to extinction fears, devils were introduced to Maria Island, where their abundance rapidly increased," according report lead-author and UTAS School of Natural Sciences researcher Calum Cunningham.

"This was really important for safeguarding the devil's future, but it also provided a unique opportunity to research how apex predators structure ecosystems."

And the Maria Island experience could have implications for the "rewilding" of apex predators across the world, according to Mr Cunningham.

"Rewilding is a management approach that aims to restore important ecological processes by introducing species that play important roles."

Mr Cunningham said that declines of large carnivores across the world had reduced the "landscape of fear" that constrains the behavior of other species.

"Our study shows that recoveries of top predators can re-establish missing controls on the behavior of other species," he said.

The Maria Island study used a foraging experiment specifically designed to measure how possums—a key prey [species](#) of devils—perceive predation risk. The experiment compared possum behavior before devils were introduced to the island, and again after devils had become very abundant.

"The good news is that possums showed a clear anti-[predator](#) response

after just three years of living with devils—less than a single generation," Mr Cunningham said.

"Our study provides strong evidence that top predators modify the behavior of prey by instilling fear, causing rapid ecological change following recoveries.

"This study supports the notion that rewilding can establish missing ecological functions, and provides a hopeful view of how [rewilding](#) and ecosystem restoration could look going forward.

"This capacity to rapidly re-learn anti-predator behaviors should negate fears of localised prey extinctions following apex predator recoveries."

**More information:** Calum X. Cunningham et al. Trophic rewilding establishes a landscape of fear: Tasmanian devil introduction increases risk-sensitive foraging in a key prey species, *Ecography* (2019). [DOI: 10.1111/ecog.04635](#)

Provided by University of Tasmania

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