



PESTS MART

Foxes in Tasmania

Introduction:

Foxes pose a significant threat to Tasmania's biodiversity and agricultural sector. The potential cost of an established fox population has been estimated at over \$20 million annually, with more than 70 native species, including 12 species already listed as threatened and 34 with locally restricted ranges, at risk of predation or competition.

Despite historical records indicating that a number of introductions have been attempted since the 1860s, foxes do not appear to have become firmly established in the Tasmanian landscape. However, reported sightings of foxes in Tasmania have increased since the 1990s. Combined with allegations of deliberate importation of foxes and the discovery of a number of carcasses and other physical evidence, this led to the formation of the Tasmanian Fox Free Taskforce (FFT) in 2001, evolving into the Fox Eradication Program (FEP) in 2006. The FEP is believed to be one of the largest invasive species eradication programs ever attempted in the world.

Evidence of foxes in Tasmania:

“DNA analysis has become a critical addition to the traditional tools for monitoring foxes”

Evidence of the presence of foxes in Tasmania has been subjected to sustained public debate, with some in the community disputing the authenticity and relevance of the carcasses, scats and other evidence collected. Between 1998 and 2012, four carcasses, 61 scats containing fox DNA, and almost 3000 public reports of fox activity were collected, as well as a small quantity of other physical evidence such as blood. Figure 1 shows the distribution of the physical evidence, which

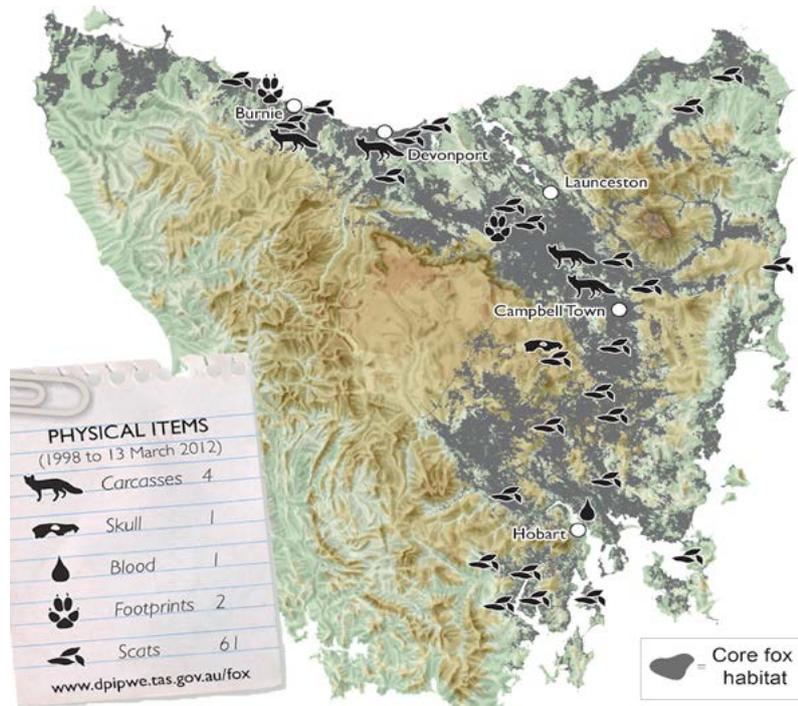


Figure 1: Distribution of the physical evidence indicating the presence of foxes. Updated 30 September 2011. Source: Invasive Species Branch, Department of Primary Industries, Parks, Water and Environment, Tasmania (DPIPWE)

indicates the presence of foxes in most agricultural landscapes with fragmented vegetation cover in the state.

Scats are independently tested at the University of Canberra's Institute for Applied Ecology (IAE) to identify the presence of fox DNA, which confirms that a scat is from a fox as opposed to another carnivore. A 'Strategic Scat Survey' conducted between 2008 and 2010 in conjunction with the IAE and the Invasive Animals Cooperative Research Centre provided valuable data about the extent of the fox population in Tasmania, although many questions remain about the behaviour of foxes in what is presumed to be a low-density environment. Efforts to identify individual foxes via genotyping have successfully analysed 16 samples to date.

The issue of evidence of foxes in Tasmania is contentious in some sectors with a degree of scepticism displayed by some individuals of the threat from foxes and the need for the

program. The need to continually explain the existence and significance of the evidence is critical to maintain public understanding of the threat.

Fox Free Taskforce:

The FFT was established in 2001 to mount the initial response to increased evidence of foxes in Tasmania. Efforts focused on responding to public sightings of foxes and other fox evidence, reported via a 24-hour hotline, with 1080 baiting and trapping done at a local district level where evidence was discovered.

Fox Eradication Program:

In 2006, increased resources from the Tasmanian and Australian Governments and a new 10-year commitment to fox eradication led to establishment of the FEP. Three years later, an independent review of the FEP identified that – given the widespread distribution of physical evidence of foxes – the ‘reactionary’ strategy of the FEP needed to change, with foxes now assumed to be in areas identified as optimal or ‘core fox habitat’, and increased post-bait monitoring.

The FEP now operates using three phases of activity, working progressively across the state. In the first phase, community engagement activities are held to raise awareness and begin the process of seeking consent to enter properties for baiting and monitoring. In the second phase, 1080 baiting (using 3 mg of 1080 in a manufactured meat bait buried at strategic locations) is done in the area, with untaken baits removed after 14-28 days to monitor the rate of bait uptake and minimise any potential risks of toxin residues. In the final phase, post-bait monitoring is done mostly using trained detection dogs to determine if there are surviving foxes or re-invaders in the area.

Program structure:

There are six main elements of the current program:

1. Strategic baiting: implementing precautionary baiting in all areas modelled as likely core fox habitat.
2. Post-bait monitoring: using a range of monitoring techniques to enable an area to be deemed ‘fox-free’, or to detect survivors and initiate a lethal control response.
3. Community engagement: raising awareness among, and gaining cooperation from, key stakeholders in the community.
4. Research: developing and delivering projects that support the eradication effort.
5. Biosecurity: minimising the possibility of new incursions.
6. Program management: managing the program’s projects and activities.



*Detection dogs are used in post-bait monitoring to detect the presence of any fox survivors or re-invaders.
Image: Invasive Species Branch, DPIPW*

A steering committee of representatives from relevant government agencies and funding bodies oversees the program, with panels of scientific experts and key stakeholders to advise the FEP.

Key challenges:

- Countering misinformation and low levels of interest in the program that limit access to land and support for the program in general.
- Detecting low-density populations of foxes, and understanding potential fox behaviours in that environment.
- Managing the scale of the program including the number of properties, amount of data, and the terrain and climate involved.

The benefits of the success of this program will be considerable for Tasmania, and worth the continued effort to overcome the challenges. It is important for the program design to remain science-based, and actions are followed through to completion to ensure foxes do not become established in Tasmania.

Further information:

1. Saunders G, Lane C, Harris S and Dickman C (2006). *Foxes in Tasmania: A Report on an Incursion of an Invasive Species*. Invasive Animal Cooperative Research Centre, Canberra.
2. Phillips D (2008). *Import Risk Analysis of Fox Entry Pathways into Tasmania*. Report by Biosecurity Technical Group, Fox Working Group, Department of Primary Industries and Water, Tasmania.
3. Parkes J and Anderson D (2009). *Review of the Attempt to Eradicate Foxes (Vulpes vulpes) from Tasmania*. Landcare Research Contract Report LC0809. Lincoln, New Zealand.
4. *Foxes in Tasmania*. Department of Primary Industries, Parks, Water and Environment, Tasmania.
5. PestSmart Toolkit for foxes. Invasive Animals CRC.
www.pestsmart.org.au/pestsmart/foxes/