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ERADICATE

definition: (v) to completely remove a pest from an area

a newsletter for the **Fox Eradication Program**

ISSUE 2 **WINTER 2010**

www.dpipwe.tas.gov.au/fox

Fox Eradication Branch

Department of Primary Industries, Parks, Water and Environment

Fox caught by motion camera in Victoria.

The challenge of eradication

Eradication means the total removal of all members of a target species. It is a resource intensive process and, in most cases, is a race against the clock. Eradication cannot be achieved by simply increasing the intensity of control programs – it requires a completely different mindset.

For eradication programs to be successful, it is generally recognised that six criteria - developed by Bomford and O'Brien (1995) - need to be met.

Eradication can only be achieved when: (1) animals are removed at a faster rate than they reproduce; (2) immigration is zero; and, (3) all reproductive animals are placed at risk.

Eradication is the preferred option when: (4) animals can be monitored at low densities; (5) the benefits of eradication outweigh the costs; and, (6) there is the socio-political will to do the job.

"social and political factors can play an overriding role in determining the success of eradication programs"

These six criteria determine whether eradication is technically feasible and preferable to sustained control. Eradication is a risky business and a failed eradication attempt is usually very expensive.

If these six criteria are applied to foxes in Tasmania, eradication still appears feasible but there are a lot of unknowns.

Even when the technical and economic criteria are met, social and political factors can play an overriding role in determining the success of eradication programs. Put simply, lessons learnt elsewhere have shown that if community support doesn't exist for eradication, then it will fail.

Bomford, M. and O'Brien, P. (1995). Eradication or control for vertebrate pests? Wildl. Soc. Bull. 23, 249-255.

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REPORT FOX SIGHTINGS & POSSIBLE FOX ACTIVITY

1300 369 688

This project is partially funded through the Tasmanian Government and the Australian Government's Caring for our Country.

Invasive Animals Cooperative Research Centre

CARING FOR OUR COUNTRY

Tasmania

The Great Poo Hunt

After 3 years and the collection of over 6000 carnivore scats, Tasmania's Great Poo Hunt is almost at an end!

Fieldwork for the third and final phase of the strategic carnivore Scat Collection Survey was completed in northwest Tasmania during autumn this year, with over 1000 scats being collected. DNA analysis of these scats has now begun at the University of Canberra and it is anticipated that analysis will be completed by early next year.

A report on Phases 1 and 2 of the survey is currently in preparation. During Phase 2, completed in southern Tasmania last year, over 2000 scats were collected. Analysis identified 12 fox positive scats in the sample. Previous to this, 6 fox positive scats were identified from over 3000 scats collected during Phase 1 of the survey, which was conducted in the northeast of the state in 2008.

The project has been made possible by the strong support received from landowners statewide who allowed surveys to be conducted on their property. In Phase 3 alone, a combination of scat detector dog and human teams searched over 3000 km of features within 193 survey (3 km x 3 km) units spread over 4000 km^2 of northwest Tasmania.

Over the life of the project a total of 15 000 km of features were searched, spread over some 25 000 km^2 of the Tasmanian landscape containing highly suitable fox habitat. This is a monumental effort and the Fox Eradication Program would like to thank and congratulate everyone involved!

The Scat Collection Survey is supported by the Invasive Animals Cooperative Research Centre.

Field officer collects carnivore scat in northwest Tasmania.

Scat Degradation Project

Scat surveys have proven a key method for the detection of fox activity in Tasmania but very little is actually known about the lifespan of scats in the environment. A new project aims to change this by measuring the breakdown – or degradation – rates of fox scats in the Tasmanian environment.

Known as the Scat Degradation Project, this study will measure three different types of scat degradation:

Physical degradation – how long before a scat breaks down and cannot be found in the landscape?

Scent degradation – how long is a scat detector dog able to smell a scat?

DNA degradation – how long before DNA can no longer be identified in a scat?

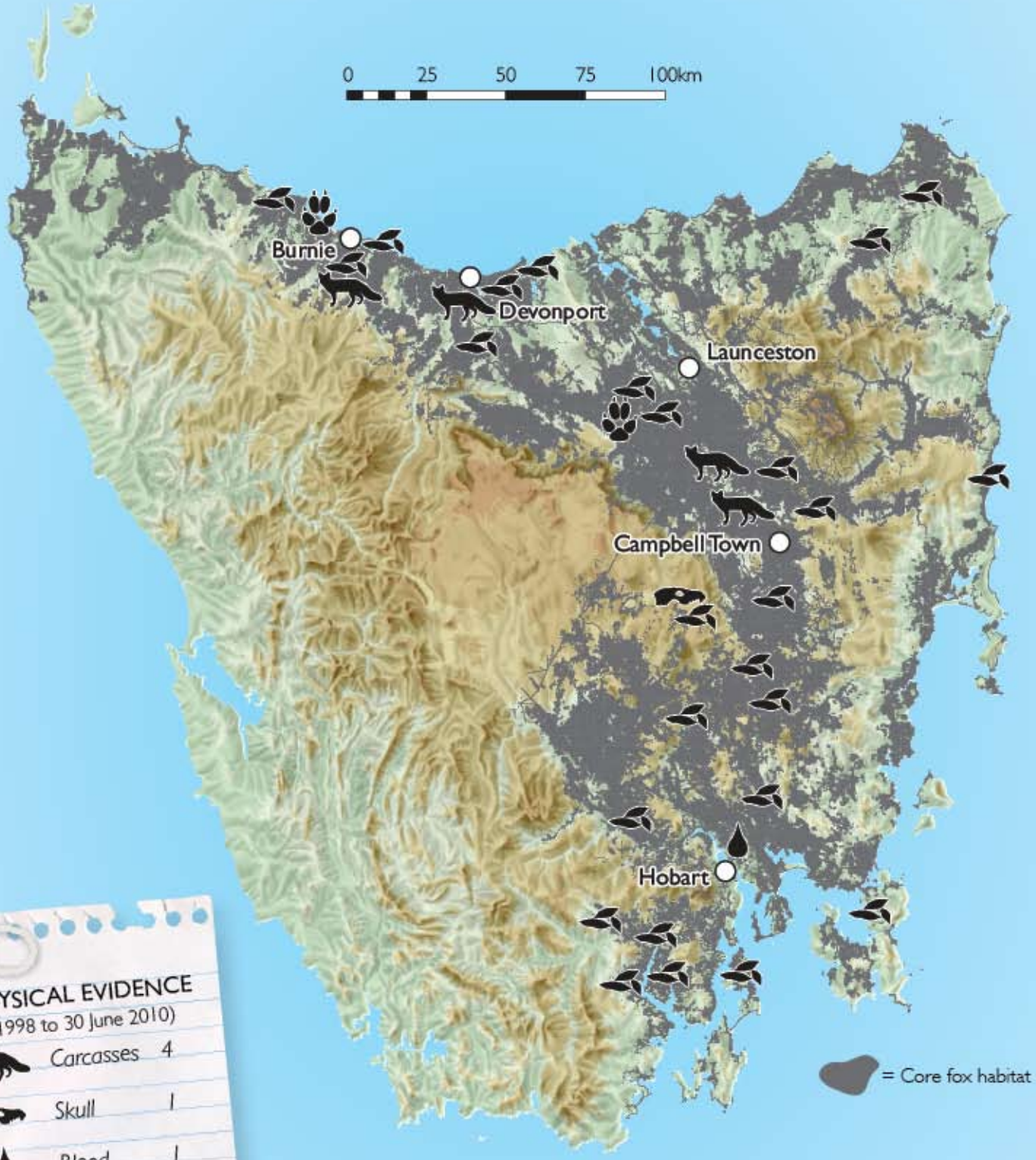
Secure sites have been selected across Tasmania to run this study, which commenced in winter this year and will be repeated in summer next year. Fox scats have been placed at each site and will be regularly photographed, tested and sampled to determine the various breakdown rates.

Early results indicate that fox scats degrade very quickly in the Tasmanian landscape, most likely due to insect activity as remnants of the scats are sometimes found pulled underground. This can occur in less than 24 hours. Other early results show the scat detector dogs are able to smell fox scats for at least 14 days after they are deposited.

This study will provide vital data to help interpret what the results from monitoring activities mean and give better understanding of the Tasmanian fox population.

Locations of

Fox Activity in Tasmania



PHYSICAL EVIDENCE
(1998 to 30 June 2010)

Carcasses	4
Skull	1
Blood	1
Footprints	2
Scats	56

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2010 evidence update (as at 30 June)

Twelve pieces of physical evidence have been confirmed this year (as at 30 June), including eleven fox positive scats (all collected in 2009) and one fox skull (publicly collected). The scats were collected near Bushy Park, Geeveston, Campania, Murdunna, Carrick, Oatlands, Ranelagh, Bruny Island, Judbury, Melton Mowbray and Mt Seymour.

223 hotline (fox sighting and activity) reports have been received from members of the public this year (as at 30 June). 304 hotline reports were received for the same period in 2009.

Southern baiting operations

A baiting warning sign being posted on property fence line.

Fox baiting operations commenced in southern Tasmania during May as part of the strategic program to target areas of core fox habitat statewide. The southern baiting program is targeting properties between Southport and Hobart that either contain, or are in close proximity to, core fox habitat.

Baiting commenced near Lune River in May and had progressed to just north of Geeveston by the end of June. Approximately 100 properties were involved in the baiting program during this time, with around 800 baits being laid. Three bait types have been used in this area to date: Foxoff, Probait and DKM (Dried Kangaroo Meat).

The baiting is being delivered as a rolling front with the region being targeted in a series of phases. The first phase of operations includes target areas between Southport and Huonville, with contact being made to over 400 property owners to ask for access permission for baiting. The second phase is targeting areas between Huonville and Hobart and has involved over 2000 property owners. Community support for fox baiting programs has been strong, with access provided to over 80% of land in the target area.

However, it should be emphasised that the prompt return of access licences is critical for efficient management of operations. Access licence requests are sent to landowners to ask for permission for fox baiting to be undertaken on target properties. Non-return of forms results in an ongoing requirement for follow-up with the landowner, a resource intensive activity that reduces capacity for on-ground baiting operations.

"the prompt return of access licences is critical for efficient management of operations"

Another challenge for the baiting program results from the large number of small properties involved, meaning slower progress due to logistical considerations and the high volume of landowner liaison that is undertaken to accommodate access requirements.

14 public information sessions held in the region since the start of the year have been well attended (average 25 participants), indicating significant interest and support for the eradication effort.

A second fox baiting front will commence in northwest Tasmania in the second half of the year.

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Fox Behaviour

Summer: rearing of cubs

Autumn: juveniles disperse

Winter: mating

Spring: cubs born

Foxes are largely nocturnal. During the day they may shelter in enlarged rabbit or wombat burrows, hollow logs or dense vegetation.

Alternative poison research

The Invasive Animals Cooperative Research Centre (IACRC) is currently conducting work into alternative poisons to 1080.

One particular poison of interest is PAPP (para-aminopropiophenone) which acts by affecting the oxygen carrying capacity of the blood.

In foxes, PAPP induces a lethal case of methaemoglobinaemia, in which the blood's haemoglobin is oxidised to a form that cannot carry oxygen. Within 20 minutes the animals become lethargic, within 40 minutes they are unconscious and within an hour they are dead. The effect is very similar to that of giving an anaesthetic.

The IACRC is conducting further work on toxicity and ways to deliver PAPP to ensure that it is specific to the target species. An antidote for PAPP is also in development, in the event of non-target poisoning. There is no silver bullet for invasive animal control, and availability of PAPP is still a few years off, but it may provide another option for helping the fox eradication effort in Tasmania.

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