

What have we achieved?

Apart from accumulating numerous death threats

High blood pressure

Assorted broken bones

*

What I would like to do in this presentation is outline some of the advances we have contributed to feral cat control.

It all started
some 30 years
ago.....

Following the failure of a
reintroduction program of
boodies and golden
bandicoots to the Gibson
Desert due to cat predation.

*Christensen, P. and Burrows,
N. (1994). Project desert
dreaming*: experimental
reintroduction of mammals
to the Gibson Desert,
Western Australia.*



Bait development

Neil Burrows (then Director of Science) asked us to design and develop a feral cat bait that was:

- 1) attractive to feral cats;
- 2) capable of carrying a toxin;
- 3) relatively easily and cheaply manufactured; and
- 4) could be deployed aurally at a landscape-scale

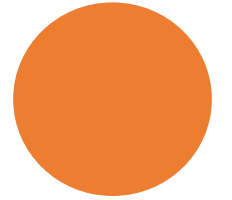
Initially, we examined the acceptability of bait media, representing a choice in physical form and type, to both feral and stray cats.

*Flavour enhancers were then added to the most preferred bait medium to see whether bait consumption could be further improved.



This work resulted in development of the *Eradicat* bait:

- the bait is like a chipolata sausage in appearance and composed of 70 % kangaroo meat mince, 20 % chicken fat and 10 % digest that includes flavour enhancers;
- approximately 20 g wet-weight, dried to 15 g;
- each toxic bait is dosed with 4.5 mg of 1080.



Eradicat registration

Following bait development, we then had to register the bait with the APVMA, which involved providing a dossier with information on:

- a) optimum bait frequency;
- b) baiting density;
- c) efficacy; and
- d) non-target bait consumption amongst other issues.

The *Eradicat* bait was finally registered for use in WA in 2015 and has since been submitted for national registration.

One common baiting misconception “feral cats prefer live prey”

This idea has not been reliably tested; however, it's widely reported that feral cats scavenge extensively.

- Feral cats will consume fresh carrion (not rancid) e.g., baits if encountered when the animal is hungry.
- Feral cats, unlike canids, will only eat when hungry. Baiting programs are designed to maximise the likelihood of bait encounter rate.

There is a balance of minimising baits deployed (to reduce cost and potential non-target consumption) and maximising encounter by a hungry feral cat.



Baiting - factors critical to the success of baiting programs

➤ How to bait?

aerial/on-track baiting and/or BSDs

Wind direction should be used to determine orientation of flight lines or on-ground placement of baits.

Baiting along tracks often results in non-targets removing numerous baits; programs that use the same tracks on a regular basis may exacerbate this problem. Multiple bait takes can occur where baits are placed along tracks or in front of cameras. Aerial baiting with the randomness of where baits land minimises this bait take and provides a more even coverage of the landscape optimising the likelihood of bait encounter by a feral cat when hungry.

➤ When to bait?

prey resource, bait degradation, rainfall events

➤ Where to bait?

blanket versus targeted baiting



Trapping and monitoring

In addition to delivery of baiting programs, and fundamental to the development of any control strategy, we needed to:

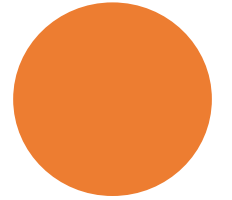
- 1) sample the cat population to provide a thorough understanding of all aspects of that animal's biology relevant to control;
 - trapping technique
 - minimise non-target risk
 - trapping lures

- 2) monitor control effort outcomes reliably and repeatedly.

Trapping

Trapping enables:

- the collection of biological information (e.g., sex ratios, fecundity, demographics, incidence of disease and parasites and population genetics);
- allows for radio-collaring, live release and monitoring activity patterns, home range usage, dispersal and social interactions;
- useful follow-up technique post-baiting, where eradication of cats is required (e.g., small-scale areas and islands) or to provide additional control effort.



Trapping technique (leg-hold)

Recently written a SOP

‘Padded leg-hold traps for capture of feral cats’

Provides instruction of how and where to trap.





Developed techniques to minimise non-target capture

Including:

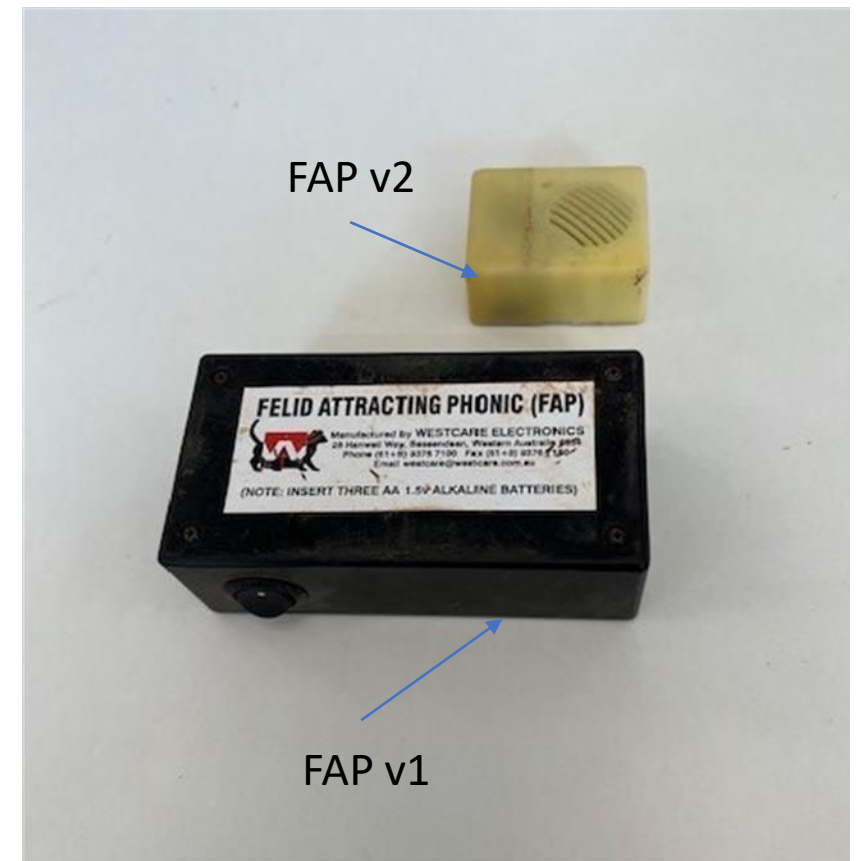
- a range of elevated traps making use of cats' agility and ability to jump;
- modified pan to more accurately set trap tension.

Trapping lures

Food-based lures are generally not used as they are ineffective if feral cats are not hungry and therefore less inclined to investigate, and if the lure decays over time. Also, they are more attractive to non-target species and likely increase by-catch.

Over the years we have used a variety of trap lures including:

- visual;
- auditory ('Felid Attracting Phonic' [*FAP]); and
- scent ('pongo' cat scats and urine), which invokes exploratory behaviour as cats are very curious about the presence other cats.



Monitoring techniques

To monitor control effort we have used a variety of techniques including: sand plots; track transect counts; hair snags for DNA analysis; and camera-traps.

Work is still being conducted to develop an appropriate method and may require use of several complementary techniques.

Currently testing two different lures that are showing potential in camera traps:

- long-life food lure (Trish Fleming – Murdoch Uni);
- olfactory lure that is interactive* (Cheryl Lohr – DBCA).

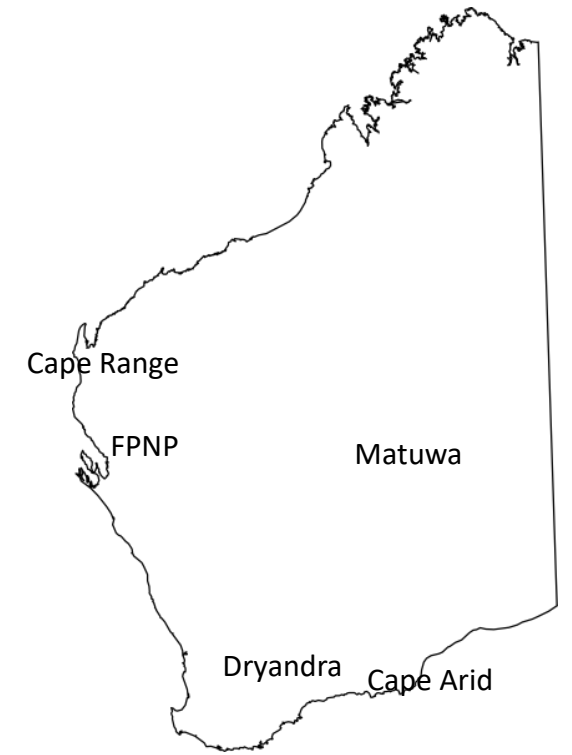


Mainland landscape-scale control

Delivery of sustained, long-term feral cat control has led to improvement in species diversity and/or abundance at a number of sites (e.g., Matuwa, South Coast sites, Cape Range and smaller sites like Dryandra).

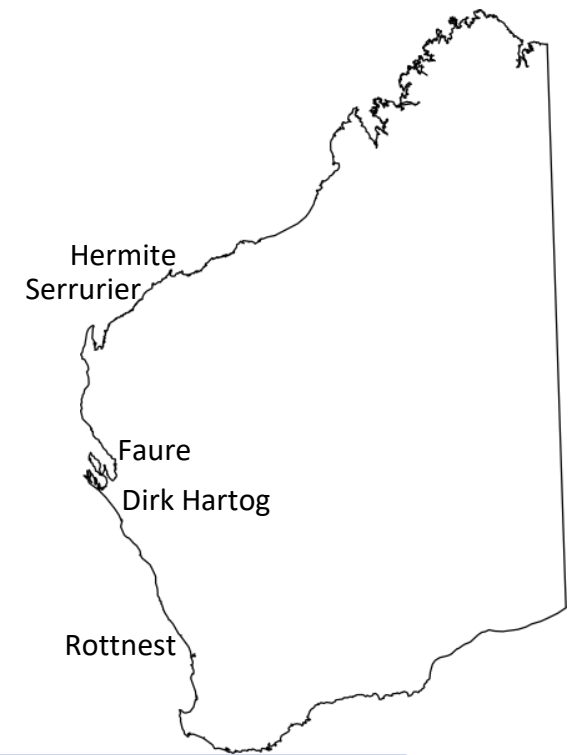
Have also been a several lack lustre responses where feral cat control has not been effective (e.g., Francois Peron National Park [FPNP]).

Continued advances in control methods and proposed future research areas will further improve control effort across sites.



Island eradications

Have successfully eradicated feral cats from five WA offshore islands, which now enables the restoration of the original fauna or protection of extant species.



Island	Size (km ²)	Technique
Serrurier	4	Ground baiting
Hermite	14	Aerial baiting & trapping
Faure	58	Aerial & ground baiting
Rottnest	17	Trapping
Dirk Hartog	620	Aerial baiting & trapping

Where to from here?

- Complete trials of *Eradicat* v2 to:
 - improve palatability;
 - improve bait production methods.
- Assess efficacy of targeted baiting.
- Continue development of monitoring technique and camera-trap lures.
- ARC grant application (collaboration with Murdoch, BHA and AWC).
 - 'The influence of stray cats on feral cat populations'

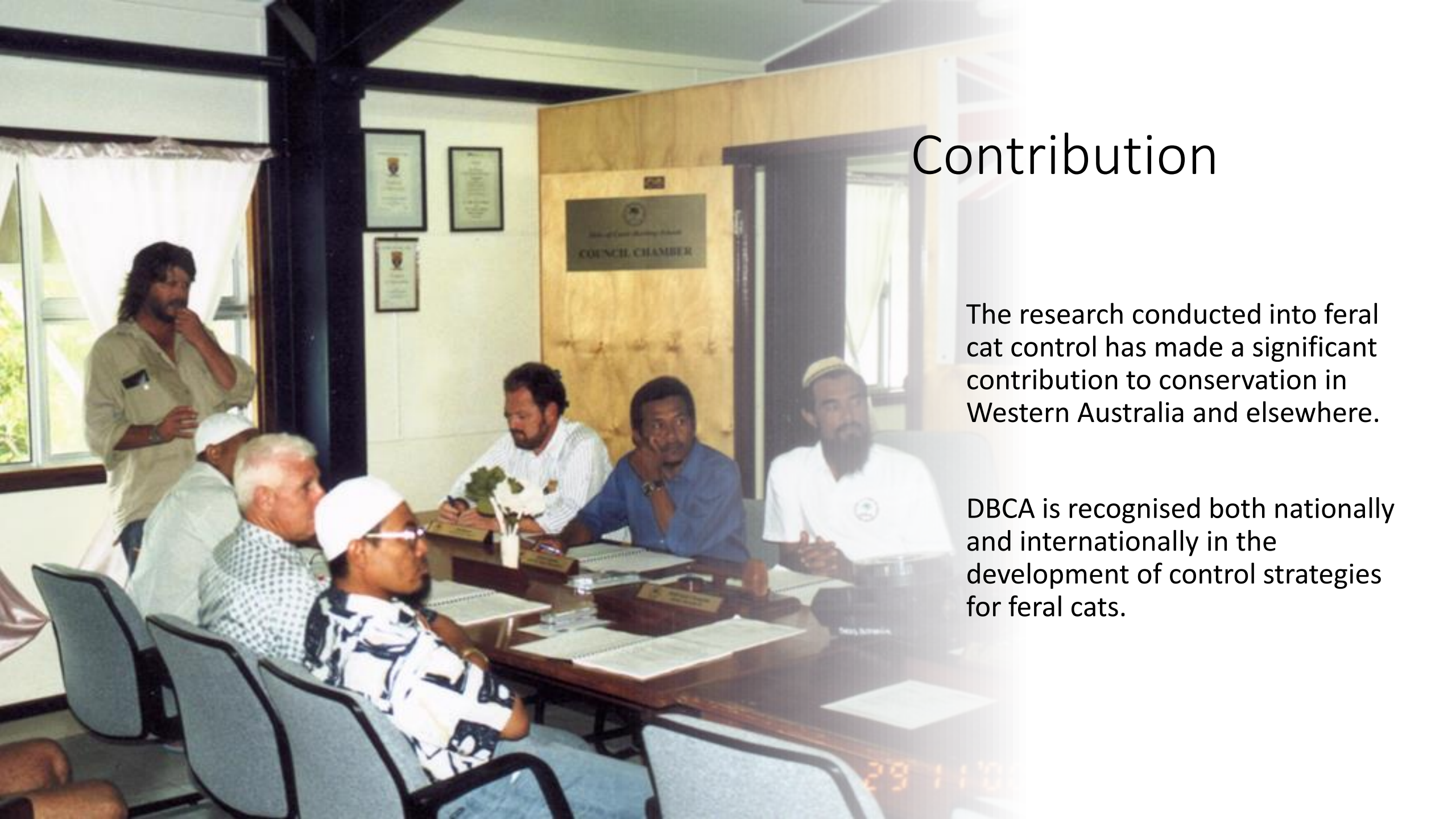
Other potential areas of investigation include:

- rabbit control and cat baiting efficacy;
- humaneness measurement during toxicosis;
- complete pen trials of PAPP in Felixers.

Contribution

The research conducted into feral cat control has made a significant contribution to conservation in Western Australia and elsewhere.

DBCA is recognised both nationally and internationally in the development of control strategies for feral cats.



National committee membership

I sit on a number of steering and technical advisory committees for projects involving feral cat eradications on other Australian islands.

- Bruny Island (Tas.)
- Christmas Island (Ext Terr.)
- French Island (Vic.)

National Feral Cat Taskforce

WA Feral Cat Working Group (and its various sub-committees)

Advise a number of international scientific programs

Provide advice to a number of international organisations undertaking feral cat control, including:

- Grupo de Ecología y Conservación de Islas, Mexico;
- Island Conservation, University of California USA and Ecuador (Galapagos – Floreana Island);
- Island Conservation, University of California USA and Hawaii State Departments (Kahoolawe Island, Hawaii);
- French Polar Institute (Kerguelen Archipelago);
- RSPB and DoE Cayman Islands (Little Cayman Island).

Acknowledgements

➤ Staff

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➤ Director General

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