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Ecosystem Science

Submission to

Inquiry into the management of cat populations in New South Wales by the NSW Legislative Council

Centre for Ecosystem Science, UNSW Sydney

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Contents

Executive Summary 3

About the Centre for Ecosystem Science, UNSW Sydney 5

Terms of reference 6

(a) the impact of cats on threatened native animals in metropolitan and regional settings 6

(b) the effectiveness of cat containment policies including potential barriers 8

(c) welfare outcomes for cats under contained conditions 9

(d) the effectiveness of community education programs and responsible pet ownership initiatives 9

(e) implications for local councils in implementing and enforcing cat containment policies 10

(f) the effectiveness and benefits to implementing large scale cat desexing programs 11

(g) the impact of potential cat containment measures on the pound system 12

(h) the outcomes of similar policies on cat containment in other Australian states or territories 12

(i) options for reducing the feral cat population 13

(j) any other related matters 17

Reference List 18

Executive Summary

Cats (*Felis catus*) are exacting an enormous toll on Australia's wildlife. Their impact is in metropolitan and urban areas. There are significant opportunities to reduce this toll by implementing legislation, policy and management focusing on limiting their impact, while still allowing pet cats. There is a need for an increasing focus on improving management effectiveness in controlling cats, requiring investment in innovative techniques, more widespread use of a range of tools required to control these feral predators.

We propose 19 recommendations to improve the management of cat populations in New South Wales and reduce their impact on Australia's wildlife.

Recommendation 1: *There need to be education programs so that the public understands the impacts of pet cats on wildlife in metropolitan areas.*

Recommendation 2: *State legislation should be introduced to ensure pet cats are registered by local councils, desexed and contained within the owner's property, either inside or with access to outdoor contained netted areas.*

Recommendation 3: *Control programs for feral cats should be implemented in regional areas, utilising a range of different tools, including baiting, shooting, use of Felixer Grooming traps.*

Recommendation 4: *Development of control methods implemented at landscape scales (such as cat specific baiting, gene technologies) should be funded and supported to improve control of feral cats at scale but with clearly demonstrated measurement of conservation outcomes.*

Recommendation 5: *In urban areas, regulations to restrict the movement of cats need to be increased, including 24-hour containment to an owner's property, utilising innovative compliance technology (e.g. Bluetooth tags).*

Recommendation 6: *Increase education of the public about the benefits of containing pet cats and improving welfare outcomes.*

Recommendation 7: *For pet cats, there needs to be increased and targeted education programs, focused on improved understanding of their impacts on native wildlife and options for containment, with welfare benefits.*

Recommendation 8: *Cats should be referred to as either feral cats or pet cats.*

Recommendation 9: *The NSW Government can improve legislation and regulations, promoting enforcement of cat containment policies with rewards for communities and councils with good compliance and reduced impacts of feral cat predation on native wildlife.*

Recommendation 10: *Cat registration fees should match dog registration, with no discounting of fees for eligible pensioners, allowing funds to be used to manage feral cats in council areas.*

Recommendation 11: *Regulations and programs should be implemented to ensure desexing of male and female pet cats, unless part of a registered and controlled breeding program.*

Recommendation 12: *Trap-neuter release methods should not be supported or encouraged by councils and governments as they are ineffective for feral cats.*

Recommendation 13: *Understanding of short-term costs of containment for pounds, followed by potentially reduced costs need to be communicated, with short term resourcing provided by changes to cat registration fees.*

Recommendation 14: *Establish effective cat containment legislation, policy and programs in NSW, deployed at the local level to decrease the impact of cats on native wildlife*.

Recommendation 14: *Approve and expand usage of Felixer grooming traps for control of feral cats based on extensive testing in NSW and other states.*

Recommendation 15: *Baiting of feral cats should be adaptive, in response to food shortages at approved baiting stations*.

Recommendation 16: *Cat-specific baiting trials conducted in other states should reduce the need for repetitive NSW trials and accelerate approval processes for baiting of feral cats in NSW.*

Recommendation 17: *Support trials of population protecting implants in prey native species with high tolerance to 1080 and during reintroduction programs.*

Recommendation 18: *Invest in the development of new and innovative feral cat control methods and more rigorous assessment of the short and long-term effectiveness and costs of feral cat and other invasive species control programs.*

Recommendation 19: *Decisions on use of toxic baits for feral cats should not rely simply on results of non-toxic trials, which are misleading and lead to perverse outcomes for conservation of native wildlife.*

About the Centre for Ecosystem Science, UNSW Sydney

The Centre for Ecosystem Science (CES), UNSW Sydney, supports policies and management of government, focused on improving the effectiveness of biodiversity conservation and natural resource management with a firm evidence base. Current rates of biodiversity loss around the world and in Australia are unprecedented. Researchers in CES have established track records in the research and management of Australia's biodiversity, both within and outside protected areas. Our researchers also work on the impacts of invasive species. Our researchers focus on policy and management in the three main realms of biodiversity (freshwater, terrestrial, marine) in the natural world (https://www.ecosystem.unsw.edu.au/). We have worked extensively on the management of feral cats and welcome the opportunity to provide this submission on the management of feral cats in NSW given the negative effects that feral cats have on native wildlife and ecosystem restoration activities.

Terms of reference

We address each of the NSW Legislative Council's terms of reference in relation to its **Inquiry into the management of cat populations**.

(a) the impact of cats on threatened native animals in metropolitan and regional settings

Cats have contributed to the extinction of 22 species in Australia, and threaten eight critically endangered species, nine endangered species, and 29 vulnerable species (Woinarski et al., 2015). Cats impact native species primarily through predation (Doherty et al., 2015), but also through disease transmission and increased competition (Doherty et al., 2017). In Sturt National Park from 2018-24 where we are carrying out the feral-free Wild Deserts Partnership, feral cats consume many native wildlife species including small reptiles, invertebrates and small mammals and nomadic birds that arrive in wet seasons (from analysis of stomach contents of 270 cats August 2023- October 2024).

Metropolitan areas

Metropolitan areas support high biodiversity, including threatened species (Ives et al., 2016), and pet cats pose a risk to native wildlife species, including threatened species. In metropolitan areas, pet cats are still a dominant threat. Although they have a lower per capita kill rate than feral cats, they have a higher density. This translates into pet cat predation rates 1.3-2.3 times greater per square kilometre than feral cats in urban areas (Legge et al., 2020). Pet cats have contributed to severe reductions in local populations of eastern barred bandicoot (*Perameles gunnii*) in Victoria (Dufty, 1994), Australian fairy tern (*Sternula nereis nereis*) in Western Australia (Greenwell et al., 2019), and the extinction of Lyall's wren (*Traversia lyalli*) in New Zealand (Galbreath and Brown, 2004).

Regional areas

In regional areas, feral cats pose a more significant threat to threatened native animal species. In western NSW, feral cats were the primary cause of the extinction of 10 small mammals (Dickman et al., 1993), and feral cat presence on islands is associated with the reduction in threatened small mammal populations (Burbidge and Manly, 2002; Neave et al., 2024). Many threatened species only survive because of cat and fox free islands and

fenced safe havens (Legge et al., 2018). Feral cat diets across Australia include 28 IUCN Red list species (Doherty et al., 2015). Feral cats also restrict the reintroduction of threatened species (Doherty et al., 2017; Moseby et al., 2011b; Short, 2016), and even small populations of feral cats can reduce threatened species' populations (Moseby et al., 2015; Short, 2016).

Photo. Wild Deserts – camera trap

The Centre for Ecosystem Science and Ecological Horizons are reintroducing seven locally extinct species into Sturt National Park as part of the Wild Deserts Partnership Project (Kingsford et al., 2021). This has involved considerable control of feral cats, including the identification of species consumed by feral cats. While not yet analysed, all feral cats killed and able to be dissected are assessed for their stomach contents. They continue to kill large numbers of native species, including birds (e.g. budgerigars, wrens), reptiles (e.g. dragons, skinks) and mammals (e.g. native rodents and marsupials). We have a record of one of the newly reintroduced threatened species, an individual golden bandicoot (*Isoodon auratus*) found in one of these cats. In addition, our data indicate that feral cats are implicated in the deaths of at least six threatened reintroduced western quolls (*Dasyurus geoffroii*).

Recommendation 1: *There need to be education programs so that the public understands the impacts of pet cats on wildlife in metropolitan areas.*

Recommendation 2: *State legislation should be introduced to ensure pet cats are registered by local councils, desexed and contained within the owner's property, either inside or with access to outdoor contained netted areas.*

Recommendation 3: *Control programs for feral cats should be implemented in regional areas, utilising a range of different tools, including baiting, shooting, use of Felixer Grooming traps.*

Recommendation 4: *Development of control methods implemented at landscape scales (such as cat specific baiting, gene technologies) should be funded and supported to improve control of feral cats at scale but with clearly demonstrated measurement of conservation outcomes.*

(b) the effectiveness of cat containment policies including potential barriers

Domestic cats allowed to roam free have home ranges up to 75% larger than cats that are contained (Cecchetti et al., 2022). Peak activity of domestic cats in natural areas, close to urban centres, is at night, corresponding with peak native mammal species activity (Kennedy et al., 2024). Containment provides a real opportunity to reduce the toll of pet cats on native wildlife (Legge et al., 2020; McDonald et al., 2015).

Containment of cats is dictated by the owner's ability to contain their cat; beliefs about the wellbeing of confined cats (Ma and McLeod, 2023) and; a dislike of the smell of cat urine (McLeod et al., 2020). Often, owners, who oppose 24 hour containment because of high complexity, support a night-time curfew for their cats (Ma and McLeod, 2023). However, although often viewed as good for conservation of native wildlife, it often shifts predation from native mammal species at night to native bird species during the day (Legge et al., 2020). Cat containment policies can also reduce cat injuries, such as envenomation (Lawson et al., 2020), exposure to pathogens (Webster et al., 2013), and collisions with vehicles (van Eeden et al., 2021). A 24-hour containment is the most effective option to reduce the damage of domestic cats to native species, but there are barriers to achieving this for all domestic cat owners. Even if and when regulations are implemented, there are challenges for compliance. Increased capacity for enforcement by councils could be achieved by the capacity to ID registered cats remotely, such as Bluetooth tags.

Recommendation 5: *In urban areas, regulations to restrict the movement of cats need to be increased, including 24-hour containment to an owner's property, utilising innovative compliance technology (e.g. Bluetooth tags).*

(c) welfare outcomes for cats under contained conditions

Containment of cats can include keeping cats inside the house or keeping cats inside the property with the use of fences or electric collars. Cat owners and veterinarians perceive containing cats, especially with a 24h curfew, as negative for cat welfare (Linklater et al., 2019). Cat welfare is sometimes negative when contained indoors, but enrichment devices have proved useful in management of negative behaviours of indoor cats (Tan et al., 2020), and outdoor containment by fences or electric collars has no negative effects (Kasbaoui et al., 2016).

Recommendation 6: *Increase education of the public about the benefits of containing pet cats and improving welfare outcomes.*

(d) the effectiveness of community education programs and responsible pet ownership initiatives

There is a need to focus on three main related community education programs for responsible pet ownership: understanding the predation capacity of pet and feral cats; promotion of ways for effective containment of pet cats and terminology in reference to cat control.

Many owners are unaware of the amount of hunting that their pet cats do, because cats rarely bring home all of their prey (van Eeden et al., 2021). Cat owners also generally have inadequate understanding about the range and hunting behaviours of pet cats. In South Australia, a citizen science program called 'Cat Trackers', tracked pet cats with GPS collars, resulting in not only participant owners but also non participating owners, improving their support for cat containment (Roetman et al., 2018).

There is a need to provide education in relation to containment options for cats. Community education campaigns that promote the conservation benefits of cat containment are effective for some cat owners (Ma and McLeod, 2023), but other owners likely respond to

messaging targeting the safety benefits of cat containment for cats (van Eeden et al., 2021), particularly if delivered by veterinarians (Linklater et al., 2019). The promotion of easy containment methods will also allow cat owners to overcome the lack of confidence in their ability to contain their cats (Ma and McLeod, 2023). Above all, effective community education campaigns should avoid the demonisation of cat owners, and the encouragement of stepping stones towards 24hr containment e.g. nighttime curfew (Ma and McLeod, 2023).

There is a need to improve terminology use for cat control to help avoid misunderstandings. Cats can be referred to as "semi-owned" or "community-owned". Sometimes groups of cats are often misidentified as "colonies", when the correct terminology is "clowders". Such imprecise terminology can reduce effectiveness of education and management. For this reason, cats should be split into "feral cats", are not owned by or cared for by people, and "pet cats", owned and cared for by humans (DCCEEW, 2023).

Community education programs and responsible pet ownership initiatives should centre on improved understanding of hunting behaviours of pet cats and the toll on native wildlife species, cat wellbeing in containment, and provision of information on methods to contain cats.

Recommendation 7: *For pet cats, there needs to be increased and targeted education programs, focused on improved understanding of their impacts on native wildlife and options for containment, with welfare benefits.*

Recommendation 8: *Cats should be referred to as either feral cats or pet cats.*

(e) implications for local councils in implementing and enforcing cat containment policies

The enforcement of cat containment and curfews places a burden on local councils (Legge et al., 2020). Policing of partial curfews is harder than for 24hr curfews, but both require significant investment in monitoring of non-compliance. In some councils that have legislated cat containment policies, there has been no reduction in roaming cats, probably due to lack of good monitoring and enforcement (Legge et al., 2020). Local councils in Australia spend less than $20,000 annually to manage feral cats (NESP Threatened Species Recovery Hub, 2021). There is a need for more investment in effective cat containment

policies, with monitoring, penalisation of non-compliance and impounding of free roaming cats (Legge et al., 2020). More resources would be available if cat registration fees ($68-standard) were the same as dog (*Canis familiaris)* registration ($78-standard) and fees for eligible pensioners were not discounted ($34) (NSW Office of Local Government, 2024).

Recommendation 9: *The NSW Government can improve legislation and regulations, promoting enforcement of cat containment policies with rewards for communities and councils with good compliance and reduced impacts of feral cat predation on native wildlife.*

Recommendation 10: *Cat registration fees should match dog registration, with no discounting of fees for eligible pensioners, allowing funds to be used to manage feral cats in council areas.*

(f) the effectiveness and benefits to implementing large scale cat desexing programs

The desexing of pet cats does not reduce their ability to hunt or decrease their range (Hall et al., 2016b), but it does decrease unwanted litters and uncontrolled breeding (Legge et al., 2020). In feral cats, trap-neuter-release is an ineffective and unethical solution for control of populations because cats do not defend food or mates (Read et al., 2020), but desexing is important for limiting unwanted pregnancies in pet cats. Over 90% of Australian pet cats are desexed (Hall et al., 2016a), but early age desexing (<3 months) is less common, and is vital to prevent early pregnancy (Welsh, 2018). Australian vets have often preferred later desexing due to welfare concerns (Crawford and Calver, 2018), but there is increasing evidence that early desexing is safe, and there is a shift towards early stage desexing in Australia (Mazeau et al., 2021).

Recommendation 11: *Regulations and programs should be implemented to ensure desexing of male and female pet cats, unless part of a registered and controlled breeding program.*

Recommendation 12: *Trap-neuter release methods should not be supported or encouraged by councils and governments as they are ineffective for feral cats.*

(g) the impact of potential cat containment measures on the pound system

Cat containment measures will place more pressure on the pound system, particularly in the first few years of the containment. In Yarra Ranges council, a cat containment ban was implemented in 2014. In 2012/13, impoundments were 440 and increased to 738 in 2016/17. However, in 2018, the number of impounded cats decreased to 457, and further decreased in 2021 to 320 (Yarra Ranges Council, 2022, 2018). Also, the number of cats returned to owners, as a percentage of total impounded cats, increased in every year reported (Yarra Ranges Council, 2022, 2018). There are likely short term increases in numbers of impoundments, following cat containment legislation (RSPCA, 2023), requiring resourcing for councils.

Recommendation 13: Understanding of *short-term costs of containment for pounds, followed by potentially reduced costs need to be communicated, with short term resourcing provided by changes to cat registration fees.*

(h) the outcomes of similar policies on cat containment in other Australian states or territories

There are inconsistent cat containment policies across other states and territories, with few data on effectiveness. Only three Australian states or territories have cat containment legislation: the Australian Capital Territory (ACT), Victoria, and Tasmania (RSPCA, 2018). In the ACT, the Minister declares cat containment areas (currently 17 suburbs), whereas in Tasmania and Victoria, the onus is on local councils to declare cat containment areas. The RSPCA has recorded no wildlife injured by cats in 24hr cat containment areas in the ACT, albeit anecdotal (RSPCA, 2018). Other councils around Australia have been unable to demonstrate a reduction in free roaming cats, but based on questionable or minimal data (RSPCA, 2018). In the Yarra Ranges Council, a reduction in cat nuisance complaints occurred, following cat containment (Yarra Ranges Council, 2022, 2018). In 2012/13 (before containment), there were 237; in 2016/17, there were 576 but; in 2018, numbers dropped to 395, and then further in 2021 to 216, even as registered cats increased from 5,172 in 2012/13 to 8,483 in 2021 (Yarra Ranges Council, 2022, 2018).

Recommendation 14: *Establish effective cat containment legislation, policy and programs in NSW, deployed at the local level to decrease the impact of cats on native wildlife*.

(i) options for reducing the feral cat population

Felixer Grooming Traps

Felixers grooming traps (Moseby et al., 2020; Read et al., 2019) have been used by Wild Deserts in Sturt National Park since 2021, representing the first NSW trial site. This work has generated significant data on target accuracy, non-target impacts, the fate of cats following interaction with Felixers and information on the cost and efficacy of these devices. Our Wild Deserts Partnership uses these to control cats in buffer areas outside, termed the Wild Training Zone (Kingsford et al., 2021).

Felixers successfully suppressed cat populations over 10,400 ha landscape-scale area, over a 17-month subset of the 30-month trial, when cats were breeding following above-average rainfall and high prey availability (Pedler et al., in press). Felixers also resolved the incursion of a single cat into a 2,000 ha safe haven. Felixers had 99.93% target specificity from 17,425 interactions with moving animals and objects. 20.3-43.9% of cats that passed Felixers were fired at, with the remainder failing to satisfy the discriminatory algorithm's target criteria (Pedler et al., in press). Optimisation of Felixer placement and upgrading of software continues to be improved.

Baiting

Cats generally prefer to take live prey than to scavenge meat baits. However, during food shortages, cat-specific baits are an important tool to complement other cat control methods at arid locations in WA and SA. There are a range of cat-specific baits developed, trialled and adopted for use in other Australian states (Table 1). Currently, there are no cat baits approved for use in New South Wales, despite significant trials and research from other states in similar habitats. It is important that this rigorous research is used to improve regulation and use of baits in NSW. It can reduce the need for additional, repetitive trials in NSW, expediting approval processes for the use of cat-specific baits in NSW for the protection of native threatened species.

Table 1. Summary of commercial 1080 and PAPP baits for cats, foxes and wild dogs and their status in New South Wales. PCO = Pesticide Control Order.

Bait	**Meat condition**	**Meat type**	**Meat size**	**Toxin**	**Toxin dose**	**Toxin delivery**	**Approval status in NSW**
Eradicat	Semi-dried meat sausage	Kangaroo and chicken	20 g	1080	4.5 mg	Injection	No PCO or other necessary approvals in place.
Hisstory	Semi-dried meat sausage	Kangaroo and chicken	20 g	1080	4.5 mg	Hard-shelled delivery vehicle (HSDV)	No PCO or other necessary approvals in place.
Curiosity	Semi-dried meat sausage	Kangaroo and chicken	20 g	PAPP	78 mg	Hard-shelled delivery vehicle (HSDV)	Approved PCO, but ban on use on NSW National Parks estate due to perceived risk to non-targets
FOXOFF	Dried	Cooked liver	35 g/ 60 g	1080	3 mg	Pre-poisoned	Approved PCO. Regularly used in NPWS estate
DOGGONE	Dried	Kangaroo	60 g	1080	6 mg	Pre-poisoned	Approved PCO. Regularly used in NPWS estate
Fresh red meat	Fresh	Kangaroo (or other)	250 g	1080	6 mg	Injection	Approved PCO. Regularly used in NPWS estate, incl Sturt National Park

At the Wild Deserts Partnership Project site in Sturt National Park, previous documented instances of cats taking 1080 meat baits laid for wild dogs (*Canis familiaris*) and foxes (*Vulpes vulpes*) have occurred, during food shortages in cold weather, when reptiles are inactive. Meat baits deployed at other times have been inspected by cats but not consumed

(Rudder *et al.* unpubl. data). At other arid zone sites, such instances have also occurred during declines in rabbit (*Oryctolagus cuniculus*) populations or absence of juvenile rabbits (Moseby et al., 2011a; Moseby and Hill, 2011).

At Arid Recovery SA, trials of Eradicat Baits were most effective in suppressing cats during prey shortages, such as times of low rabbit and reptile abundance (Moseby et al., 2011a, 2009; Moseby and Hill, 2011). On the Peron Peninsula in arid Western Australia, bait uptake by cats (bait types included 20 g kangaroo and chicken sausages, 20 g chicken sausages or day-old chicks) was variable in the short term, but highest during late summer/early autumn. Other factors significantly influencing bait uptake included minimum temperature (uptake more likely in colder temperatures) and abundance of rabbits (Algar et al., 2007).

A range of trials for Curiosity and other cat baits across arid and semi-arid (Roxby Downs, Flinders Ranges SA), tropical (Christmas Island), temperate (French Island and Wilsons Promontory Vic) demonstrate that bait uptake by cats is highest when alternative live prey resources are scarce (Johnston, 2012a, 2012b; Johnston et al., 2014, 2007; Johnston and Johnston, 2010).

Cat specific baits have proved fundamentally important for successful threatened mammal translocations beyond fences. This includes the Ikara-Flinders Ranges, South Australia, within the western quoll reintroduction area (Moseby et al., 2021), where repeated rounds of aerial baiting with Eradicat enabled the establishment of translocated western quolls and brush-tailed possums (*Trichosurus vulpecula*). Importantly, western quolls took some Eradicat baits but were not killed, documented by radiotracking (Moseby et al., 2021), confirming the safe use of these baits in the presence of this species. In the Matuwa feral free safe haven, near Wiluna Western Australia, aerial Eradicat baiting surrounding the feral free safe haven has allowed persistence of golden bandicoots beyond the fenced exclosure (Blythman et al., 2020).

Baiting should target food shortages triggered by the absence of reptiles during dry cold weather, ideally with baits on hand for adaptive distribution at approved bait stations. This should ideally be ahead of cold snaps during May-August, annually or other times when young cats are dispersing or cats are observed to be hungry (e.g. observed scavenging).

Opportunities potentially exist to trial cat-specific baits, their impact on cat populations and non-targets in the local area to help inform approvals for cat-specific bait usage in key areas.

NSW currently lags some other states in its use and roll out of effective baiting programs, using toxic baits such as Eradicat and Papp. There is a need to acknowledge the considerable scientific research already completed on these baits and use this to progress field trials using poison baits within NSW, rather than starting basic trials again.

Population protecting implants

Recent trials have used poison 1080 implants in prey species to target feral cats that kill native threatened prey species (Read et al., 2016). These implants are being developed due to research that has shown that large male cats over 4kg disproportionately kill threatened mammals over 1kg during reintroduction programs (Moseby et al., 2015). These "catastrophic cats" are often difficult to control using trapping and baiting, leading to the development of Felixer grooming traps and population protecting implants. These implants are inert under the skin of prey but break down to release the poison when ingested by feral cats. These implants are best suited to native species, with high tolerance to 1080 and can reduce the impacts of feral cats on populations of reintroduced and other native species.

Recommendation 14: *Approve and expand usage of Felixer grooming traps for control of feral cats based on extensive testing in NSW and other states.*

Recommendation 15: *Baiting of feral cats should be adaptive, in response to food shortages at approved baiting stations*.

Recommendation 16: *Cat-specific baiting trials conducted in other states should reduce the need for repetitive NSW trials and accelerate approval processes for baiting of feral cats in NSW.*

Recommendation 17: *Support trials of population protecting implants in prey native species with high tolerance to 1080 and during reintroduction programs.*

(j) any other related matters

Effective testing of costs and outcomes of different cat control programs

There is a need to develop and trial innovative methods for cat control and to test the relative efficacy (cost and effectiveness) of different control outcomes, not only for controlling feral cats but also producing conservation outcomes. This needs to be supported by objective scientific evidence on both measures. New methods such as population protecting implants and gene drive technology need to be funded and trialled rather than relying on existing methods to control cats (which are often ineffective). Cats remain one of the key threats to our native wildlife species but investment into new control methods is low.

Recommendation 18: *Invest in the development of new and innovative feral cat control methods and more rigorous assessment of the short and long-term effectiveness and costs of feral cat and other invasive species control programs.*

Non-toxic bait trials

Reliance on simple non-toxic bait trials to inform policy and management of baiting of feral cats is not effective. The Western Australian Department for Parks and Wildlife implemented a significant non-toxic trial with rhodamine dye, finding that radio-tracked western quolls, red-tailed phascogales (*Phascogale calura*) and yellow-footed antechinus (*Antechinus flavipes*) ingested rhodamine, but then were not killed during subsequent toxic trials (Western Australia Department of Parks and Wildlife, 2014). At the Ikara-Flinders Ranges National Park (SA) western quoll release site, there was high update of non-toxic replica Eradicat baits by western quolls, but no recorded deaths of radio-tracked quolls following toxic baiting with Eradicat over three years of baiting (Moseby et al., 2021). On Kangaroo Island SA, non-toxic Eradicat trials found nearly 100% uptake by brush-tailed possums. However brush-tailed possums translocated from Kangaroo Island to Ikara Flinders Ranges are also thriving now, despite (or because of) regular Eradicat baiting at their release site (Moseby et al., 2021).

In New South Wales, 1080 baits broadcast from aircraft for wild dogs and foxes had no observable impact on radio-tracked spotted-tailed quolls (*Dasyurus maculatus*), despite a third of the sample group of quolls testing positive for Rhodamine B, the biomarker included in the toxic baits (Claridge and Mills, 2007). Moreover, a separate study found that spotted-tail quoll numbers increased after fox baiting (Körtner et al., 2003), potentially indicating that despite the theoretical susceptibility of quolls to the 1080 baits, there was a population-level benefit from the suppression of predators from baiting.

Recommendation 19: *Decisions on use of toxic baits for feral cats should not rely simply on results of non-toxic trials which are misleading and lead to perverse outcomes for conservation of native wildlife.*

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