INQUIRY INTO MANAGEMENT OF CAT POPULATIONS IN NEW SOUTH WALES

Organisation: Australian Veterinary Association

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Inquiry into the management of cat populations in NSW

Submission of the Australian Veterinary Association Ltd

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The Australian Veterinary Association

The Australian Veterinary Association (AVA) is the peak professional body representing the veterinary profession in Australia. Our members are involved in all aspects of the veterinary sector and the AVA plays a crucial role in representing their interests. Our members come from all fields of the veterinary profession. Clinical practitioners work with companion animals, horses, livestock, and wildlife; government veterinarians work with our animal health, public health, and quarantine systems; and veterinarians in research, industry, academia, teaching and veterinary students are also active members of the Association.

Executive Summary

The AVA commends public consultation on this important issue and thanks the NSW Legislative Council's Animal Welfare Committee for the opportunity to comment.

AVA policies, positions and member expertise has been drawn upon to provide the following responses to the Inquiry.

As outlined in the <u>AVA Statement of principles - Animal Welfare and Ethics</u>, the welfare of individual cats and wildlife is of prime concern when considering cat management strategies. The AVA has developed a policy <u>Management of cats in Australia</u>, which was last revised in 2022 – see Appendix 1 for policy statements.

The inclusion of veterinary knowledge and subject matter expertise is imperative for matters relating to the welfare and management of all cat populations, be they owned, semi-owned, unowned or feral. This also applies to conservation programs where interventions affect wild animals. This is true at both the policy development level and for veterinary care.

There are a large number of stakeholders who can provide meaningful input and action in addressing the issues around cat management. However, the expertise to act does not necessarily correlate to the financial capacity to act. While veterinarians have the expertise to be significant contributors, the majority are working in private veterinary businesses, which may limit their capacity to assist with cat management work if it falls outside their normal scope of work.

Veterinarians have a legal duty to provide animal welfare services to all types of cats presented to them, including unowned, semi-owned and feral cats. The AVA advocates that other stakeholders, particularly government, also share a legal responsibility to manage and fund unowned and feral cat veterinary services provision, rather than leaving this in the majority, or often solely, to private veterinary practices.

Government support, at all levels, is critical for the sustainability of the veterinary profession to enable it to continue providing public good through services in the cat management space such as: subsidised desexing procedures, caring for injured and healthy unowned and semi-owned cats, and educating cat owners and the general public.

The AVA provided a series of recommendations in its submissions to the <u>2020 Inquiry into the</u> <u>problem of feral and domestic cats in Australia</u> and to the <u>Draft updated threat abatement plan for</u> <u>predation by feral cats (2023)</u>

Recommendations from these earlier submissions, along with those made in response to this consultation, focus on promoting responsible cat ownership, protecting wildlife and the natural environment, supporting research and data collection, and implementing evidence-based, effective, and humane management strategies for cats.



Cat population definitions

Unless otherwise stated, it is assumed that where the word 'cat' appears in the Inquiry terms of reference, this is taken to mean *domestic* cat, where this means a cat who belongs to one of 3 cat populations that have some reliance on or interaction with humans: i.e. owned, semi-owned, and unowned cats. Where the term 'feral cat' is used, this is to mean a cat who has no relationship with or dependence on humans, and lives and reproduces in the wild.

This highlights a very important and fundamental concept relating to cat management, and that is the issue of how the different populations of cats are defined. The AVA supports efforts to achieve a universal understanding of the terms used to define the various categories of cats, as this is critical to understanding key influencing factors and in developing appropriate strategies to achieve effective and humane management programs.

<u>Recommendation</u>: That key stakeholders are appropriately consulted regarding establishing definitions for cats including the AVA, the RSPCA, cat welfare/rescue groups, researchers and local government.

<u>Recommendation</u>: That a holistic definition of cats be adopted which is based on how and where they live and aligns with the following:

 Domestic (Cats who obtain food and/or support from humans intentionally or unintentionally and live around humans in urban and peri-urban areas and infrastructures near humans in non-urban areas e.g. farms, mining sites).

Three subcategories of domestic cats are recognised:

- o Owned
- o Semi-owned
- Unowned
- **Feral** (Cats who have no relationship with or dependence on humans, and live and reproduce in the wild)

We refer you to the <u>AVA policy on Management of Cats in Australia</u> and the RSPCA's document <u>Identifying Best Practice Domestic Cat Management in Australia</u> for further detail on the cat categories.

<u>Terms of Reference – summary of AVA responses:</u>

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

Domestic and feral cats present a significant risk to wildlife generally including native and threatened species in sensitive areas. Effective management programs require specific, location-based data to assess and mitigate the impact of predation on vulnerable native species.

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

Cat containment, including outdoor enclosures, protects wildlife, reduces zoonotic disease risks, and lowers nuisance complaints, allowing cats to live safer, healthier lives. While containment offers community and environmental benefits, any 24/7 containment policy should be evidence-based and include public education on meeting cats' behavioural and welfare needs. Monitoring and transparent reporting are essential to assess both benefits and



potential negative impacts, such as difficulties in managing unowned cats, equity issues for renters and lower-income families, and conflicts with Indigenous cultural practices regarding semi-owned cats.

(c) welfare outcomes for cats under contained conditions

While containment can protect cats from hazards, their welfare depends on an enriched, escape-proof environment that allows them to perform natural behaviours. Poor containment conditions may lead to stress, physical, medical and behavioural issues, underscoring the need for public education on cat welfare.

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

Community education plays a critical role in fostering responsible cat ownership. Targeted education programs that promote identification, desexing, containment, and enrichment are essential, with additional research needed to evaluate and improve program effectiveness

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

Mandatory cat containment may increase councils' workload due to the need for additional resources for trapping, identification, and rehoming. Effective cat management requires collaboration, funding, and community acceptance to avoid unintended negative impacts.

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

Programs promoting accessible or subsidised desexing have shown promising results in reducing unowned cat populations and public nuisance. However, sustainable funding and support for these programs and the services provided by private veterinary practices are essential for expanding desexing initiatives.

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

Containment policies could lead to increased surrenders and abandonments by owners who do not support or cannot afford the containment infrastructure, straining pound resources. Councils may face added costs for holding, assessing, and rehoming cats, highlighting the need for integrated management strategies to prevent a surge in healthy cat euthanasia.

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

Experiences in other jurisdictions show limited data on the success of mandatory containment. Collaborative efforts to develop consistent metrics across states would improve the ability to assess and compare outcomes.

(i) options for reducing the feral cat population

Reducing feral cat numbers requires humane, targeted interventions, including evidence-based lethal and non-lethal methods. Toxic baits should only be a last resort, with ongoing monitoring and research into alternative solutions such as sterilization and environmental management. 1080 should be phased out and replaced with the humane PAPP alternative wherever possible.



(j) any other related matters:

Classification of cat populations

The AVA underscores the importance of a nationally consistent framework for cat management that addresses ownership responsibilities, public health concerns, and environmental impacts.

Additionally, the AVA recommends clear definitions and management distinctions between owned, semi-owned, unowned, and feral cats to avoid misclassification and to promote humane, community-accepted management strategies.

Collection of cats from veterinary practices

The 2023 NSW Inquiry into veterinary workforce shortages recommended amending the Companion Animals Act to require local governments to collect stray animals from veterinary practices. The AVA strongly supports this, expecting timely collection of all cats presented without identified owners, including stray, unowned, and feral cats.

National Domestic Cat Working Group

The National Domestic Cat Working Group, initiated by the Office of the Threatened Species Commissioner, is an essential platform for addressing domestic cat management, distinct from feral cat issues. Currently inactive, the group's reactivation would enable it to guide councils in evidence-based practices through a potential national action plan. This plan would incorporate resources like the AVA's *Management of Cats in Australia* policy and the RSPCA's *Identifying Best Practice Domestic Cat Management in Australia*.

Cat-Free Suburbs

The AVA advises caution on council-imposed cat-free suburbs, as such restrictions are not strongly supported by evidence in enhancing biodiversity. Research highlights that habitat quality has a greater impact on wildlife than the exclusion of cats, while data show that dog attacks often pose a more significant threat to wildlife. A more balanced approach would involve supporting cat containment efforts and using containment strategies in new developments near sensitive habitat areas.



Discussion - Terms of Reference

We have addressed the Inquiry Terms of Reference under the headings below.

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

It is recognised that domestic cats may pose a risk to vulnerable native species in some locations. However, it is essential that there isn't an overreliance on predation estimates. Legge et al (2020) provides some useful insights of the estimation of the predation toll of pet cats. However, the authors acknowledge many limitations of this work including:

"Although the Australian studies differ in methods, duration and sample size, and have not sampled exhaustively across Australian urban, peri-urban and rural environments, collectively, they represent a substantial research effort and include sampling from many locations."

"Detrimental impacts to wildlife populations from pet cat predation have also been reported from Australia, but the evidence is patchier."

"The examples of wildlife population declines as a result of pet cat predation are highly suggestive, although these studies are few (especially so from Australia)."

Despite these limitations, the paper highlights the importance of obtaining data from specific locations and sites. Several studies have helped to shape local action plans to mitigate negative predation impacts on wildlife, although the confidence in the relative contributions of pet versus feral cats was questioned.

These studies also highlight the importance for funding to conduct field studies to quantify the impact of predation by free-roaming domestic cats on wildlife populations rather than estimates of predation, which may have no association with actual wildlife populations. This could be included in a national domestic cat action plan. Ideally rather than focusing on national estimates, it is useful to obtain more definitive data which can be utilised in a more strategic approach. For example, in areas of high conservation value. This type of data can also be used to underpin any decisions relating to declaring cat-free zones. Citizen science backed up with camera trap data could be used to develop detailed maps across urban areas of Australia to guide strategic protection of species of conservation concern.

<u>Recommendation</u>: Allocate funding to undertake comprehensive field studies to quantify impact on wildlife populations of owned, semi-owned and unowned domestic cats in specific locations.

There is no denying that roaming cats pose a serious threat to wildlife in ecologically sensitive areas. However, the challenge is ensuring that any management activities are planned strategically to ensure that programs are cost-effective, ethical and humane. This requires baseline data on key metrics including accurate population densities of cats as well as vulnerable native species and evidence of predation rates. This information is vital to evaluate the effectiveness of management programs and to assist in adaptive management to achieve key objectives.

A recent study by Kennedy et al 2024, highlights the need for baseline data for determining temporal and spatial movements of cats and vulnerable native species in highly valued conservation areas. The authors found that identifying sub-populations of cats entering areas of interest is critical to designing effective interventions, given that many of the cats seen on cameras wore a collar with some individuals considered high-risk; effective management approaches for owned cats are different to approaches for unowned or feral cats. This study also highlighted the importance of considering implications of regulatory approaches to help maximise achieving goals but also minimising unintended negative consequences.



<u>Recommendation</u>: Ensure that cat management programs are underpinned by sound evidence to enable justification and inform the most appropriate approach, and that appropriate objectives and key metrics are set which can be evaluated to assess effectiveness.

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

Cat containment retains cats on their owners' properties, including the use of appropriately constructed outdoor enclosures, which helps to protect local wildlife from predation, reduces risks to the community and agriculture from zoonotic disease (Lappin et al 2019) and over time is likely to reduce complaints to local government about nuisance from cats.

Managed in this way, owned cats may provide many social benefits and pose limited risk to the community and the environment. Keeping cats contained decreases their risk of injury and certain diseases so they can live safe, healthy and longer lives.

The AVA supports the containment of cats if an appropriate environment can be provided with enrichment that meets the cats' physical and mental needs, allows expression of natural behaviours, promotes good health and welfare and minimises stress. This should include controlled outdoor access where possible. The way cats are contained must be evidence-based, prioritise animal welfare and minimise negative impacts, and have clear, measurable, and outcome-based objectives which are reported transparently.

There is evidence that many cat owners already contain their cats. A Queensland study of intentional and actual cat containment behaviour of kitten and cat adopters found that at the time of adoption, 64 participants (89%) indicated they were intending to keep their cat fully contained (McLeod et al 2020). Eight weeks after adoption, 63 participants (87%) reported they were doing so (59 who had stated their intention at the time of adoption, and 4 who had not). A more recent Queensland study found that 51% of cat owners contained their cat 24/7 whilst a further 18% contained their cat at night (Rand et al 2024a).

There is no published evidence that cat containment policies (including those mandating cat containment) are effective at increasing uptake of containment or reducing the number of cats roaming. The AVA is concerned by this lack of evidence on the outcomes associated with 24/7 mandatory companion cat containment and that it may be associated with complex potential negative consequences.

Support for the introduction of mandatory 24/7 cat containment would need to be based on evidence that it can achieve the stated objectives for cats, wildlife, and the broader community, and that the potential negative consequences can be eliminated or effectively mitigated. In addition, in jurisdictions where mandatory 24/7 cat containment is introduced, it is vital that there is effective education of the public on how to meet their cats' physical and mental needs under these circumstances; Excellent resources can be found at RSPCA Home-Safe and Happy Cats.

There must also be monitoring and transparent reporting to provide evidence of outcomes (positive and negative); this will be essential to inform a better understanding of potential negative consequences, and strategies to eliminate or effectively mitigate these.

It should also be noted that mandatory containment will create barriers to being able to effectively manage unowned cats, due to the inability of cat semi-owners who adopt but are unable to transition their cat successfully into an indoor environment, especially as most unowned cats will not cope with being contained; or many semi-owners already have cats indoors and so bringing another inside would disrupt existing household cats. For those wishing to provide a home to an unowned cat, mandatory containment is another barrier in addition to other requirements for permanent identification, desexing and registration. Cat overpopulation, especially populations of unowned cats, contribute to many Australian cat owners "passively acquiring" their cats. Around half the owned cats in Australia



were passively acquired by people who had not planned to become cat owners, often through adopting a "stray" (AMA, 2022, Ma et al, 2023). As such, attempts to influence the containment behaviours of cat owners should first address the underlying problem of cat overpopulation.

Another important barrier is that mandatory containment can lead to equity issues, particularly in relation to those who rent, where they may not be able to retain their cat indoors. This could prevent lower socioeconomic families from adopting or retaining a family cat.

Mandatory cat containment could negatively impact Indigenous communities by conflicting with cultural practices that regard cats as semi-owned, potentially disrupting traditional relationships with animals and creating barriers to cultural expression.

The barriers and potential negative consequences associated with mandatory cat containment could hamper effective cat management rather than enhance it and, therefore, make it less likely to achieve the stated objectives for cats, wildlife, and the broader community. So, it is important that policies on cat containment are carefully approached to minimise any unintended consequences.

<u>Recommendation</u>: Any cat containment policies should be accompanied by funded programs to actively and humanely manage unowned cats.

<u>Recommendation</u>: appropriate resources should be allocated to include consideration of the financial costs that would be incurred by cat owners, especially those who may be of limited means, to provide physical containment structures, appropriate environmental enrichment, and professional advice on cat behaviour adaptation and management when contained. Reasonable time should be provided to allow owners to adopt and afford any new requirements such as additional structures for their homes, to ensure that cat owners are able to comply.

<u>Recommendation</u>: Funding should be provided for research to assess whether 24/7 cat containment can achieve the stated objectives for cats, wildlife, and the broader community, with minimal unintended negative consequences.

<u>Recommendation</u>: Support initiatives should be implemented to help educate cat owners on how to provide for their cat(s)' physical and mental needs when contained.

(c) welfare outcomes for cats under contained conditions

Cats who are contained must have their physical and mental needs met to safeguard their welfare as well as striking the right balance between cat welfare, safety, and longevity, while also safeguarding the welfare and survival of wildlife and reducing community impacts from roaming cats. To help meet their needs and safeguard their welfare, contained cats should ideally have access to a safe escape-proof contained outdoor environment which includes a range of enrichment resources.

There are also complex potential cat welfare risks with permanent containment, especially if the containment environment does not meet the cat's physical and mental needs. For example, there may be insufficient or inappropriate resources (e.g. number and location of litter trays, drinking and food bowls and sleep/rest areas) and enrichment (e.g. opportunity to express natural behaviours such as scratching, play, stalking and exploration; visual and sensory stimulation etc). Medical conditions which have been reported in association with cat containment include those associated with lack of exercise such as obesity and immobility, and lower urinary tract disease (Zoran and Buffington 2011) and diabetes (Slingerland et al, 2009). Behavioural problems are also recognised with some research indicating that this could be related to several factors including insufficient mental stimulation, increased stress as well as inadequate physical activity (Bain & Stelow, 2014). Sandoe et al 2017 found that compared to free-roaming cats, indoor/garden cats were more likely to be bored and show more problem behaviours including house soiling and damage to furniture. A study by Gazzono et al 2015 found that with appropriate education these behavioural problems could be reduced. These



risks when containing cats are of serious concern as not only do they compromise welfare and have negative impacts on longevity, but could also subsequently diminish the human-cat relationship which may lead to cats being surrendered or abandoned.

It is important to note that some cats may not be compatible with a contained lifestyle and if mandatory 24/7 containment is introduced there will be no acceptable options for these cats. Individual cats who are not suitable for containment but who are otherwise healthy and behaviourally sound will either be forced into a life which is detrimental to their welfare (and which may end poorly for both cat and people involved) or they will have to be euthanased (rather than rehoming them or transitioning them to a contained environment).

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

Cat ownership can be an integral part of the human - animal relationship and can play an important and positive role in health and wellbeing. Benefits can include companionship, health and social improvements and assistance for people with special needs. Ideally, the physical, social and welfare requirements of the cat are considered before they are acquired, not just the needs and wants of the owners. This commitment and duty of care remains throughout the life of the animal. However, around half of all the owned cats in Australia are passively acquired by people who had not planned on becoming cat owners (AMA 2022). In most of these instances this is because there was no other option for the cat other than euthanasia - many NSW councils will not accept surrendered cats, those that will can have very high euthanasia rates (OLG, 2024), and animal welfare organisations are chronically over capacity. Considering physical, social and welfare requirements of cats before acquisition is only a reasonable expectation for people who are actively acquiring a cat. Those passively acquiring cats often face substantial barriers to successfully undertaking "responsible" ownership behaviours such as containment and desexing. These barriers include financial limitations, living in unsuitable or insecure housing, renting, and owning multiple cats. Many passively acquired cats originate from unowned populations, or are the offspring of cats belonging to owners who cannot afford or otherwise have difficulty accessing desexing - this is a socioeconomic issue, and an issue of lack of access to services (Zito et al, 2016; Ma et al, 2023).

"Education" alone is not the answer, as it is often not a lack of knowledge but rather barriers that stand in the way of people undertaking responsible ownership behaviours. Therefore, community education programs must be accompanied by programs that address barriers to people undertaking responsible ownership behaviours and improve access to cat desexing services to reduce the number of cats who are passively acquired.

<u>Recommendation</u>: Community education programs should be accompanied by programs that improve access to cat desexing services to reduce the number of cats who are passively acquired, and encourage semi-owners to take ownership of the cat they are caring for.

<u>Recommendation</u>: Community education programs must be accompanied by programs that address the barriers to people undertaking responsible ownership behaviours.

By collaborating, veterinarians, cat owners, and community members can work together to minimise the impact of domestic cats, creating a safer and more harmonious environment for all.

One such example of this work is the <u>Threatened Species Recovery Hub</u>, which in collaboration with the Australian Veterinary Conservation Biology special interest group of the AVA, has developed a range of resources about the impact of cats in Australia to assist veterinarians in educating pet owners about responsible cat ownership.



<u>Recommendation</u>: Public awareness and education programs should be in place and regularly evaluated for effectiveness of messaging. These campaigns should include a budget that allows promotion of all aspects of responsible cat ownership, including;

- Identification,
- Registration (where applicable),
- Desexing (pre-pubertal*),
- Ways to reduce the impact of cats on wildlife,
- The benefits of cats being contained, and
- How to optimise a cat's environment (including behavioural interactions) to meet their needs whilst being contained.

The RSPCA also has very comprehensive education materials promoting responsible cat ownership and high standards of cat care through their <u>Knowledgebase</u> and <u>Safe and Happy Cats</u> The RSPCA also supports cat adopters through educational materials.

However, there is very limited research conducted on the effectiveness of educational programs. What is clear is that educational activities must be targeted to specific demographics in relation to different populations of domestic cats, i.e. owned, semi-owned and unowned. Although some research has been conducted in relation to owners and containment behaviour (McLeod 2015; McLeod et al 2019; McLeod et al 2020) which highlights the importance of examining drivers of behaviour, more needs to be done.

Recent research through RSCPA NSW project Keeping Cats Safe at Home demonstrates that a lack of psychological capability is the main barrier to most cat caregivers containing their cats (Ma et al. 2023). However, further as-yet unpublished research through this project shows that cat containment is increasingly a social norm and community expectation and as such cat caregivers who currently allow their cats to roam are highly sensitised to cat-containment messaging. Responses to these messages are emotional, defensive and driven by fear of negative consequences to themselves and their cats. These defensive responses are particularly seen from cat caregivers who acquired their cats passively (e.g. cat abandoned by a neighbour, inherited from a family member, found as a stray), or whose existing cats would struggle to adjust to containment.

<u>Recommendation</u>: Conduct research on design and impacts of educational programs on responsible cat ownership.

<u>Recommendation</u>: Evidence-based human behaviour change approaches are preferred over generic "education" programs and these should be accompanied by programs that reduce the number of cats who are passively acquired (i.e. targeted desexing programs).

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

Unfortunately, there is limited data on either the effectiveness or impacts of mandatory containment. Thus, laws are being introduced without, or with minimal, evidence-based information to assist with maximising success as well as ensuring that measures are implemented to minimise unintentional negative consequences. Any measures must be part of an overall cat management strategy as there are many aspects which need to be considered. Only focusing on some specific aspects will not achieve desired outcomes nor address key factors. Any strategic management plan must be holistic, effective, humane and ethical with good engagement with key stakeholders including veterinarians, social scientists, animal welfare groups, local government policy and operational staff as well as researchers.

^{*}Pre-pubertal desexing is at or before 16 weeks of age.



<u>Recommendation</u>: That cat management strategies include collection of relevant data to justify the need for intervention and to help assess effectiveness of these interventions.

In terms of mandatory containment, there will be an expectation that councils will take action to capture roaming cats which will require checking that captured cats are identified so they can be returned to their owner or if no identification then having them behaviourally assessed to determine their suitability for rehoming. In the past, there has been a tendency by some councils to kill cats who are not identified without considering the potential for rehoming. However, mass killing of cats (i.e. trap and kill programs) is unlikely to be effective and can be counterproductive especially where a number of cats remain (Lazenby et al 2015) as well as being extremely expensive. Social acceptance of these programs is also unlikely (Paterson, 2014; Walker et al. 2017). Some modelling has shown that very high proportions of cats would need to be removed to eliminate cat populations ranging from 50-80% over many years (McCarthy et al 2016). With trap and kill programs there is also the risk of unconfined owned cats and semi-owned cats being affected (Robertson, 2007).

Cat management is a local government responsibility. A recent Queensland study found that only 29% of respondents were satisfied with how their local government was managing cats (Rand et al 2024b). There was an expectation that priorities for local government cat management include preventing kittens from being born (94% of respondents) and stopping cats from preying on native animals (91%); reducing disease spread to pets (89%), wildlife (89%), and humans (87%); decreasing stray cat numbers (75%). Desexing was preferred to euthanasia (65% vs 35% respondents). Only 29% of respondents were satisfied with the current local council management of the problem. Information on the benefits of management by sterilization could further enhance community support.

However, there have been several studies recently which have added to our knowledge. In terms of cat containment, a New Zealand study found that making changes incrementally is very important and rather than mandating 24/7 containment, ensuring that cats are contained at night would be a positive step forward to help reduce predation as it was more likely to be adopted by cat owners (Linklater et al 2019). Further studies have demonstrated the importance of understanding values, beliefs and motivations of cat owners and cat semi-owners in order to develop and implement effective domestic cat management programs (McLeod et al, 2015; McLeod et al 2019; McLeod et al 2020).

It has also been suggested that a relatively easy and no cost strategy to help owners contain their cats at night is to provide their cats with a last "bed-time" meal indoors, so the cat comes inside and then the door is closed and the cat kept inside overnight. Nighttime containment may be effective in reducing cat impacts on nocturnal wildlife. (Rand et al, 2024c)

<u>Recommendation</u>: Where mandatory cat containment is being considered, relevant social science research should first be conducted and used to inform decision-making and develop evidence-based strategies.

Management of unowned and semi-owned cats

There must be justifiable reasons for humane control of semi-owned and unowned cat populations where it is demonstrated that they have significant adverse impacts on wildlife (including risk to endangered or highly vulnerable native fauna), negative impacts on neighbourhood amenities or health and risk to the cats' own safety, health and welfare.

Unowned cats



These cats live around where people live or frequent and obtain food inadvertently from humans, e.g. from a food bin, industrial areas, waterside locations or rubbish dump. It is essential that these cats are not labelled 'feral' as this will lead to many cats being killed.

<u>Recommendation</u>: Management options need to be investigated that align with a One Welfare philosophy and protect the environment while avoiding increasing the number of healthy and treatable cats and kittens killed by veterinary staff in shelters, pounds and veterinary clinics with council contracts.

Trap, neuter and return (TNR) has been proposed as an alternative to lethal cat control and involves trapping, desexing and then returning semi-owned or unowned cats to their original location. Caretakers typically provide food and shelter and monitor the cats. When foster or permanent homes are available, young kittens and friendly adults are removed and placed for adoption. Significant scientific discussion continues regarding the place of TNR programs in the management of cats (Crawford et al 2019; Wolf et al 2019) such that these programs cannot be supported as a generalised or key strategy in the management of cats.

Many caregivers of unowned cats (often referred to as "semi-owners") will take ownership responsibility for the cats they care for when able to access free desexing. However, many cat semi-owners are overwhelmed with more cats than they can effectively care for (often 20-100 cats), and often have their own pet cats in addition to caring for unowned cats (Ma et al, 2023). Likewise, because cats are prolific breeders (Nutter et al, 2004), cat owners who are not able to access desexing for their cats can quickly become overwhelmed with more cats than they can manage as a result of unplanned breeding. This makes accessible surrender options a critical component of effective cat management programs. However, many NSW councils will not accept surrendered cats from their communities, and/or will not respond to requests for assistance with unowned cats, often citing limitations of the *Companion Animals Act* or lack of resourcing as the reason.

<u>Recommendation</u>: The Companion Animals Act should be amended to clarify the role of councils in responding to unowned cats. Councils should be obligated to respond to requests for assistance with unowned cats.

Recommendation: Councils should provide accessible surrender and rehoming options for cats.

<u>Recommendation</u>: Councils should develop and implement domestic cat management strategies and action plans through effective engagement with key stakeholders including veterinarians, animal welfare groups, researchers, social scientists and ecologists.

Semi-owned cats

The intentional provision of food, medical treatment and shelter by humans for a cat that is not considered to be owned by the individual is defined as "semi-ownership" (Toukhsati et al, 2007). A survey of residents in rural and non-rural Victoria found that 22% of respondents engaged in activities consistent with cat semi-ownership behaviours and that strong feelings towards these cats were evident (Toukhsati et al 2007). A further study using an online questionnaire to examine interactions and caretaking behaviours concluded that encouraging semi-owners to have the cats they care for sterilised may assist in reducing the number of unwanted kittens and could be a valuable alternative to trying to prevent semi-ownership entirely (Zito et al 2015). Attachment is a vital consideration in relation to exploring management strategies for semi-owned cats. Neal & Wolf (2023) found that the strength of the bond by carers of semi-owned cats was similar to carers of owned cats. Two recent Australian studies revealed similar findings relating to the strong relationship of carers to free roaming cats. These studies recommended a care-centred approach based on One Welfare principles to support cat care givers to desex and where possible, adopt these cats (Scotney et al 2023; Crawford



et al 2023). A further study by Ma et al (2023) identified semi-owners of unowned 'stray' cats as a valuable potential target audience for human behaviour change interventions which requires a nuanced approach to achieve positive outcomes for people and animals. A recent Queensland study which examined cat caring behaviours of cat semi-owners found that 93% of 1094 respondents felt a sense of responsibility and emotional attachment with the cat they were providing care for and that the opportunity for free desexing was important for them to take ownership (Dutton-Regester & Rand, 2024).

For information pertaining to large desexing programs see section (f) the effectiveness and benefits to implementing large scale cat desexing programs.

Additionally, where trapping is conducted in urban areas, this must be done humanely and effectively.

<u>Recommendation</u>: Management of semi-owned and unowned cats must be given higher priority by local government. Effective strategies must be implemented using an evidence-based approach by targeting areas of high numbers of free-roaming cats/cat-related complaints and/or high cat admissions and impoundments to shelters and council. Legislation to allow councils to humanely manage semi-owned and unowned populations must be prioritised.

<u>Recommendation</u>: Further research is encouraged to evaluate the costs and benefits of community support programs to encourage desexing and adoption of semi-owned cats.

<u>Recommendation</u>: Where trapping is conducted in urban areas, this to only be done by authorised and trained personnel using appropriate traps to avoid negative welfare outcomes.

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

Recently, there has been considerable work conducted and published on large scale cat desexing programs in specific locations which have shown promising results. These have mainly focused on semi-owned cats.

In New South Wales, over the past four years, the RSPCA has been coordinating targeted cat desexing programs through project Keeping Cats Safe at Home which has involved collaboration with eleven councils in urban and rural areas (RSPCA NSW KCSAH 2023). These programs, funded by the NSW Government through its Environmental Trust, aim to reduce populations of unowned cats while increasing accessibility of desexing for owned cats to reduce the number of owned cats who are surrendered or abandoned. These programs incorporate a human behaviour-change element by requiring that all participating cats have a person designated as their owner; a person who will be responsible for their ongoing care and welfare. This person is often the cat's existing caregiver (or "semi-owner"); thus the program aims to convert cat semi-owners to owners while challenging the normalisation of feeding populations of unowned cats. This has achieved some outstanding improvements in key metrics including significant reductions in nuisance complaints (reduced by at least 50%), cat impoundments (reduced by 40%-66%), and cat euthanasia rates (reduced by 60-100%), and free-roaming cat population density (RSPCA NSW unpublished data). These programs offer desexing and microchipping free of charge for cat caregivers through local vet practices (who are paid for their services at market rates). However, these results were not achieved across all councils. Key success factors included working collaboratively with the community to build trust; the council assisting with capture and transport of cats to local vet clinics for subsidised desexing; community engagement through schools and social media.

Another program implemented by the City of Banyule in Victoria, where free cat sterilisation, microchipping and registration was offered to cat semi-owners who adopted their cat, has also achieved good results. (Cotterall et al 2024). Over eight years, cat intake decreased by 66%, euthanasia dropped by 82% and cat related calls decreased by 51%. Financial benefits also include a



cost savings to the council of over \$440,000 associated with reduced cat-related calls and services by contracted welfare agency whereas the outlay for desexing costs was \$78,000.

In the third year of a free cat desexing program in the City of Ipswich, Queensland, cat intake decreased by 60%, euthanasia by 85% reduction and cat-related calls to council by 39%. An average of 28 cats/1000 residents were desexed over 3.4 years in a targeted area with high cat impoundments, at an average cost of \$2/year per resident for the cat desexing surgeries (Rand et al, 2024c).

Consideration should be given to the impact on the sustainability of veterinary businesses when expectations, or requests, to further discount an already heavily subsidised procedure (surgical sterilisation) are made. Another factor impacting on veterinary business would be the increased demand/provision of these loss-making surgical procedures which places further pressure on veterinary business that is already under extreme load.

<u>Recommendation</u>: Evidence-based targeted cat desexing programs should be funded to reduce cat overpopulation. Veterinary practices (who are generally private businesses) should not be expected to subsidise these services.

Operation Wanted - RSPCA Qld

For June, July and August, this program, which has been operating for the past 10 years, offers discounted pet desexing through participating councils and vets (over 140 practices) across Queensland. Since 2014, it is estimated that 200,000 animals have been desexed through the program which offers a 20% discount on dog and cat desexing.

National Desexing Network

The Animal Welfare League Queensland has been coordinating a very successful program, the National Desexing Network, since 2004, under their Getting to Zero campaign, which aims to prevent unwanted dogs and cats from being killed. The program has three main components;

- A nationwide network of more than 160 participating veterinary clinics who have helped to desex around 250,000 cats and dogs.
- Promotion of a subsidised desexing during the month of July every year through collaboration between veterinarians, councils and animal welfare groups

<u>Recommendation</u>: Invest in affordable desexing options, especially for low-income earners, including targeted grants to assist vulnerable community members in desexing their cats.

<u>Recommendation</u>: Support innovative desexing trials and training programs, such as high-volume clinics and pre-pubertal desexing initiatives.



<u>Recommendation</u>: Explore place-based desexing services in regional communities with limited veterinary access. This could include fostering partnerships between stakeholders, including veterinary practices.

<u>Recommendation</u>: Government financial support is provided to private veterinary businesses for the provision of <u>public good</u> (e.g. sterilisation procedures at subsidised costs to the public) by the private veterinary sector.

Prepubertal desexing (PPD)

Prepubertal desexing (before 16 weeks of age) is particularly important in cats (which may be able to reproduce from four months of age) and strongly supported by the AVA as reflected in its policy, Surgical sterilisation of dogs and cats (ava.com.au).

At the veterinary practitioner's discretion, desexing of cats can be performed from as early as 8 weeks of age and at 1kg bodyweight. Current scientific evidence strongly supports desexing cats before puberty and finds that this does not increase the risk of short-term complications or long-term health effects (RSPCA 2021).

Whilst there is good evidence to support the use of prepubertal desexing, given the differing demographics of veterinarians (gender, veterinarian age and year of graduation, university of graduation, current employment in non-private practice, experience within practice and practice policy,) the proportion of the profession recommending PPD is relatively small (Orr & Jones, 2019).

<u>Recommendation</u>: Support, education and training of veterinary practitioners to desex kittens by 16 weeks of age.

<u>Recommendation</u>: Implement community programs to assist with rehoming of unowned and semiowned cats in collaboration with veterinarians, local government and animal welfare/rescue groups.

<u>Recommendation</u>: Further research is encouraged to evaluate the costs and benefits of community support programs to encourage desexing and adoption of semi-owned cats.

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

In terms of implications for councils who implement mandatory 24/7 containment, the following issues have been identified:

- Increased risk of currently roaming cats being surrendered or abandoned by owners due to their inability or resistance to containing their cat, thereby dramatically increasing number of cats being impounded.
- Increased workload of council animal management officers to collect straying cats.
- Increased requirement for appropriate size and type of facilities to allow for cats to settle down to facilitate accurate behaviour/socialisation assessment.
- Increased requirement for appropriately qualified personnel to undertake valid behavioural/socialisation assessments.
- Increased workload to rehome impounded cats appropriately.
- Reduced opportunities to rehome cats as not all are suited to a contained lifestyle and not all households are able to effectively contain cats resulting in a smaller pool of potential adopters.
- There is likely to be an increase in euthanasia of healthy cats which is likely to negatively impact the mental health of council workers and veterinary teams, and be unacceptable to the community. This could also lead to some councils refusing to accept surrendered cats which in turn is likely to increase abandonment and an increase in unowned cat populations.



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

There is very little reporting and publicly available data on the outcomes of mandatory 24/7 containment and direct measures of some outcomes can be difficult to obtain. However, it is imperative that clear measurable outcomes are established with benchmark data being collected prior to commencement of containment activities. It would also be useful for governments (state and local) to collaborate to achieve consistent objective measures to allow comparative assessment of cat management activities in different jurisdictions.

Several measures can be helpful including;

- Number of impounded cats
- Number of cats euthanased/humanely killed after being surrendered or impounded
- Number of public nuisance complaints about roaming cats
- Estimates of free roaming cat density (e.g., line transect distance sampling)
- Number of cats entering sensitive ecological areas
- Predation rates on wildlife*
- Monitoring of population numbers of specific wildlife of concern

Note: These parameters can also be used to assess effectiveness of voluntary containment supported by education and resources for cat owners.

<u>Recommendation</u>: That councils work collaboratively to develop and implement appropriate parameters to justify and demonstrate effectiveness of containment strategies.

(i) options for reducing the feral cat population

Feral cats live independently of humans and are currently estimated to be 2.07 million in number, though this fluctuates between 1.4 – 4.6 million according to seasonal factors (Legge et al 2017). It is estimated that feral cats consume 1553 million animals per year most of which are native (Murphy et al, 2019; Woinowski et al 2017; Woinowski et al 2018). They tend to be solitary or live in small family groups of 3–4 dominated by a matriarch. Their territory can be large and variable, depending on resources (Woinowski et al 2019). They are successful survivors in harsh circumstances and their numbers are in balance with the available food sources, which vary with seasonal changes and land management practices. Feral cat populations are established across the Australian mainland and on many islands (Legge et al, 2017). All cats in Australia belong to a single species (*Felis catus*), domestic and feral populations freely interbreed, and migration occurs between feral and domestic populations in both directions, especially on rural properties and the outskirts of rural townships. Even small rates of migration between populations will greatly reduce the efficacy of cat population management interventions (Miller et al, 2014). This necessitates that management of feral cats be coordinated with interventions to manage domestic cats within the same region.

Reducing feral cat numbers requires humane, targeted interventions, including evidence-based lethal and non-lethal methods, which have demonstrated efficacy for use.

There is growing awareness that the feral cat is causing damage to populations of small native mammals, reptiles and birds in many parts of Australia and can be a disease reservoir. It is now thought that cats have been the main cause of 27(57%) of the 47 extinctions of reptiles, birds and

^{*}This data can be difficult to obtain and correlate with containment unless it is mandatory and enforced and predation by unowned and semi-owned cats is assessed.



mammals that have occurred in Australia since European settlement (Woinowski et al 2019). They also contribute to ecological and biodiversity disturbance.

Existing methods do not successfully achieve widespread control of feral cats, therefore control measures should be targeted to protect threatened and at-risk species. Standard operating procedures and the relative humaneness matrix can assist in ensuring the most humane options using best practice are used (see https://www.pestsmart.org.au).

The use of exclosures has proven valuable and provides protection for vulnerable species while more permanent solutions are found. However, they are not practical on a large scale and can severely impact larger, free-moving animals, e.g. kangaroos. In addition, techniques of landscape management including fire regimes, rabbit, fox and dingo control, grazing management and use of guardian dogs to protect key threatened species are becoming increasingly recognized for the role they can play in modifying the habitat utilization of feral cats and, consequently, their impact on wildlife (McGregor et al 2021).

Control of cats may be extremely costly and result in only temporary predation relief for native animals and birds. Currently available technologies (trapping, shooting and poisoning) are unlikely to achieve eradication, can be inhumane, and, if of insufficient intensity, can lead to increased numbers of cats in the target area (Lazenby et al 2015). In fact, this can currently only be achieved within predator-proof enclosures and on islands.

<u>Recommendation</u>: Programs to reduce feral cat populations should be coordinated with corresponding programs for owned, semi-owned and unowned domestic cats in the same region to maximise the efficacy of both.

Lethal control methods

Lethal control methods must be justified, humane, and targeted to specific cat populations posing a risk to threatened wildlife, while minimising the risk to non-target species.

Thresholds for intervention should be established, and a theory of change should guide lethal methods to ensure desired outcomes are achievable.

Toxic baits - 1080 and PAPP

The continued reliance on 1080 for lethal feral cat control raises concerns in terms of relative humaneness as well as social acceptability. The basis for the development of a more humane toxin, paraminopropiophenone (PAPP), was to provide a more humane alternative to using 1080. Johnston et al (2020) reported that Curiosity® baits cause mild suffering for a relatively short duration in feral cats. After field assessments over several years across different jurisdictions and landscapes demonstrating efficacy, Curiosity® (contains PAPP in a hard-shell delivery vehicle) was registered in 2020. It is understood that the uptake of PAPP has been limited, particularly in Western Australia, where the Eradicat® 1080 bait is used widely, mainly due to the 'tolerance' of native species to 1080 associated with native plants containing sodium monofluoroacetate.

PAPP, which is considered to be more humane than 1080, may be toxic to larger species of lizards, although modelling behaviour and activity may assist in identifying low risk periods to deploy baits (Jessop et al 2013). Despite Heiniger et al (2018) showing that quolls and bandicoots in the Northern Territory consumed the meat bait but not the HSDV, and therefore did not ingest any toxin, caution is advisable regarding use of Curiosity baits in areas where quolls are known to inhabit.



It is understood that trials will commence to assess the use of PAPP in the Felixer grooming traps – this is strongly supported.

<u>Recommendation</u>: Toxic baits should be used only as a last resort when humane, non-lethal options are unavailable, and any lethal control program must be backed by evidence-based research, with ongoing monitoring to assess impacts on cat populations and measure progress toward program objectives.

<u>Recommendation</u>: That the use of 1080 toxin is phased out and PAPP is used as a more humane alternative.

<u>Recommendation</u>: To complete evaluation of using PAPP as an alternative to 1080 in Felixer grooming traps.

<u>Recommendation</u>: Conduct research to develop more humane toxins that are practical and effective to use.

Trapping

Cage trapping is a commonly used method with more calls to use leghold traps. Although trapping any wild animal will cause negative mental impacts such as fear, stress and anxiety, there has been limited research on behavioural responses of animals caught by leghold traps. Swelling of the limb at the site of restriction caused by the jaws of the trap have been noted in studies (Marks, 2008; McGregor et al 2016) but there appears to be no reports regarding the nature and degree of mental suffering associated with these traps. It is acknowledged that with the use of new technology providing alerts that a trap has been triggered which will allow an inspection to be done quickly (especially where intensive trapping is done and so traps could be checked within a few hours of being triggered), thus potentially reducing negative animal welfare impacts (Meek et al, 2021). However, these tools may not be broadly available in the near future and so it is important that comprehensive animal welfare assessments are done on leghold traps.

<u>Recommendation</u>: Evaluations are done to determine the nature and magnitude of and opportunities to mitigate negative welfare impacts, including mental impacts of leghold traps on feral cats and non-target species.

Shooting If undertaken by a competent operator, a single fatal head shot is deemed to be the most relatively humane method for reducing feral cat numbers. It is essential that government funded programs ensure that only skilled and competent shooters are used for ground shooting feral cats as part of a formal control program. In the past, the use of sports shooters for some control activities has been viewed by some as a cost-effective option. However, unless these shooters undertake a competency test it cannot be assured that the shooting will be conducted in a humane manner. Sport shooters should not be used unless they are part of a formal government program. It is also essential that they follow best practice by complying with the SOP CAT 001 Ground shooting feral cats. Ideally prior to sport shooters being used for any government coordinated ground operations, this should be evaluated in terms of both cost-effectiveness and humaneness.

<u>Recommendation</u>: Recreational shooters considered for undertaking formal feral cat control be assessed for shooting competency and compliance with SOP CAT 001 Ground shooting feral cats and that field audits are conducted to assess animal welfare outcomes of shooting operations.



Non-lethal control methods

Use of exclosure fencing has shown to be beneficial where highly threatened species occur or where threatened species have been translocated as part of conservation efforts. However, this is expensive as maintenance and repair costs are significant.

Some fire regimes have been shown to increase predation rates through native species being unable to seek refuge with mosaic burning offering more protection to surviving animals (Doherty et al 2022; Moore et al 2024).

Other studies have examined native species behaviours and biology with innovative approaches including anti-predator responses (Moseby et al, 2012; West et al 2018).

Fertility control is also being investigated. Currently, work in Australia is being done on assessing the potential of immunocontraception using feline herpesvirus as the carrier (Cottingham 2023). The other area which may offer potential to control reproduction in feral cats is gene drive technology (Moro et al 2018). However, debate continues regarding ethical aspects of this type of technology as well as practical application challenges.

<u>Recommendation</u>: Support research to develop effective and humane non-lethal methods to control feral cats.

Use of bounties

It is understood that bounties currently exist in some areas for foxes and that in the recent past, there has been at least one regional council in Queensland who introduced a feral cat bounty. Bounties have been shown to lead to inhumane outcomes for targeted species and, in relation to implementing a feral cat bounty, domestic cats may also be targeted, particularly given the proposed recategorisation of stray cats as "human-associated feral cats". Furthermore, reviews of bounties have shown them to be counter-productive to more efficient, longer-term options and usually result in no appreciable reduction in the number of pest animals (Wilson, 2007; Proulx & Rodtka, 2015). A 1998 review by Hassall and Associates confirmed that bounties had limited value for controlling wide-spread pest species, provided poor return on investment and were often counterproductive.

The <u>Pestsmart</u> website on fox control states that "reviews of past bounty schemes from Australia and around the world show that they are an ineffective form of pest animal control and do not deliver long-term solutions to a widespread pest animal problem."

<u>Recommendation</u>: Bounties should not be part of feral cat control as they are not considered effective or appropriate.

(j) any other related matters.

1. Collection of cats from veterinary practices

The 2023 NSW Inquiry into veterinary workforce shortages recommended that the NSW Government amend the Companion Animals Act to ensure local government authorities collect stray animals from veterinary practices. The AVA strongly supports this recommendation and expects it to include the collection, in a timely manner, of all cats presented to veterinary practices without identified owners, including stray, unowned, and feral cats.

Recommendation 2

That the NSW Government consider amending the Companion Animals Act 1998 to:



- ensure local government authorities collect stray animals from licensed veterinary clinics
- ensure that appropriate funding is provided to local government authorities to ensure that there is a consistent interpretation of the Act across all local government areas.

2. Cat Management Plans

Effective humane management relies upon good collaboration and communication between key stakeholders, good strategic planning with clear, justifiable achievable goals and ongoing monitoring of achieving objectives. Cat management plans offer a useful framework to achieve these goals. Animal management plans are a mandatory requirement under state legislation in Victoria and South Australia, although it is understood that the focus to date has been on dog management by councils. However, several councils have implemented holistic management plans which include strategies to address cat overpopulation and high euthanasia rates, e.g. Casey Council, Yarra Ranges.

Management programs must be evidence based and be supported by sufficient funding. Ideally, research should be conducted to add to contemporary scientific knowledge. Strategic planning must consider the cohort of cats (i.e., owned, semi-owned or unowned), the nature and extent of negative impacts attributed to free roaming cats and identification of locations which offer the greatest gains (this may include socio-economic factors, availability of food sources, degree of risk to native species and level of support from the community etc).

<u>Recommendation</u>: State Governments and Local Councils are encouraged and supported to implement domestic cat management plans which include appropriate legal requirements and community support/education programs.

<u>Recommendation</u>: Research should be conducted where cat management plans and/or bylaws are implemented to evaluate effectiveness of approaches and to assist with adaptive management.

3. National Domestic Cat Working Group

The Office of the Threatened Species Commissioner (OTSC) established the National Domestic Cat Working Group but this group is currently in abeyance. This is a vital initiative and requires ongoing support to help maintain discussions regarding domestic cat management especially as this requires different key stakeholders to those working on feral cat issues. A useful role of the working group could be to develop a national domestic cat action plan which incorporates best practice and evidence-based information to help achieve strategic, humane and effective domestic cat management which would assist councils in developing and implementing cat management plans. The AVA Policy Management of cats in Australia (ava.com.au), and RSPCA's Identifying Best Practice Domestic Cat Management in Australia are useful resources for this work.

<u>Recommendation</u>: That funding be made available to support the continuation of the National Domestic Cat Working Group and that the AVA remains a member of this group.

<u>Recommendation</u>: That consideration be given to the National Domestic Cat Management Working Group developing a national domestic cat management action plan.

4. Cat Free suburbs

The AVA is cautious regarding councils establishing cat-free suburbs. It is essential that due process is adhered to, and that any declaration is evidence-based and justified in terms of demonstrating that an area is of high biodiversity value through valid environmental studies and ongoing monitoring. Research has shown cat-free suburbs have no benefit in protecting wildlife (Lilith 2010) and that habitat quality is more important (Lilith 2010; Grayson 2007). It also denies residents and their



families the benefit from the emotional bond with a cat, while not restricting ownership of dogs, which are consistently shown to attack substantially more wildlife of conservation concern than cats (NSW Government Dashboard (2021). An alternative is to assist cat owners with low-cost or free containment systems and require residential developers in new housing areas adjacent to wildlife species of conservation concern to provide cat-proof fencing for properties or erect effective barrier fencing around these areas (Rand et al 2024a).

<u>Recommendation</u>: Local governments are encouraged to implement other strategies than restricting cat ownership in critical areas to achieve 'cat-freeness'. Cat-free zones may have application with new developments, but this needs to be evaluated.

Relevant AVA policies and related submissions

Management of cats in Australia

The responsible ownership of dogs and cats and the human-animal bond

Draft updated threat abatement plan for predation by feral cats (2023)

Inquiry into the problem of feral and domestic cats in Australia

AVA submission to Victorian Cat Management Strategy 2024 FINAL.pdf

References:

Bain M & Stelow E (2014) Feline aggression toward family members: a guide for practitioners. Veterinary Clinics of North America: Small Animal Practice, 44, 581-597.

Cotterall JL, Rand J, Barnes TS, Scotney R (2024) Impact of a local government funded free cat sterilisation program for owned and semi-owned cats. Animals, 14(11), 1615.

Cottingham E (2023) <u>Immunocontraception for feral cat management.</u> Proceedings of the Royal Society of Victoria.

Crawford H, Calver M, Fleming T (2019) A case of letting the cat out of the bag: Why Trap-Neuter-Return is not an ethical solution for stray cat (*Felis catus*) management. Animals, 9:171.

Crawford C, Rand J, Rohlf V, Scotney R (2023) Solutions-based approach to urban cat management – Case studies of a One Welfare approach to urban cat management. Animals, 13(21), 3423.

Deak BP, Ostendorf B, Taggart DA et al (2019) The significance of social perceptions in implementing successful feral cat management strategies: A global review. *Animals*, 9(9), 617.

Doherty TS, Geary WL, Jolly CJ, et al (2022) Fire as a driver and mediator of predator–prey interactions. *Biological Reviews* **97**, 1539–1558. doi:10.1111/brv. 12853

Dubois S, Fenwick N, Ryan E, et al (2017) International consensus principles for ethical wildlife control. *Conservation Biology*, 31:753–760.

Dutton-Regster K, Rand J (2024) Cat caring behaviours and ownership status of residents enrolling in a free sterilisation program. Animals, 14(20), 3022.

Gazzano A, Bianchi L, Campa S, Mariti C (2015). The prevention of undesirable behaviors in cats: Effectiveness of veterinary behaviorists' advice given to kitten owners. Journal of Veterinary Behavior: Clinical Applications and Research, 10, 535-542.



Hassall and Associates (1998) Economic Evaluation of the Role of Bounties in Vertebrate Pest Management, Prepared for the Bureau of Resource Sciences, April 1998.

Heiniger J, Cameron, SF, Gillespie G (2018) Evaluation of risks for two native mammal species from feral cat baiting in monsoonal tropical northern Australia. Wildlife Research 45, 518-327.

Jessop TS, Kearney MR, Moore JL, Lockwood T, Johnston M (2013) Evaluating and predicting risk to a large reptile (Varanus varius) from feral cat baiting protocols. Biological Invasions, 15:1653-1663.

Johnston MA, Algar D, O'Donoghue M, Morris J, Buckmaster T, Quinn J (2020) Efficacy and welfare assessment of an encapsulated para-aminopropiophenone (PAPP) formulation as a bait-delivered toxicant for feral cats (*Felis catus*) *Wildlife Research*, 2020, 47, 686–697 https://doi.org/10.1071/WR19171

Kennedy B, Klemann A, Ma G (2024) Feline encounters down under: Investigation the activity of cats and native wildlife at Sydney's North Head. Animals, 14(17), 2485.

Lappin M et al (2019) 2019 AAFP Feline Zoonoses Guidelines. Journal of Feline Medicine and Surgery 21: 1008–1021.

Lazenby BT, Mooney NJ, Dickman CR (2015). Effects of low-level culling of feral cats in open populations: a case study from the forests of southern Tasmania. Wildlife Research, 41, 407-420.

Legge, S. B. P. Murphy, H. McGregor, J. C.Z. Woinarski, J. Augusteyn, G. Ballard, M. Baseler, et al. 2017. Enumerating a Continental-Scale Threat: How Many Feral Cats Are in Australia? *Biological Conservation* 206 (February): 293–303.

Legge S, Woisanski J, Dickman C et al (2020) We need to worry about Bella and Charlie: the impacts of pet cats on Australian wildlife. *Wildlife Research* https://doi.org/10.1071/WR19174

Marks C (2008) Welfare outcomes of leg-hold trap use in Victoria. Nocturnal Wildlife Research Ltd.

McCarthy RJ, Levine SH, Reed JM (2013). Estimation of effectiveness of three methods of feral cat population control by use of a simulation model. Journal of the American Veterinary Medical Association, 243, 502-511.

McGregor H, Legge S, Jones M et al (2014) Landscape management of fire and grazing regimes alters the fine-scale habitat utilisation by feral cats. PLoSONE, 9:e109097.

McGregor HW, Hampton JO, Lisle D, Legge S (2016) Live-capture of feral cats using tracking dogs and darting, with comparisons to leg-hold trapping. *Wildlife Research*, 43, 313-322.

McLeod LJ, Hine DW, Bengsen AJ (2015) Born to roam? Surveying cat owners in Tasmania, Australia, to identify the drivers and barriers to cat containment. Preventive Veterinary Medicine, 122:339-344.

McLeod LJ, Hine DW, Driver AB (2019) Change the humans first: Principles for improving the management of free-roaming cats. Animals, 9, 555.

McLeod LJ, Evans D, Jones B, Paterson M, Zito S (2020) Understanding the relationship between intention and cat containment behaviour: A case study of kitten and cat adopters from RSPCA Queensland. Animals, 10, 1214.

Meek PD, Ballard G, Milne H et al (2021) Satellite and telecommunication alert system for foothold trapping. *Wildlife Research*, 48:97-104.



Moore HA, Yawuru Country Managers, Bardi Jawi Oorany Rangers, Nyul Nyul Rangers, Nykina Mangala Rangers, Gibson LA, Dziminski MA et al (2024) *Corrigendum to*: Where there's smoke, there's cats: long-unburnt habitat is crucial to mitigating the impacts of cats on the Ngarlgumirdi, greater bilby (*Macrotis lagotis*). *Wildlife Research* **51**, WR23117_CO. doi:10.1071/WR23117_CO

Moro D, Byrne M, Kennedy M et al (2018) Identifying knowledge gaps for gene drive research to control invasive animal species. Global Ecology and Conservation, 13, e00363.

Murphy, Brett P., Leigh Ann Woolley, Hayley M. Geyle, Sarah M. Legge, Russell Palmer, Chris R. Dickman, John Augusteyn, et al. 2019. "Introduced Cats (Felis Catus) Eating a Continental Fauna: The Number of Mammals Killed in Australia." *Biological Conservation* 237 (September): 28–40.

Neal, SM & Wolf PJ (2023) "A Cat Is a Cat: Attachment to Community Cats Transcends Ownership Status". *Journal of Shelter Medicine and Community Animal Health*, 2(1) doi:10.56771/jsmcah.v2.62.

Orr B, Jones B (2019) A survey of veterinarian attitudes toward prepubertal desexing of dogs and cats in the Australian Capital Territory. Frontiers in Veterinary Science 6:1–7.

Paterson M (2014). TNR (Trap-Neuter-Return): Is it a solution for the management of feral cats in Australia? In: Engaging with animals: interpretations of a shared existence. Sydney University Press, Sydney.

Proulx G & Rodtka D (2015) Predator bounties in Western Canada cause animal suffering and compromise wildlife conservation efforts. *Animals* 5:1034-1046.

Rand et al (2024a) Situational analysis of cat ownership, semi-ownership and cat caring behaviors in a community with high shelter admissions of cats, *Rand, J;* Scotney, *R;* Enright-Norris, *N;* Hayward, *A;* Bennett, *P;* Morton, *J* https://www.mdpi.com/2076-2615/14/19/2849

Rand J, Scotney R, Enright A et al (2024b) A situational analysis of attitudes toward stray cats and preferences and priorities for their management. Animals, 14(20), 2953.

Rand J, Saraswathy A, Verrinder J, Paterson M (2024c) Outcomes of a Community Cat Program Based on Sterilization of Owned, Semi-Owned and Unowned Cats in a Small Rural Town. Animals 2024, 14, 3058. https://doi.org/ 10.3390/ani14213058

Robertson SA (2007). A review of feral cat control. Journal of Feline Medicine and Surgery, 10, 366-375.

RSPCA 2021 - RSPCA Prepubertal desexing report 2021

RSPCA NSW 2024 - RSPCA NSW - KCSAH Impact Report 2023 - Adobe cloud storage

Sandoe P, Norspang AP, Forkman B, Bjornvad CR, Kondrup SV, Lund TB (2017). The burden of domestication – A representative study of welfare in privately owned cats in Denmark. Animal Welfare, 26, 1-10.

Scotney R, Rand J, Rohlf V, Hayward A, Bennett P (2023) The impact of lethal, enforcement-centred cat management on human well-being: Exploring lived experiences of cat carers affected by cat culling at the Port of Newcastle. *Animals*, 13(2):271.

Slingerland L, Fazilova V, Plantinga E, Kooistra H, Beynen A (2009). Indoor confinement and physical inactivity rather than the proportion of dry food are risk factors in the development of feline type 2 diabetes mellitus. The Veterinary Journal, 179, 247-253.



Toukhsati SR, Bennett PC, Coleman GJ (2007) Behaviors and attitudes towards semi-owned cats. *Anthrozoos*, 20:131–142.

Walker JK, Bruce SJ, Dale AR (2017). Survey of public opinion on cat (Felis catus) predation and the future direction of cat management in New Zealand. Animals, 7(7), 49, DOI: 10.3390/ani7070049.

Wilson B (2007) Use of bounties for pest animal management. The State of Queensland (Department of Primary Industries and Fisheries).

Wolf PJ, Rand J, Swarbrick H et al (2019) Reply to Crawford et al: Why trap-neuter-return (TNR) to is an ethical solution for stray cat management. *Animals*, 9

Woinarski, J. C.Z., B. P. Murphy, S. M. Legge, S. T. Garnett, M. J. Lawes, S. Comer, C. R. Dickman, et al. 2017. "How Many Birds Are Killed by Cats in Australia?" *Biological Conservation* 214 (October): 76–87. https://doi.org/10.1016/j.biocon.2017.08.006.

Woinarski, J. C.Z., B. P. Murphy, R. Palmer, S. M. Legge, C. R. Dickman, T. S. Doherty, G. Edwards, A. Nankivell, J. L. Read, and D. Stokeld. 2018. "How Many Reptiles Are Killed by Cats in Australia?" *Wildlife Research* 45 (3): 247–66. https://doi.org/10.1071/WR17160.

Woinarski, John C.Z., Sarah M. Legge, and Chris R. Dickman. 2019. *Cats in Australia. Companion and Killer*. Paperback. Clayton South: CSIRO Publishing.

Zito S, Vankan D, Bennett P, et al. (2015) Cat ownership perception and caretaking explored in an internet survey of people associated with cats. *PLoS ONE*, 10.

Zoran DL and Buffington CA (2011). Effects of nutrition choices and lifestyle changes on the well-being of cats, a carnivore that has moved indoors. Journal of the American

APPENDIX 1: AVA Policy

Management of cats in Australia

Ratification Date: 15 Jul 2022

Policy

- 1. The management of cats in Australia must be evidence-based, must prioritise animal welfare, use practices that mitigate negative impacts to animals, and have clear measurable outcome-based objectives which are reported transparently.
- 2. Effective cat management programs involve all stakeholders working together in a coordinated collaborative manner. Appropriate stakeholder engagement and education is also essential.
- 3. Practices used to manage cats need to be targeted to the specific cat population (i.e. owned, semi-owned, unowned or feral cats). They should aim to improve cat welfare, minimise cats' negative impacts and, where possible, use non-lethal management.
- 4. Adequately funded research to continually improve knowledge and to advance best-practice cat management is essential.

Please visit AVA Policy Management of cats in Australia for more information.

Contact

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