

AUSTRALIAN INSTITUTE OF ANIMAL MANAGEMENT SUBMISSION

Draft Threat Abatement Plan for Predation by Feral Cats 2023 Consultation

The Australian Institute of Animal Management (AIAM) is the national peak body representing Local Government Animal Management Officers. The AIAM Board consists of a wide range of professionals engaged in the various aspects of companion animal management.

AIAM seeks to support those engaged in the business of companion animal management, and the function itself, by providing training and information, opportunities for networking and collaboration and by encouraging the use of best practice policy and practices. AIAM promotes consistency of legislation, consultation in the creation of legislation, and workplace processes and healthy relationships with external stakeholders and the community. AIAM supports cross sector collaboration and co-design of projects and initiatives. The Board of AIAM welcomes the opportunity to engage and advocate at all levels on topics relevant to or inclusive of companion animal management.

This submission focuses primarily on **Objective 9: Reduce density of free-roaming cats around areas of human habitation and infrastructure** of the draft Threat Abatement Plan for Predation by Feral Cats 2023 (TAP). However, it also includes some feedback on other areas of the TAP, including the broader issues of managing cats as a whole species.

The current draft TAP reflects the lack of consultation with experts in contemporary urban cat management. The proposed actions in the plan regarding cat curfews, mandatory desexing, caps on cat ownership, and restricting ownership of cats in local government areas demonstrates a lack of awareness of current best practice domestic cat management and poor understanding of

the cause of the free-roaming cat problem in our cities and towns based on current Australian research.

Therefore, the proposed solutions are flawed. They will be more costly to implement than other solutions detailed in our submission, are unenforceable for a substantial portion of free roaming cats in human-centric environments, and will be ineffective at protecting wildlife populations of concern, particularly in urban and peri-urban areas.

Summary Of Recommendations:

Recommendation 1: Align definitions with current understanding of cohorts of cats to clearly distinguish between **domestic cats** (owned, semi-owned or unowned living around areas of human habitation and infrastructure) and **feral cats** (living in remote areas who have no dependence on humans).

Recommendation 2: Focus this Threat Abatement Plan solely on feral cats (as per Recommendation 1 definitions) and consult members of the National Domestic Cat Working Group to develop a separate plan focussing on domestic cats as per the definitions in Recommendation 1.

Recommendation 2a: Revise the Actions in 9.1 to support and encourage more research into domestic cat management strategies that involve desexing and returning the cats to their home base, where appropriate.

Recommendation 2b: Remove mandatory desexing as a proposed cat management strategy from the TAP

Recommendation 2c: Remove mandatory containment as a proposed cat management strategy from the TAP

Recommendation 2d: Remove the proposal for the development of cat free suburbs from the TAP

Recommendation 3: Include more effective, humane and socially acceptable strategies for cat management that support all stakeholders, and that are already being implemented in Australia and internationally.

Recommendation 4: Review the proposed actions in Objective 9 for efficacy, feasibility, economy and humaneness, and direct resources to the implementation of more effective actions for achievement of the plan's objectives.

Recommendation 5: Ensure the Threat Abatement Plan for Predation by Feral Cats highlights the need for humans to modify their behaviour for more sustainable practices that limit clearing of habitat and enable regeneration, slow climate change, as well as address impacts of novel biota and introduced species.

Recommendation 6: Revise negative language when referring to cats.

Discussion

Introduction

The management of cats in the community is necessarily complex due to a multitude of factors related to the cats themselves, the environments they live in, and the people they live alongside. Cats predate on native and other wildlife to varying degrees depending on many factors - their individual characteristics (e.g., age, personality), where they live, how they are cared for by humans, and sources of food (Dickman and Newsome, 2015). Accessibility of resources, services such as animal shelters and veterinary clinics, and methods to manage cat populations varies according to location, with more options typically available in urban than remote areas. Additionally, division of cat management responsibilities between levels of government is based on human-centric factors, such as population density and land ownership, resulting in disjointed and sometimes conflicting cat management practices occurring across the landscape.

Urban stray cats are predominantly owned or cared for by someone (semi-owners or cat caretakers) and have varying levels of socialisation. People feed them because these cats visit or live nearby their properties or workplaces and they want to help them (Ma et al., 2023). Approximately 3% of Australian adults feed an average of 1.5 cats that are not their cat and have no known owner (Rand et al., 2019). While these cats are rarely desexed or microchipped, the people caring for them demonstrate strong bonds with these cats comparable to those between owners and owned cats, even when one person is feeding multiple cats they do not own (Crawford et al., 2023; Scotney et al., 2023; Neal & Wolf 2023; Zito et al., 2015). Crawford and colleagues (2023) found that many of these cat caregivers (semi-owners) reported the cat helps them through tough times. Caregivers feed the cats once or twice daily and talk to the cats daily. Harm to free-roaming cats has a significant impact on the mental health and well-being of the people who own or feed them (Scotney et al., 2023)

Cats who live around humans have some degree of socialisation, even if contact is indirect and they appear unsocialised if trapped, thus determining whether cats in populated areas are owned, semi-owned or unowned is difficult (Slater et al., 2013). Cats can also easily transition between these categories at different times and under differing circumstances (Slater et al., 2010). All cats are individuals and have different genetic makeup and experiences that determine how they will react in any given situation. Even if cats appear to be unsocialised in a cage trap or do not have a microchip or collar, they may be a lost owned cat or a free living cat with a bonded human caregiver that would take ownership if given the opportunity (Crawford et al., 2023). According to Slater (2013), many cats only show their normal behaviour once they are removed from a stress-inducing environment of a trap or a holding facility. When trapped, even socialised cats often display unsociable behaviour due to the stressful experience and environment. It is common that once settled in a less stressful environment they display very different, more sociable, behaviour. The difficulty in identifying cats 'adoptable' cats using traditional sheltering approaches, along with multiple other factors, strongly impacts cat outcomes once they enter the shelter system (Kilgour & Flockhart, 2022).

Identification of owned cats through visible identification or microchipping is also not reliable. Many owned cats are not microchipped (Rand et al., 2023) and it is common for microchip details to be not kept up to date leading to an inability to reunite the animal with its owner (Goodwin et al., 2017). As well, microchips may not be read through a metal cage trap (Lord et al., 2008); if

best practice procedures are not being followed by the trapper, the trapped cat may not even have the opportunity to be scanned before it is killed. Many owners do not put a collar on their cat for fear of injury (Lord et al., 2010). Through our work with Local Governments across Australia, AIAM can confirm that supportive strategies that can be utilised to address challenges related to identifying the ownership status and sociability of trapped cats are not currently being employed on a widespread basis.

Ma and colleagues (2023), found that cat semi-ownership is more common in low socioeconomic areas where the cost of sterilisation for owned and semi-owned cats is often unaffordable for cat caretakers. Cat semi-owners have very similar characteristics to cat owners in the same area, and cat semi-owners often also own one or more cats. Semi-owners feeding 1 to 2 cats represent a huge pool of adopters for these cats, who are often poorly socialised and would otherwise be at high risk of euthanasia. By providing free desexing, microchipping and (if necessary) registration for these cats, many semi-owners can be converted to owners. Helping cat semi-owners to have their cats desexed, microchipped and to adopt the cats they are caring for is a holistic, One Welfare approach which will improve the wellbeing of people, animals and the environment, as well as increase public support for cat management initiatives.

Semi-owned cats are not feral cats, despite displaying behaviours which may make them challenging to adopt into pet homes without a long period of socialisation. Admitting them to a shelter or municipal pound is often a death sentence (RSPCA Australia, 2022). Most are healthy or treatable (i.e. reasonably healthy, , reasonably well-adjusted pets over the age of eight weeks or dogs and cats who are rehabilitatable if given the care typically provided to pets by reasonable and caring pet owners/guardians in the community (Maddies Fund), and for Local Government and Not For Profit shelter staff having few options other than euthanasia for these cats, constant intake and euthanasia of semi-owned cats is traumatising (Rollin, 2011; Scotney et al., 2015; Andrukonis and Protopopova, 2020). Veterinary personnel that have to euthanase these cats are at particular risk of moral injury and psychological distress (Scotney, McLaughlin and Keates, 2015). Recent changes to Australian Work Health and Safety Regulations clarifying employer responsibilities to provide psychologically safe work environments, and increasing accountability for those who do not appropriately control for psychosocial and psychological injuries (<https://www.apsc.gov.au/initiatives-and-programs/aps-professional-streams/aps-hr->

professional-stream/aps-hr-professional-news/psychosocial-safety), will likely impact the long term sustainability of broadscale trap and kill approaches to managing domestic cats, due to their known strongly negative impact on the health and welfare of staff performing these tasks.

Recommendation 1. Align definitions of cat cohorts with current understanding of how cats live

The ecological niches filled by feral cats and domestic cats are very different. Feral cats live independently of humans in remote areas and management methods can be mostly decided without regard to impacts on humans living in these areas. Domestic cats live with and alongside humans who care for and are bonded to them (Zito et al., 2015), so management measures for these cats must consider the impacts of humans on the methods chosen, and of the method chosen on the humans affected. Classing semi-owned and unowned domestic cats as feral cats, ignores the significant differences between the environments in which these cats exist and is inconsistent with RSPCA's 2018 Best Practice Domestic Cat Management report (Identifying best practice domestic cat management in Australia – May 2018).

In order to effectively manage cats who fulfil different ecological niches across the spectrum of human population density and involvement, it is essential that we identify and classify these different groups of animals and apply specific strategies to reduce their numbers while achieving community, animal welfare, and ecological goals.

AIAM has worked with stakeholders from 2014 to develop consistent national definitions of cats (<https://www.g2z.org.au/national-cat-action-plan.html>) which align with those in RSPCA Australia's 'Identifying Best Practice Domestic Cat Management in Australia' (RSPCA Australia, 2018). These are:

- **Domestic cats:** cats with some dependence (direct or indirect) on humans. The three sub-categories of domestic cats are:
 - i. **Owned** – these cats are identified with and cared for by a specific person, and are directly depending on humans. They are usually sociable although sociability varies.
 - ii. **Semi-owned** – these cats are fed or provided with other care by people who do not consider they own them. They are of varying sociability with many socialised to humans and may be associated with one or more households.

- iii. **Unowned** – these cats are indirectly dependent on humans with some having casual and temporary interactions with humans. They are of varying sociability, including some who are unsocialised to humans.
- **Feral cats** are unowned, unsocialised, have no relationship with or dependence on humans, and live and reproduce in the wild (e.g. in forests, grasslands, deserts). *This definition is aligned with feral cat definitions in the Australian Government Threat Abatement Plan (2015).*
- **Stray cats** are cats who wander (straying refers to the activity of wandering away, not an ownership status). Stray cats may be:
 - i. responsibly owned and temporarily escape from their property (e.g. a gate or door left open),
 - ii. casually owned and wander from their property regularly,
 - iii. semi-owned (e.g. cats making regular visits to one or more households which do not own them, but who may be currently owned, or lost or abandoned).
 - iv. born to previously owned cats and live in colonies, directly or indirectly being fed by humans.

The Australian Government Threat Abatement Plan (2015) and the latest draft TAP contain contradicting definitions of the classes of cats within the scope of each plan.

The Australian Government Threat Abatement Plan (2015) recognised stray cats as a distinct category but domestic cats as owned cats only:

- *stray cats are those found in and around cities, towns and rural properties; they may depend on some resources provided by humans but are not owned; and*
- *domestic cats are those owned by an individual, a household, a business or corporation; most or all of their needs are supplied by their owners. If the confinement of domestic cats becomes more common, the category of a domestic cat may need to be divided to confined and unconfined cats because the potential for these two groups to impact on native fauna is different.*

Confusingly, while claiming a stray cat was not owned, this plan identified that domestic cats may have to be divided into those confined and not confined i.e. stray owned cats, which aligns with our definitions above. The 2015 plan acknowledged that:

These categories of cats are artificial and reflect a continuum, and individuals may move from one category to another (Newsome 1991; Moodie 1995). In any given situation, the category causing the most damage to wildlife needs to be identified because management actions will depend on the type of cat causing the damage. ...The approach taken will need to be developed in consultation with the communities.

The latest draft TAP identifies stray cats living in cities and towns as feral cats, despite acknowledging that some “pet” cats roam widely and feed themselves. This is a clear acknowledgement that the Federal Government condones and supports lethal control of owned pet cats living in urban environments. Additionally, given that Local Government is responsible for domestic cat management but not feral cat management, this leads to confusion of responsibilities for management purposes, and will reduce the capacity of councils, private organisations, and veterinarians to effectively manage these cats using modern practices shown to reduce their numbers.

Cats who live near people all need to be defined as domestic cats who may move along the cat continuum from being owned, semi-owned or unowned. Domestic cat management requires different strategies from feral cat management due to the resources available, cat and human behaviour and social implications for cat management strategies. Many community members, organisations and Veterinarians are willing to help with humane, sustainable and effective management solutions to prevent further breeding and reduce numbers, provided support services, such as access to low/no cost desexing, vaccination and microchipping, are available for those who need it.

As a national document intended to provide guidance at national, state and local levels on activities and research needed to abate the threat posed by cats, the draft TAP should use clear, accurate language consistent with current knowledge to demonstrate a thorough understanding of the complexity of cat management in Australia, including best practice cats

management in all environments. As such, AIAM recommends the draft TAP be updated to use the definitions above to describe different cohorts of cats.

Recommendation 2. Create separate Threat Abatement Plans for feral and domestic cats, and consult the National Domestic Cat Working Group in the creation of the domestic cat TAP

The National Domestic Cat Management Working Group (NDCMWG) was formed by the Office of the Threatened Species Commissioner to “share evidence based, best practice advice and resources for improved domestic cat management across Australia” (email invitation to participate in the NDCMWG by Dr Zoe Squires to AIAM on behalf of the Office of the Threatened Species Commissioner 4/5/22) and to progress recommendations from the “Inquiry into the problem of feral and domestic cats in Australia 2020”. It was established to complement the objectives of the Feral Cat Taskforce, recognising the complex legislative and management landscape for domestic cats in Australia (NDCMWG Terms of Reference 2022) and the vital role that tailored, evidence-driven management of domestic cats plays in the management of feral cats. The Terms of Reference for the group state that its focus is guided by both the “Inquiry into the problem of feral and domestic cats in Australia” (2020) and the RSPCA Australia’s “Identifying Best Practice Domestic Cat Management in Australia” (2018).

The NDCMWG was only funded by the Office of the Threatened Species Commissioner for one meeting held in May 2022. A second meeting was facilitated by sector stakeholders, without funding from the Office, and subsequent meetings have been unfunded and have prioritised considerations for accessing funding for continuing operation of the Working Group.

As has been acknowledged repeatedly by the Threatened Species Commissioner, the Office of the Threatened Species Commissioner, and again within the draft TAP a “different suite of actions’ will be needed to reduce the impacts of cats living around people and that actions need to be informed by social science research. Some level of awareness that domestic cat management is a separate but related area of expertise to feral cat management is apparent, yet, the writers of the current Draft Threat Abatement Plan did not consult with the NDCMWG for definitions of cat cohorts, advice on areas of research need and interest, or current best practice domestic cat

management strategies. As such, advice from researchers and organisation representatives with specific expertise in the population management of domestic cats in human-centric environments is not reflected in the current draft TAP.

Draft TAP recommendations relevant to the NDCMWG include developing consistent definitions of feral, stray and domestic cats, and developing and disseminating best practice domestic cat management strategies.

Given the significant differences in the challenges posed by domestic cat and feral cat management, it is clear that a separate Threat Abatement Plan is required for each cat cohort. As the only national group with expertise in domestic cat management, which includes social science researchers, ecologists, companion animal researchers, and industry experts in this area, the NDCMWG, must be consulted during development of any actions recommended for the Federal Government as part of a Threat Abatement Plan and Advice covering domestic cats.

The NDCMWG must be funded as part of a comprehensive plan to address the threats posed by cats in Australia, and, at the very least, enabled to be a significant contributor to the current draft TAP, before it is finalised, on both cat cohort definitions and Objective 9 for effective strategies to reduce cat density in areas of human habitation and infrastructure, and subsequently to provide advice for and guidance on the implementation of Objective 9.

Recommendation 2a. Revise the Actions in 9.1 to support and encourage more research into cat management strategies that involve desexing and returning the cats to their home base, where appropriate

In addition to appropriately funding the NDCMWG, the draft TAP should encourage research into non-lethal population control strategies for cats, including desexing and returning domestic cats to their home base.

Crawford and colleagues (2019), referred to in the Background Document P.45, argues that there are only very limited circumstances where trap-neuter-release can be viable: when the cat population is closed (ie. no immigration); when the desexing rate is high enough to cause

population decline, and those rates can be maintained as kittens mature to breeding age; when there is sufficient funding to provide veterinary care and food to the released cats and maintain the program until the last cat has died; and when there are no cat-susceptible native species at risk from the released cats.

However, similar conditions affect the viability of trap and kill as a population management method. Computer simulation modelling by Benka and colleagues (2022) indicate that cost-effective reduction of free roaming cat numbers requires sufficient management intensity, regardless of management approach, and greatly improves when cat abandonment is minimised. Removal yielded the fastest initial reduction in cat abundance, but trap-neuter-return was a viable and potentially more cost-effective approach if performed at higher intensities over a sufficient duration. Of five management scenarios that reduced the final population size by approximately 45%, the three scenarios that relied exclusively on removal were considerably more expensive than the two scenarios that relied exclusively or primarily on sterilisation.

Thompson and colleagues (2022) note that much of the ongoing debate about trap-ethanise and Trap Neuter Return (TNR), and indeed related research up until that point in time, hinges on the assumption that individuals value wildlife but do not value free-roaming cats. Earlier studies that omitted the value individuals place on free-roaming cats over-estimated the economic case for trap-ethanise programs, indicating that trap-ethanise was the least costly alternative (Lohr et al., 2013).

Van Patter and Hovorka (2018) believe they are the first to include the intrinsic value of free-roaming cats in their cost analysis. In this scenario, where it was assumed community cooperation only occurred under TNR (as is borne out by practical experience), regardless of the value of cats and birds, it was the most cost-effective solution to conduct a TNR program for a 20-year planning horizon. Regardless of method of control, a reduction in cat numbers requires allocation of resources over an extended period of time. In the scenario where caretaker cooperation occurred under TNR, the least cost-option for a 20-year program was TNR, and no control and trap-ethanise had costs that were 1.8 and 1.6 times higher respectively. Trap-ethanise had the lowest population over the first 50 months. However, under cooperation, the population for TNR fell over time, and had the lowest population after 5 years, as caretakers

reduced feeding levels for the group. Obtaining cooperation from caretakers is an important part of the success of a local program and is an essential part of their modelling process. They showed that the act of reducing free-roaming cat feeding by caretakers can considerably reduce group sizes and reverse conclusions about the cost-effectiveness of TNR relative to the case of no caretaker cooperation. As population falls in this scenario, it is possible that TNR becomes more effective because the rate of TNR will remain the same and more cats will be exposed to TNR. Centonze and Levy (2002) propose that cooperation may be plausible since caretakers are often more likely to approve of TNR because they enjoy the company of the cats, they believe the cats help reduce rodent abundance, and they claim that neutering improves the quality of the lives of the cats.

As presented by Emma Richardson (conference presentation, 2023), well-managed cat assistance programs in populated areas rarely have to return a cat without an owner or carer. By offering free desexing and microchipping services for stray cats, there are usually people willing to care for and/or take ownership of these cats once desexed and microchipped. When a cat without an owner or carer is released, desexed and microchipped, an owner or carer is often discovered after the release, resulting in the desired cat ownership behaviour outcome, instead of killing cats, trauma for owners and carers, and loss of trust within the community.

The best practice approach to managing domestic cats is to increase the proportion that are cared for in an environmentally sustainable way. There is a wealth of published research demonstrating that non-lethal management approaches based on desexing, adoption of socialised cats, and leaving unsocialised desexed strays in their home location, have led to significant reductions in urban stray cat populations internationally (Levy et al., 2014; Nutter 2005; Spehar & Wolf 2018; Spehar & Wolf 2019; Zito et al., 2018), and in Australia (Swarbrick & Rand 2018; Tan et al., 2017). According to Swarbrick & Rand (2018), leaving cats in their home location helps stabilise the social structure of the stray cats in that location, preventing immigration of stray cats from surrounding areas. When a large enough proportion (about 54%) of the stray cat population is desexed, and when immigrant cats are promptly managed through adoption or desexing and return to the colony, stray cat numbers decrease by 30% over 2 years and 50% over 5 years.

Additional research from overseas has demonstrated that targeted desexing of unowned urban cats results in a substantial reduction in the intake of cats and kittens to local shelters, and reduced calls to local government relating to dead cats on streets, strongly suggesting the approach also results in a smaller unowned cat population in the community (Levy et al., 2014; Spehar & Wolf 2018; Spehar & Wolf 2019). This approach, often referred to as a Community Cat Program, is widely used by local authorities in the USA and Europe where it is generally regarded as best practice, and typically receives strong community support. For example, in a Florida study where 60 cats/1,000 residents were desexed (about 54% of the stray cat population), cat admissions to the local shelter decreased from 13 to 4 cats/1,000 residents, and euthanasia decreased from 8 to 0.4 cats/1,000 residents (Levy et al., 2014). Other studies from the USA have reported euthanasia rates for cats dropping from over 70% to 2-5% in shelters that have implemented such programs (Spehar & Wolf 2018). Many of these shelters are now well below their carrying capacity for cats, with cat housing being reallocated for other activities, and the change is affecting the design of new shelter buildings. There is growing support for large-scale trials to confirm the efficacy of such programs in an Australian context (Wolf et al., 2019).

A successful small-scale trial based on desexing has already been piloted in the City of Banyule, Victoria (Cotterell et al., 2021). This program offered free desexing, microchipping, and registration for all non-desexed cats in the targeted suburbs with 70% of participants being semi-owners and 30% owners. Target areas were selected using existing information held by the council, which was used to identify cat hotspots in the local area using the addresses from which most cats surrendered to the shelter originated, and the areas where residents had expressed concerns about stray cats. This strategy reduced council impoundments from 1,004 cats in 2010-11 (8 cats/1,000 residents) to 141 in 2018-19 (1 cat/1,000 residents), and euthanasia from 578 cats/year to 41 cats/year (from 5 to 0.3 cats/1,000 residents). Between 2017 and 2019, the council used a targeted approach for the desexing strategy and over that 2 year period, impoundments decreased by 71% and euthanasia by 60%, with a concurrent reduction in cat-related complaints. When surveyed, many residents enrolling a cat in the Banyule program stated that they had been caring for and interacting with the cat on a daily basis, often multiple times each day. They described themselves as being very attached to the cat that they care for and that it gave them a reason to get up in the morning. Most residents reported that the primary reason they had not already had the cat desexed was because it was unaffordable. When they

were offered desexing, microchipping, vaccination and registration free of charge, they supported it and took on official ownership of the cat.

Further research into new methods of management of cats in urban and peri-urban areas is urgently needed. The current legislative and regulatory approaches for managing cats in urban areas, primarily using a trap-and-kill approach, has not been effective thus far. Furthermore, statistical modelling, cost analyses and reports from Council staff, have shown that this approach is not financially sustainable for governments or local councils (Chua et al., 2023).

Recommendation 2b. Remove mandatory desexing as a proposed cat management strategy from the TAP

Actions relating to domestic cats should not be included in the draft TAP for Feral Cats and should be removed.

There is no evidence that supports the efficacy of mandatory desexing legislation (MDL) as an effective cat management strategy on mainland Australia. The three Australian states with the highest per capita cat intake into shelters and pounds have mandated desexing (Chua et al., 2023) and a 2016 study of cat intake into RSPCA shelters around Australia also documented no benefit of mandated desexing in reducing cat populations within the community (Alberthsen et al., 2016).

Mandatory desexing policies are generally not viewed as being effective in achieving reductions of free roaming cat populations, complaints about wandering cats, intake to municipal or private animal shelters, or any other metric currently in use to assess the impact of cat management. There are a range of reasons why this might be the case:

- o Majority of cats who are impounded do not have “owners” (as per the description of an owner in most legislation)
- o Lack of support services provided alongside the implementation of the legislation to enable community members to comply with the policy i.e. low or no cost desexing services.
- o MDL effectively criminalises cat caretakers that do not (or can not) comply with the legislation.

- o MDL effectively criminalises those cats that are not complying with the legislation and classifies them as stray or feral with the more frequent outcome for them being euthanasia.
- o MDL (without significant support mechanisms) is not equitable or inclusive and feeds into broader social issues of equity and human rights.

AIAM supports incentive programs for desexing and identification rather than mandatory requirements (as mentioned in the Background document), as this directly addresses the core barrier to wide scale uptake of companion cat desexing; that is, accessibility of veterinary services for people in low socioeconomic communities who are caring for the majority of urban stray cats. However, these must not be packaged with mandatory registration (unless provided freely for the life of the cat), as this prevents engagement with programs by cat caretakers. Registration is an added cost burden on cat caretakers which is counterproductive to the goal of cat population management; that is, to harness community engagement to desex as many cats within the community as possible. Mandatory registration (unless provided freely for the life of the cat) of cats as part of local government desexing programs often prevents people from partaking in the program as they are fearful of being required to pay an additional ongoing expense, which people on low incomes cannot afford. If people are feeding multiple cats, they often cannot afford to register them all. The stated purpose of pet registration is to fund pet-related animal management services through an 'user pays' system (Animal Welfare Victoria, 2020). At present the vast majority of cats entering local government holding facilities and shelters are unowned urban stray cats (Marston et al., 2006; Alberthson, 2016; Chua, 2023), meaning that the 'user' is the community, not an individual. This contradicts the core requirement for a functional 'user pays' animal management system. Additionally, the costs involved in managing a cat registration program for local government typically exceed any financial income received (Chua et al., 2023) and the information collected does not contribute to improved management of companion cats in the community. Expending the same resources on a free desexing, microchipping (and registration if necessary) program achieves the desired outcomes for Council, in a manner that is attractive and acceptable to cat caretakers and increases the success of cat population management programs.

Cat management actions based on imposing legislative requirements, and fining people for unregistered, excess, or wandering cats are ineffective as they do not address the ecological

niche in which these cats live; unowned urban stray cats live alongside community members and do not have owners. Punishing people for showing compassion to these cats by feeding or caring for them is both ineffectual and erodes community support for cat population management.

Recommendation 2c. Remove mandatory containment as a proposed cat management strategy from the TAP

Actions relating to domestic cats should not be included in the draft TAP for Feral Cats and should be removed.

AIAM strongly supports containment on owner's property where possible but does not support making cat containment a mandatory requirement for cat ownership as this presents a barrier to cat caretakers transitioning to cat owners, which reduces participation in cat desexing programs; this is contrary to the goal of desexing as many cats as possible. There is no evidence that supports the efficacy of mandatory containment legislation (MCL) or cat curfews, as an effective cat management strategy (RSPCA Australia, 2018).

Mandatory containment policies are generally not viewed as being effective in achieving an improvement in reduction of free roaming cat populations, complaints about wandering cats, reduction in intake to municipal or private animal shelters, or any other metric currently in use (RSPCA Australia, 2018). There are a range of reasons why this might be the case:

- o Majority of cats who are impounded do not have "owners" (as per the description of an owner in most legislation) and therefore there is no one to contain them.
- o Lack of support services provided alongside the implementation of the legislation to enable community members to comply with the policy i.e., financial and practical support to develop cat containment infrastructure.
- o MCL effectively criminalises cat caretakers that do not (or cannot) comply with the legislation.
- o MCL effectively criminalises those cats that are not complying with the legislation and classifies them as stray or feral with the more frequent outcome for them being euthanasia.

- o MCL (without significant support mechanisms) is not equitable or inclusive and feeds into broader social issues of equity and human rights.

Overall, Australian Councils who have implemented mandatory 24/7 containment of cats have reported an increase in cat related complaints, impoundments and euthanasia's, and have been unable to demonstrate a reduction in cats wandering at large (RSPCA Australia, 2018). Most admissions of free-roaming cats to shelters and pounds are from low socio-economic areas (Ma et al., 2023). Around 5% of impounded cats are reclaimed (Lancaster et al., 2015; Chua et al., 2023). There are a number of reasons for this but the primary reason is that these cats are not fully "owned" by one person and are cared for by multiple individuals within the community who each cannot afford to comply with legislative requirements.

In Australia, 20% of households live on less than \$650 a week (Australian Bureau of Statistics, 2021). Cat containment systems suitable for suburban backyards cost hundreds to thousands of dollars (Catnets, n.d.; Oscillot® Proprietary Ltd, n.d.) which low-income families typically cannot afford. Additionally, many cat caretakers and owners live in rental accommodation with inadequate fencing and do not have permission from property owners to make property modifications. Indoor confinement of cats is also difficult to perform reliably as children or other residents may not prioritise closing of doors and windows, allowing confined cats to escape. In addition, research has found that cat owner's perception of their ability to contain their cat is an important predictor of whether someone fully contains their cat along with valid concerns about mental and physical well-being of cats being negatively impacted by confinement (Rand et al., 2023). Some cats are notoriously difficult to contain due to their temperament, past history and physical capacities. Supporting people with various cat containment methods based on their living circumstances and proximity to native species susceptible to cat predation, will provide a more targeted approach to prevent impacts on native wildlife and raise community awareness of the need for and possible options to achieve cat containment (RSPCA Australia, 2023). Providing subsidised access to low-cost mesh, fence additions or enclosures is essential to achieving improved containment of cats in wildlife sensitive areas, or where owned cats are causing an ongoing nuisance issue to neighbours. Consideration of the introduction of building regulations to require appropriate fencing and enclosures in new builds in environmentally sensitive areas would also be helpful. These initiatives will help create a cultural change to prevent wandering, predation and unwanted cats. In many urban areas, the culture has changed regarding keeping dogs safely

enclosed and personally walked for daily exercise. Similarly, cultural change is needed regarding cat caretakership which cannot occur with punitive strategies only.

Similarly to full time mandatory containment, cat curfews increase complaints to councils, increase costs to councils, increase the number of cats impounded, increase exposure to adverse mental health effects (including PTSD) of staff involved in killing healthy cats and kittens, and result in no decrease in the number of free-roaming cats (RSPCA Australia, 2018). This is because cat reproduction greatly exceeds the numbers of cats trapped and killed in our cities and towns, and mandating containment of cats simply makes other residents more aware of the number of urban stray cats in their neighbourhood who have no owner to confine them. If the only option given to community members to address concerns about cat predation on wildlife is a punitive system of trapping and killing cats, then it is logical that publicising this leads to increased use of that option.

Mandatory limits on the number of cats per household also prohibits people accessing local government subsidised desexing, particularly in low socio-economic areas where people cannot afford to desex a cat they may have acquired as a stray or to help a family or friend with an unwanted litter. Councils often allow only two cats per household and therefore offer free desexing for only two cats. This means if a pregnant stray cat appears and has a litter, the person who finds the female cat often takes ownership of her, but kittens are kept undesexed, or given away undesexed, and the breeding cycle continues; again, this is counterproductive to the goal of increasing uptake of participation in desexing programs and achieving wide scale desexing of cats in the community.

Mandatory containment of cats, and limiting cat numbers per household, seem to be logical management strategies in the absence of understanding of the factors affecting cat populations in human-centric areas and practical considerations for working with the community to achieve cat management goals. In practice, it is ineffectual as sufficient support has not been provided to ensure that all residents can comply, and punitive approaches to managing companion animals rarely achieve the support required to achieve voluntary compliance at a high enough level to be effective.

Recommendation 2d. Remove the proposal for the development of cat free suburbs from the TAP

Actions relating to domestic cats should not be included in the draft TAP for Feral Cats and should be removed.

This proposed cat management strategy is inequitable. As well, banning cats from suburbs has not been shown to have any beneficial effect on native mammals in adjacent bushland. Similarly, the presence of cats had no effect on the density and diversity of birds, but density of housing, distance from bushland and decreasing size of remnant bushland had a strong negative effect on bird populations (Grayson et al., 2007; Lillith et al., 2010). The focus must be on progressive and innovative planning strategies when developing new suburbs that incorporate assistance for cat caretakers to contain cats wherever possible, appropriate density and design of housing, appropriate design of recreational space, appropriate design and planting strategies to create quality habitat for native species, and overall minimisation of environmental impact.

Recommendation 3. Effective, humane and ethical actions to reduce populations of free-roaming cats around areas of human habitation and infrastructure

AIAM recommends unified strategies by Local Government animal management, animal welfare and sheltering organisations, human welfare organisations, conservationists and ecologists, and communities to achieve the best outcome for people, cats and wildlife. Working together using evidence-driven and tailored approaches to address the challenges and needs of each situation and community achieves 'buy-in' from both stakeholders and the local community, and most efficiently resources to achieve joint goals. Additionally, active sharing of resources between stakeholders within the sector speeds progress in process development across the sector and prevents 'reinventing the wheel' within individual communities.

Well-managed, supportive programs to manage domestic cats, implemented collaboratively by Animal Management Officers, animal welfare and sheltering organisations, and community volunteers have been shown to be effective in sustainably reducing cat populations in both the

Australian and international context (Swarbrick and Rand 2018; Rand et al., 2019; Spehar & Wolf 2019; Kreisler et al., 2019; Spehar & Wolf 2020). These structured and sustained programs are evidence-driven and utilise multiple strategies for reducing cat numbers and improving the health and welfare of cats, people, and the environment. Strategies shown to effectively engage the community and reduce cat populations in communities include free and low cost desexing, vaccination and microchipping of domestic cats, along with other supports such as capture, transportation, adoption, and encouraging and facilitating containment of pets cats (Swarbrick and Rand 2018; Rand et al., 2019; Spehar & Wolf, 2019; Kreisler et al., 2019; Spehar & Wolf, 2020). These strategies are socially acceptable and equitable, and the least harmful means of reducing cat numbers, provided that all categories of domestic cats (i.e., owned, semi-owned and unowned) are included in management programs (Crawford et al., 2023).

Local Government Animal Management Departments are essential contributors to domestic cat management efforts. Nationally and internationally, Local Governments are moving toward prioritising community support over enforcement-centric animal management (National Animal Care & Control Association, 2021; Human Animal Support Services, 2024; Wheeler, 2023 conference presentation; Goode and Tonks, 2023 conference presentation), working with animal welfare and sheltering organisations and the community to find no or least harm solutions to the long-term challenge of managing domestic cats.

In addition to preventing growth of cat populations and reducing cat numbers over time, desexing also significantly reduces fighting and wandering for reproductive purposes; these are common causes of nuisance complaints to councils, leading to cats being trapped, impounded, and killed. Reduction in impoundment and killing of cats due to nuisance complaints, in turn reduces negative impacts related to lethal control methods on the community members who care about cats, and those tasked with carrying out trap and kill tasks.

Importantly, given the constrained resources available for Local Governments to implement domestic cat management, trapping and killing (with or without impoundment and holding) of domestic cats is an extremely expensive exercise (Rand et al., 2019). Desexing programs delivered using best practice principles of ‘microtargeting’ cats from high intake areas are comparatively cheaper and more effectively reduce cat population numbers than trap and kill

approaches. Reallocating the limited resources available to more progressive, effective, humane and socially acceptable and equitable cat management practices is both possible and advised.

A fantastic example of effective collaboration on domestic cat management in Australia, currently employed in the Ipswich community in Queensland, is the Cat Assistance Team (CAT). CAT consists of Animal Management Officers working with animal welfare organisation staff and volunteers to find undesexed roaming cats and providing no/low cost desexing and other support services targeted to low socio-economic areas with high cat intake (Richardson, 2023 conference presentation). This program has shown that providing no/low cost desexing and free microchipping, and other support (e.g., transport) ensures that people who are willing to take ownership of unowned adult cats and kittens of stray urban cats can do so more easily and will if afforded the opportunity. Other benefits of the CAT pilot program include active management of cats returned to their caregivers, to ensure they cause the least possible nuisance to the rest of the community and enlisting the help of caregivers to identify any newcomers and act quickly to trap and desex them. Improved relationships with the broader community also means the CAT can provide assistance to develop cat safe fencing and deterrents, if necessary, to alleviate concerns from other community members. Many community members are environmentally aware and want to prevent unwanted cats and kittens, and protect wildlife (Crawford et al., 2023); Utilising their compassion to leverage practical assistance is a much quicker and more effective way of managing the local cat population.

Well-managed community desexing programs in urban/peri-urban areas where there is no immediate threat to threatened native species, enable communities to manage cats ethically and reduce their numbers over the long term. In Portland, Oregon, USA, Local Government animal management, Not For Profit animal welfare and sheltering organisations and bird conservation groups work together to develop solutions appropriate for that community and environment. <https://audubonportland.org/our-work/protect/habitat-and-wildlife/urban/cats-safe-at-home-campaign/>

Some Australian Councils are recognising the importance of adequately funding animal welfare and sheltering organisations to better enable them to continue to do a significant portion of companion animal management work, either alongside Councils by taking in stray and

surrendered animals for the municipality into their own shelters, or by providing management services for council impound and holding facilities. Currently however, this funding is tied to numbers of animals taken into care, limiting the ability of these organisations to take a more proactive approach. Helping with funding to enable companion animal sheltering and rehoming organisations to extend their services to intake prevention and proactively reducing reproduction of companion animals in the community through desexing programs is an important next step.

The National Desexing Network (www.ndn.org.au) currently supports 24 Councils, at no cost, to develop and manage [Co-operative Desexing](#) programs to facilitate more proactive, humane and socially acceptable cat management. These councils have agreed to budget for subsidised desexing for their residents. The biggest increase in the number of local governments funding desexing subsidies has occurred where State Governments have matched funding. The Victorian (<https://agriculture.vic.gov.au/livestock-and-animals/animal-welfare-victoria/community-and-education/animal-welfare-fund-grants-program#h2-2>) and South Australian Governments (<https://dogandcatboard.com.au/about/achievements>) have programs working towards this , and it is needed in all other states. All State and Territory Governments should contribute by matching funding that Councils invest in desexing subsidies and community support programs as an incentive to encourage these proactive initiatives. Funding costs can be shared across State and Local Government Pest Management and Animal Management Departments as these programs will assist in achieving both their respective goals.

The Australian Government Department of Climate Change, Energy, the Environment and Water can contribute by funding the coordination of collaboration between experts and researchers in ecology, domestic animal management, conservation and animal welfare and sheltering organisations, as well as the Australian Institute of Animal Management, and both environment and animal welfare state government departments to develop understanding and cohesive effective and ethical action. Funding of the NDCMWG is a cost-effective way to provide the necessary framework for this proposal.

There are also other opportunities to collaborate at government level to maximise efficiency of funding. Federal and State Government funded human social services are also recognising that the people who need human welfare support also need support for animals they care for. AIAM

strongly believes that animal support services should be built into human service providers' roles in partnership with Local Government and animal welfare organisations.

Veterinarians have an important role to play in intensive desexing support programs for domestic cats. AIAM supports the proposed action in the draft TAP to contract vets to travel to rural and remote communities that lack vet services to carry out free desexing, as long as these programs are delivered in a culturally appropriate and respectful way. In addition, desexing clinics need to be funded in all areas to enable timely, no/low cost desexing, vaccinations and microchipping. These can be facilitated by organisations through community, shelter or private clinics, however the current veterinary shortage and lack of vets who are trained and confident performing High Quality High Volume Spay Neuter surgical techniques must be addressed. Veterinarians also need to be further encouraged to practise and promote pre-pubertal desexing (from 2- 4 months of age).

Recommendation 4. Revise proposed actions in Objective 9 for efficacy and best practice

All stakeholders need to be aided to work collaboratively in their communities to provide direct support to reduce cat numbers whilst minimising harm to people, cats and wildlife and working to preserve threatened species.

Objective 9 Actions: Maintain Public Support 9.4 needs to include an action that involves working with, and understanding how to, help and support communities to contribute to what they value and support – both protection of native wildlife and a reduction of free-living cat populations by desexing cats rather than killing them.

The Actions in 9.1 propose trapping (and shooting where feasible) of stray cats in populated areas by local government and community members. Trapping and removing cats is currently the most common action taken by the majority of Council Animal Management and Pest Management Departments. Consistent trapping and killing of cats by Local Governments has been done over decades in the interests of public health and safety or conserving valued wildlife. Animal management officers responding to complaints by trapping and impounding of cats, enabling

community members to hire traps to catch and impound cats, and charging reclaim fees before reuniting cats with their carers, is ad hoc management done because of a lack of knowledge and support for more effective, more cost-effective approaches to reducing cat populations.

Despite decades of wide scale use of this approach, there is no evidence that it has had any protective impact on public safety, amenity, or wildlife protection, nor that traditional trap and kill strategies reduce populations of free roaming cats. In addition, according to Hurley and Levy (2022), *“untargeted removal of cats or other litter-bearing mammals leads to a destabilisation of age and dominance structures, resulting in paradoxical increase in numbers as well as potential harms. Impounding, caring for and potentially euthanizing free-roaming cats also diverts resources which could be invested more proactively.”* In short, trapping and killing domestic cats does not address the source of the problem, does not support the owner/carer to comply, and does not develop trust or community support to address free-roaming cat issues more broadly.

Shooting is not an effective or endorsed method of domestic cat management anywhere in the world, as far as we are aware. Not only does this place Australia in the unique position of being the nation that shoots cats that are being cared for and potentially are owned by community members, encouraging members of the public to shoot cats in their neighbourhood condones anti-cat sentiment and behaviours, and alienates cat lovers, including those who are considered responsible cat owners; with at least 1 in 3 Australian households owning a pet cat (Animal Medicines Australia, 2022) and a further 3% feeding a cat they don't own, this recommendation has the potential to negatively impact a large portion of the Australian population. Cat assistance teams working with their communities to deliver cat desexing programs find that many people care about free-roaming cats and develop a strong bond with the cats they care for (Crawford et al., 2023); shooting these cats will lead to cats that are an important part of someone's life, being killed or injured.

Recommendation 5. Modifying human behaviour

AIAM recommends that the Threat Abatement Plan for Feral Cats more strongly highlights the need for humans to modify their behaviour to improve the quality and quantity of natural environments, and prevent further habitat degradation, particularly in areas with higher numbers of cats or known increased levels of cat predation.

Australian studies have shown that vegetation characteristics within a habitat are likely more important for species diversity than the regulation of cats in the same area (Lilleth et al., 2010; Franklin et al., 2021) and that habitat destruction and degradation is the critical factor affecting richness of bird species (Grayson et al., 2007). The importance of land use on the intensity and success of predation by cats has been increasingly studied in the last decade. Cats are more effective predators in environments that have been heavily modified by humans to remove natural refuges for prey animal species (McGregor et al., 2015), and negatively impact other features of the habitat necessary for these animals to survive, such as food availability and safe movement across the landscape. Cat predation is highest in cropping areas, and highly fragmented reservoirs of native flora adjoining built up environments (Graham, Maron and McAlpine, 2012).

Specifically, AIAM recommends that Objective 9 Actions: Maintain Public Support 9.2 be amended to include actions working to restore native habitat in existing urban areas, limiting land clearing, and encouraging indigenous plantings in new and expanding suburban areas.

Furthermore, AIAM urges a greater emphasis on promoting the modification of human actions to risks to environments relied upon by threatened species and, as much as possible, the compounding of cat predation through human land use choices.

Recommendation 6. Revise negative language when referring to cats

Current language used throughout the TAP when referring to cats is negative. Animals assigned labels with negative connotations often receive less welfare consideration than valued species (Dubois et al., 2017). The use of the divisive language throughout the TAP exacerbates societal divisions regarding management of cat populations, alienating cat lovers and condoning a disregard for the bond between cat caretakers/owners and domestic cats. Throughout the draft TAP, there is excessive emphasis on the utilisation of primarily lethal control methods which risks further demonising all cats, potentially leading to instances of animal cruelty. We recommend that the language used throughout the draft TAP be shifted to a neutral and scientifically accurate tone, and clearer acknowledgement is made of the importance of human-animal bonds with domestic cats and cat welfare is more highly prioritised.

Where advice is given to attempt to modify cat ownership and caretaking behaviours, such as encouraging and facilitating confinement of pet cats to the owner's property, this should be done within the framework of modern, best practice behaviour change principles that support and positively influence people towards the desired behaviours rather than advocating an 'enforcement first' approach to people who care for cats in our communities.

Conclusion

The methods proposed in the draft TAP for managing domestic cats living in the vicinity of humans (i.e., domestic cats (owned, semi-owned and unowned with individual cats often moving between these 3 categories), lack knowledge of current best practice in this area, are out of touch with recent experiences with cat management programs in the community, and ignore significant developments in cat management and welfare in Australia and internationally.

The International Consensus Principles for Ethical Wildlife Control (Dubois et al., 2017) advocate for firstly altering the human practices that cause human-wildlife conflict and developing a culture of coexistence, as well as minimising animal welfare harms to the fewest numbers of animals.

An ethical approach to animal management involves supporting all stakeholders (Verrinder & Phillips, 2022), not only the native wildlife and non-pet owners, but also the cats and the people who care about them. Conservationists are seeing increasing impacts on wildlife populations and animal management, welfare and sheltering organisations are seeing the suffering of people and animals using current outdated animal management strategies (Scotney et al., 2023). Planning together to maximise positive outcomes for people, cats and wildlife is therefore imperative for an effective, economical, ethical and socially accepted Threat Abatement Plan.

References

- Andrukonis, A., & Protopopova, A. (2020). Occupational health of animal shelter employees by live release rate, shelter type, and Euthanasia-Related Decision. *Anthrozoos*, 33(1), 119–131. <https://doi.org/10.1080/08927936.2020.1694316>
- Alberthsen, C., Rand, J., Morton, J. M., Bennett, P., Paterson, M., & Vankan, D. (2016). Numbers and characteristics of cats admitted to Royal Society for the Prevention of

- Cruelty to Animals (RSPCA) shelters in Australia and reasons for surrender. *Animals*, 6(3), 23. <https://doi.org/10.3390/ani6030023>
- Australian Bureau of Statistics (2021). *Income and work: Census, 2021*. <https://www.abs.gov.au/statistics/labour/earnings-and-working-conditions/income-and-work-census/latest-release> (accessed December 1 2023)
- Barrows, P. L. (2004). Professional, ethical, and legal dilemmas of trap-neuter-release. *Javma-journal of the American Veterinary Medical Association*, 225(9), 1365–1369. <https://doi.org/10.2460/javma.2004.225.1365>
- Benka, V. A., Boone, J. D., Miller, P. S., Briggs, J. R., Anderson, A., Sloomaker, C., Slater, M. R., Levy, J., Nutter, F. B., & Zawistowski, S. (2021). Guidance for management of free-roaming community cats: a bioeconomic analysis. *Journal of Feline Medicine and Surgery*, 24(10), 975–985. <https://doi.org/10.1177/1098612x211055685>
- Catnets (n.d.). *Catnets Support: How much will my cat enclosure cost?* <https://support.catnets.com.au/hc/en-us/articles/900006475963--How-much-will-my-cat-enclosure-cost-> (accessed December 2023)
- Centonze, L. A., & Levy, J. K. (2002). Characteristics of free-roaming cats and their caretakers. *Journal of the American Veterinary Medical Association*, 220(11), 1627–1633. <https://doi.org/10.2460/javma.2002.220.1627>
- Chua, D., Rand, J., & Morton, J. M. (2023). Stray and Owner-Relinquished Cats in Australia—Estimation of numbers entering municipal pounds, shelters and rescue groups and their outcomes. *Animals*, 13(11), 1771. <https://doi.org/10.3390/ani13111771>
- Cotterell, J., Rand, J. & Ahmadabadi, Z. (2021) Outcomes associated with a community cat program based on high intensity sterilisation of owned and semi-owned cats in target areas [Conference poster presentation] <https://aiam.org.au/resources/Documents/Research%20papers/Banyule%20WSAVA%20ePoster-Cotterell.10.jr.pdf>
- Crawford, C., Rand, J., Rohlf, V., Scotney, R., & Bennett, P. (2023). Solutions-Based Approach to Urban Cat Management—Case studies of a one welfare approach to urban cat management. *Animals*, 13(21), 3423. <https://doi.org/10.3390/ani13213423>
- Crawford, H. M., Calver, M. C., & Fleming, P. A. (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(4), 171. <https://doi.org/10.3390/ani9040171>

- Dickman, C. R., & Newsome, T. M. (2015). Individual hunting behaviour and prey specialisation in the house cat *Felis catus*: Implications for conservation and management. *Applied Animal Behaviour Science*, 173, 76–87. <https://doi.org/10.1016/j.applanim.2014.09.021>
- Dubois, S., Fenwick, N., Ryan, E., Baker, L., Baker, S. E., Beausoleil, N. J., Carter, S. L., Cartwright, B. J., Costa, F., Draper, C., Griffin, J. N., Grogan, A., Howald, G. R., Jones, B., Littin, K., Lombard, A. T., Mellor, D. J., Ramp, D., Schuppli, C. A., & Fraser, D. (2017). International consensus principles for ethical wildlife control. *Conservation Biology*, 31(4), 753–760. <https://doi.org/10.1111/cobi.12896>
- Franklin, M. E., Rand, J., Marston, L. C., & Morton, J. M. (2021). Do pet cats deserve the disproportionate blame for wildlife predation compared to pet dogs? *Frontiers in Veterinary Science*, 8. <https://doi.org/10.3389/fvets.2021.731689>
- Goode, R. & Tonks, E (2023) *Working together to get the job done* [Conference presentation]. Big Hairy People and Pets Summit, Gold Coast, Australia. <https://www.youtube.com/watch?v=tW5VucNSzpg>
- Goodwin, K., Rand, J., Morton, J. M., Uthappa, V., & Walduck, R. (2018). Email reminders increase the frequency that pet owners update their microchip information. *Animals*, 8(2), 20. <https://doi.org/10.3390/ani8020020>
- Grayson, J., Calver, M. C., & Lymbery, A. J. (2007). Species richness and community composition of passerine birds in suburban Perth: is predation by pet cats the most important factor? In *Royal Zoological Society of New South Wales eBooks* (pp. 195–207). <https://doi.org/10.7882/fs.2007.024>
- Human Animal Support Services, Policy Agenda 2024. (accessed December 2023) <https://resources.humananimalsupportservices.org/hubfs/2024%20HASS%20Policy%20Platform.pdf>
- Hurley, K., & Levy, J. (2022). Rethinking the animal Shelter's role in Free-Roaming cat management. *Frontiers in Veterinary Science*, 9. <https://doi.org/10.3389/fvets.2022.847081>
- Kilgour, R. J., & Flockhart, D. T. T. (2022). Direct and indirect factors influencing cat outcomes at an animal shelter. *Frontiers in Veterinary Science*, 9. <https://doi.org/10.3389/fvets.2022.766312>
- Kreisler, R., Cornell, H. N., & Levy, J. (2019). Decrease in population and increase in welfare of community cats in a Twenty-Three Year Trap-Neuter-Return program in Key Largo, FL: The ORCAT Program. *Frontiers in Veterinary Science*, 6. <https://doi.org/10.3389/fvets.2019.00007>

- Lancaster, E., Rand, J., Collecott, S., & Paterson, M. (2015). Problems Associated with the Microchip Data of Stray Dogs and Cats Entering RSPCA Queensland Shelters. *Animals*, 5(2), 332–348. <https://doi.org/10.3390/ani5020332>
- Levy, J., Isaza, N., & Scott, K. C. (2014). Effect of high-impact targeted trap-neuter-return and adoption of community cats on cat intake to a shelter. *Veterinary Journal*, 201(3), 269–274. <https://doi.org/10.1016/j.tvjl.2014.05.001>
- Lilith, M., Calver, M. C., & Garkaklis, M. J. (2010). Do cat restrictions lead to increased species diversity or abundance of small and medium-sized mammals in remnant urban bushland? *Pacific Conservation Biology*, 16(3), 162. <https://doi.org/10.1071/pc100162>
- Lohr, C. A., Cox, L. J., & Lepczyk, C. A. (2012). Costs and benefits of Trap-Neuter-Release and euthanasia for removal of urban cats in Oahu, Hawaii. *Conservation Biology*, 27(1), 64–73. <https://doi.org/10.1111/j.1523-1739.2012.01935.x>
- Lord, L. K., Griffin, B., Slater, M. R., & Levy, J. (2010). Evaluation of collars and microchips for visual and permanent identification of pet cats. *Javma-journal of the American Veterinary Medical Association*, 237(4), 387–394. <https://doi.org/10.2460/javma.237.4.387>
- Lord, L. K., Pennell, M. L., Ingwersen, W., & Fisher, R. A. (2008). Sensitivity of commercial scanners to microchips of various frequencies implanted in dogs and cats. *Javma-journal of the American Veterinary Medical Association*, 233(11), 1729–1735. <https://doi.org/10.2460/javma.233.11.1729>
- Ma, G., McLeod, L. J., & Zito, S. (2023). Characteristics of cat semi-owners. *Journal of Feline Medicine and Surgery*, 25(9). <https://doi.org/10.1177/1098612x231194225>
- Maddies Fund, A Guide to the Asilomar Accords Definitions: “Healthy,” “Treatable,” “Unhealthy & Untreatable” [Guidance Document]. accessed December 2023. <https://www.maddiesfund.org/assets/documents/No%20Kill%20Progress/A%20Guide%20to%20the%20Asilomar%20Accords%20Definitions.pdf>
- Marston, L., Bennett, P. & Toukshsati, S. (2006). *Cat Admissions to Melbourne Shelters* [Report to Victorian Bureau of Animal Welfare] https://www.academia.edu/19443517/CAT_ADMISSIONS_TO_MELBOURNE_SHELTERS
- McCarthy, R. J., Levine, S. H., & Reed, J. M. (2013). Estimation of effectiveness of three methods of feral cat population control by use of a simulation model. *Javma-journal of the American Veterinary Medical Association*, 243(4), 502–511. <https://doi.org/10.2460/javma.243.4.502>

- McGregor, H., Legge, S., Jones, M. L., & Johnson, C. N. (2015). Feral cats are better killers in open habitats, revealed by Animal-Borne Video. *PLOS ONE*, 10(8), e0133915. <https://doi.org/10.1371/journal.pone.0133915>
- National Animal Care & Control Association (2021) Animal Control Intake Of Free-Roaming Cats [Position Statement]. Accessed December 2023. <https://www.nacanet.org/animal-control-intake-of-free-roaming-cats/#:~:text=It%20is%20the%20position%20%5Bpolicy,for%20spay%2Fneuter%20and%20vaccination>
- Neal, S. M., & Wolf, P. J. (2023). A cat is a cat: Attachment to community cats transcends ownership status. *Journal of Shelter Medicine and Community Animal Health*, 2(1). <https://doi.org/10.56771/jsmcah.v2.62>
- Neldner, V. J & Laidlaw, Melinda & McDonald, Keith R & Mathieson, Michael T & Melzer, Rhonda & McDonald, W.J.F & Limpus, C. J & Hobson, Rod & Seaton, Richard & Queensland. Department of Science, Information Technology and Innovation. (2017). *Scientific review of the impacts of land clearing on threatened species in Queensland* Retrieved December 11, 2023, from <http://nla.gov.au/nla.obj-1203512841>
- Nutter, F.C. (2005) Evaluation of a trap-neuter-return management program for feral cat colonies: Population dynamics, home ranges, and potentially zoonotic diseases [Doctoral dissertation, North Carolina State University] ProQuest <https://www.proquest.com/openview/cd19b7090e67c93d28906b648416fcb8/1?pq-origsite=gscholar&cbl=18750&diss=y>
- Oscillot® Proprietary Ltd. (n.d.). What is Oscillot? | Oscillot® Cat-Proof Fence System. <https://oscillot.com.au/pages/what-is-oscillot> (accessed December 2023)
- Rand, J., Ahmadabadi, Z., Norris, J., & Franklin, M. E. (2023). Attitudes and Beliefs of a Sample of Australian Dog and Cat Owners towards Pet Confinement. *Animals*, 13(6), 1067. <https://doi.org/10.3390/ani13061067>
- Rand, J., Fisher, G., Lamb, K., & Hayward, A. (2019). Public opinions on strategies for managing stray cats and predictors of opposition to Trap-Neuter and return in Brisbane, Australia. *Frontiers in Veterinary Science*, 5. <https://doi.org/10.3389/fvets.2018.00290>
- Rand, J., Lancaster, E., Inwood, G., Cluderay, C., & Marston, L. C. (2018). Strategies to reduce the euthanasia of impounded dogs and cats used by councils in Victoria, Australia. *Animals*, 8(7), 100. <https://doi.org/10.3390/ani8070100>
- Richardson, E. (2023) *Cat Assistance Team: Support in the Community to Prevent Stray and Abandoned Cats* [Conference presentation]. Big Hairy People and Pets Summit, Gold Coast, Australia. <https://www.youtube.com/watch?v=GUEBVbRpf7Y>

- Rollin, B. E. (2011). Euthanasia, moral stress, and chronic illness in veterinary medicine. *Veterinary Clinics of North America: Small Animal Practice*, 41(3), 651–659.
<https://doi.org/10.1016/j.cvsm.2011.03.005>
- RSPCA Australia (2018) *Summary Of Findings And Recommendations: Identifying Best Practice Domestic Cat Management In Australia*. RSPCA Australia
<https://kb.rspca.org.au/wp-content/uploads/2019/01/Findings-and-Recommendations-Identifying-Best-Practice-Domestic-Cat-Management.pdf>
- RSPCA Australia (2022) *RSPCA Australia National Statistics 2021-2022* [Organisational report].
<https://www.rspca.org.au/sites/default/files/RSPCA%20Australia%20Annual%20Statistics%202021-2022.pdf> (accessed December 2023)
- RSPCA Australia (2023) Position paper A08: Cat Containment. <https://kb.rspca.org.au/wp-content/uploads/2023/10/PP-A8-Cat-Containment.pdf#:~:text=Containment%20of%20cats,within%20the%20owner's%20property%20boundaries>. (accessed December 2023)
- Scotney, R., McLaughlin, D., & Keates, H. (2015). A systematic review of the effects of euthanasia and occupational stress in personnel working with animals in animal shelters, veterinary clinics, and biomedical research facilities. *Javma-journal of the American Veterinary Medical Association*, 247(10), 1121–1130.
<https://doi.org/10.2460/javma.247.10.1121>
- Scotney, R., Rand, J., Rohlf, V., Hayward, A., & Bennett, P. (2023). The impact of Lethal, Enforcement-Centred Cat Management on Human Wellbeing: exploring lived experiences of cat carers affected by cat culling at the Port of Newcastle. *Animals*, 13(2), 271. <https://doi.org/10.3390/ani13020271>
- Slater, M. R., Garrison, L., Miller, K. A., Weiss, E., Drain, N., & Makolinski, K. V. (2013). Physical and Behavioral Measures that Predict Cats' Socialization in an Animal Shelter Environment during a Three Day Period. *Animals*, 3(4), 1215–1228.
<https://doi.org/10.3390/ani3041215>
- Slater, M. R., Miller, K. A., Weiss, E., Makolinski, K. V., & Weisbrot, L. A. (2010). A survey of the methods used in shelter and rescue programs to identify feral and frightened pet cats. *Journal of Feline Medicine and Surgery*, 12(8), 592–600.
<https://doi.org/10.1016/j.jfms.2010.02.001>
- Spehar, D. D., & Wolf, P. J. (2018). A case study in citizen Science: The effectiveness of a Trap-Neuter-Return program in a Chicago neighborhood. *Animals*, 8(1), 14.
<https://doi.org/10.3390/ani8010014>

- Spehar, D. D., & Wolf, P. J. (2019). Integrated Return-To-Field and targeted Trap-Neuter-Vaccinate-Return programs result in reductions of feline intake and euthanasia at six municipal animal shelters. *Frontiers in Veterinary Science*, 6. <https://doi.org/10.3389/fvets.2019.00077>
- Spehar, D. D., & Wolf, P. J. (2020). The impact of Return-to-Field and Targeted Trap-Neuter-Return on feline intake and euthanasia at a municipal animal shelter in Jefferson County, Kentucky. *Animals*, 10(8), 1395. <https://doi.org/10.3390/ani10081395>
- Swarbrick, H. A., & Rand, J. (2018). Application of a protocol based on Trap-Neuter-Return (TNR) to manage unowned urban cats on an Australian university campus. *Animals*, 8(5), 77. <https://doi.org/10.3390/ani8050077>
- Tan, K., Rand, J., & Morton, J. M. (2017). Trap-Neuter-Return activities in urban stray cat colonies in Australia. *Animals*, 7(12), 46. <https://doi.org/10.3390/ani7060046>
- Thompson, B. K., Sims, C., Fisher, T. L., Brock, S., Dai, Y., & Lenhart, S. (2022a). A discrete-time bioeconomic model of free-roaming cat management: A case study in Knox County, Tennessee. *Ecological Economics*, 201, 107583. <https://doi.org/10.1016/j.ecolecon.2022.107583>
- Thompson, B. K., Sims, C., Fisher, T. L., Brock, S., Dai, Y., & Lenhart, S. (2022b). A discrete-time bioeconomic model of free-roaming cat management: A case study in Knox County, Tennessee. *Ecological Economics*, 201, 107583. <https://doi.org/10.1016/j.ecolecon.2022.107583>
- Van Patter, L. E., & Hovorka, A. J. (2017). 'Of place' or 'of people': exploring the animal spaces and beastly places of feral cats in southern Ontario. *Social & Cultural Geography*, 19(2), 275–295. <https://doi.org/10.1080/14649365.2016.1275754>
- Verrinder, J. M., & Phillips, C. J. (2022). Stakeholder groups and perspectives. In Routledge eBooks (pp. 451–466). <https://doi.org/10.4324/9781003182351-41>
- Wheeler, M. (2023) *People vote and pay rates; dogs and cats don't* [Conference presentation]. Big Hairy People and Pets Summit, Gold Coast, Australia. <https://www.youtube.com/watch?v=aLM-K8i4pUM>
- Zito, S., Aguilar, G., Vigeant, S., & Dale, A. (2018). Assessment of a targeted Trap-Neuter-Return pilot study in Auckland, New Zealand. *Animals*, 8(5), 73. <https://doi.org/10.3390/ani8050073>
- Zito, S., Vankan, D., Bennett, P., Paterson, M., & Phillips, C. J. C. (2015). Cat Ownership Perception and Caretaking Explored in an Internet Survey of People Associated with Cats. *PLOS ONE*, 10(7), e0133293. <https://doi.org/10.1371/journal.pone.0133293>