

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

Australian Pet Welfare Foundation Submission

to the Australian House of Representatives

Standing Committee on the Environment and Energy

Inquiry into the Problem of Feral and Domestic cats in Australia



Jacquie Rand, BVSc (Melb), DVSc (Guelph), MANZCVS

Diplomate, American College of Veterinary Internal Medicine

Emeritus Professor, the University of Queensland

Executive Director and Chief Scientist, Australian Pet Welfare Foundation

Emily Lancaster, BAppSc (Hons)

Research Officer, Australian Pet Welfare Foundation

July 2020



Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

About the Australian Pet Welfare Foundation (APWF)

The Australian Pet Welfare Foundation (APWF) is the peak research body and advocate for pet welfare in Australia. As a not-for-profit organisation, APWF specialises in evidence-based solutions for reducing euthanasia in animal welfare shelters and local government facilities. APWF is led by Dr. Jacquie Rand, Emeritus Professor of Companion Animal Health at The University of Queensland (UQ). She has worked extensively in shelter research over the last 14 years, including collaborative studies with the RSPCA, Animal Welfare League and local governments. Professor Rand has a distinguished track record in the delivery of industry-relevant research outcomes. She is the author of over 115 journal articles, 118 abstracts, and 42 book chapters, and is the editor of three books. While at UQ she taught Urban Animal Management and since 2013 has co-authored 21 peer-reviewed articles on the management of urban domestic animals, including seven related to semi-owned and unowned cats. She is also the author of government reports and discussion papers on the management of urban dogs and cats, and consults with local governments on urban cat management.

Introduction

This submission responds to the Cat Inquiry of the Standing Committee on the Environment and Energy of the Australian House of Representatives. The submission relates for the most part to the management of domestic (owned, semi-owned and unowned) cats in urban, peri-urban and rural areas (on farms). The management strategies that will effectively reduce the number of free-roaming domestic cats, protect wildlife, and reduce impacts on humans in these places are different from those needed to protect wildlife from truly feral cats in remoter parts of the country. In all cases, however, it is essential that effective management strategies be based on sound evidence and clear analysis of impact.

Definitions of cats for the purpose of management: Domestic Cats (Owned, Semi-owned and Unowned) in urban, peri-urban and rural areas, and Feral Cats

The Threat Abatement Plan for Predation by Feral Cats, adopted by the Commonwealth of Australia (2015), acknowledges that for management purposes cats be grouped into categories based on how and where they live, and that individual cats may move from one category to another. The Plan emphasizes that “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.”

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

The RSPCA's manual for Best Practice in Domestic Cat Management (RSPCA Australia 2018) defines **domestic cats** as those with some dependence (direct or indirect) on humans, and subcategorised into **owned**, **semi-owned** cats and **unowned** cats. **Owned cats** are identified with and cared for by a specific person and are directly depending on humans. They are usually sociable although sociability varies. **Semi-owned** cats are fed or are provided with some other care by people who do not consider they own them. These cats are of varying sociability, with many socialised to humans, and they may be associated with one or more households. **Unowned** cats are indirectly dependent on humans, may have casual and temporary interactions with humans, and are of varying sociability, including some who are unsocialised to humans. Unowned cats often live in groups or colonies in urban environments, where common aggregation places include industrial sites, universities, rubbish tips, food outlets, and fishing harbours. **Feral cats** can be distinguished from domestic cats because they are unowned, unsocialised, have no relationship with or dependence on humans, survive by hunting or scavenging, and live and reproduce in the wild. For practical policy and management purposes, there is a high probability that a cat in Australia found more than 2-3 km from the nearest human habitation is a feral cat (Roetman et al. 2017).

Despite frequent media attention to the negative effects of domestic cats, it is important to acknowledge that domestic cats have a positive role in Australian society. Cats provide companionship and improve the mental, physical, and social health of people who care for them. Studies have shown that relationships with animals are important for many people, contributing to their health and well-being (McConnell et al. 2011, Benjamin & Thompson 2017). Even people caring for semi-owned cats talk to the cats multiple times a day and say they are attached to the cats. They also say the cats give them a reason for getting up in the morning and help them get through tough times (unpublished data, Rand 2020), which is why these carers are traumatised when the cats they are caring for are trapped and killed.

It is important and relevant to note that cat management by local governments in Australian cities and towns typically occurs in response to cat-related complaints. After the cats are caught and removed, they are either adopted or killed, with an average of 50% currently being killed across all Australian shelters and pounds.

For the remainder of this submission, which tracks topic by topic the issues the Standing Committee identified as being important and relevant for the purposes of its Cat Inquiry, we refer to Australian cats as feral or domestic with the further understanding that domestic cats can be either owned, semi-owned or unowned in urban, peri-urban or rural (farm) areas.

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

TOPIC 1: The prevalence of cats in Australia

Feral cats

The most reliable estimates (Legge et al. 2017) are that the feral cat population in natural environments in Australia is between 1.4 million (after periods of extensive drought) and 5.6 million (after periods of extensive rainfall). Their average density is 0.27 cats/km². However, population density in specific areas varies depending on environmental and geographical influences, as well as on the availability of prey species. Despite culling of cats over many years, there is no evidence that culling has reduced overall numbers of feral cats in Australia, which is difficult in vast, remote landscapes (Stobo-Wilson et al. 2020).

Domestic cats

Owned cats: According to Animal Medicines Australia (2016), there are about 3.77 million owned cats (150/1,000 residents) in Australia, with 27% of households having at least one cat (average 1.4).

Semi-owned and unowned cats: Legge et al. (2017) estimated that there were 0.7 million semi-owned and unowned cats, or 8.2 cats/km², representing approximately 29 cats/1,000 residents in highly disturbed environments. Two Australian surveys of semi-owners (cat carers who do not see the cats as their property) found 3-9% of adults fed a semi-owned cat daily, and an average of 1.5 cats were fed (Rand et al. 2018; Zito et al. 2015). If 3% of adults feed 1.5 semi-owned cats on average, the total number of semi-owned cats would be 0.9 million (36 cats/1,000 residents), a figure close to Legge's estimate of semi-owned/unowned cats. If 9% of adults feed an average of 1.5 cats daily, the upper end of the estimate for these cats would be 2.7 million, which is close to Legge's upper estimate of 2.65 million cats in highly modified environments. The difficulty in accurately estimating semi-owned/unowned cat numbers using surveys is compounded by the fact that some cats are fed by more than one person, and some urban and peri-urban unowned cats are not fed by people intentionally.

The variability in total semi-owned/unowned cat numbers is also affected by the fact that the density of these cats varies between suburbs, with the highest numbers occurring in the most socioeconomically disadvantaged areas (Rand et al. 2018). This is reflected in published data from Victoria showing that on average 7 cats/1,000 residents are impounded by local governments, but the range runs from 1 cat/1,000 residents in high socio-economic suburbs to 33 cats/1,000 residents in lower socio-economic suburbs or regional areas (Rand et al. 2018). Semi-owned and unowned cats comprise 80% to 100% of council impoundments.

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

If we look at the total intake of owned, semi-owned and unowned cats into animal welfare shelters and municipal pounds across Australia for those states with readily accessible data, the range runs from 4.2 cats/1,000 residents for ACT to 9.6 cats/1,000 for Victoria (unpublished data, Chua & Rand, 2020). These figures do not include, however, the many cats received directly by rescue groups. Most cats admitted to council pounds (85-100%) and animal welfare shelters (60-80%) are semi-owned and unowned cats from urban areas – classed as stray cats in shelter and pound data (Kerr et al. 2018; Alberthsen et al. 2013). So, whether we try to measure or estimate the number of semi-owned and unowned cats in Australia from survey data, or from council and shelter intake data, the precision of the results leaves a lot to be desired.

Wildlife motion-detecting cameras are useful for determining free-roaming cat densities, although they cannot distinguish between owned and semi-owned/unowned cats unless the owned cat is wearing a collar (a minority). Such cameras are currently being employed by the Australian Pet Welfare Foundation in a pilot project in three suburbs of the City of Ipswich, Queensland. When the camera data are coupled with survey data they provide more useful estimates of the density of semi-owned/unowned cats in a given area than would otherwise be available.

Recommendation 1:

1. To establish the current prevalence of feral, owned and semi-owned/unowned cats in urban, peri-urban and rural areas of Australia, especially for *specific locations* where cats are perceived to represent a risk to the environment (risks to wildlife, human health or social amenity).
2. To establish the factors affecting the density of cats in different geographical locations.

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

TOPIC 2: The impacts of cats on native wildlife and habitats

Predation by feral cats

There is little doubt that in rural and natural areas, feral cat populations have impacted significantly on native wildlife, and have played a role in the extinction of native species in mainland Australia, most notably on some Australian islands (Dickman 1996). But the effects they have on wildlife populations in a particular geographical location can be negative, neutral or positive depending in part upon the type and prevalence of native and introduced species in the area being examined (Dickman 1996).

Much of the published literature about the impacts of cats in both wild and urban places relies on modelling data rather than actual population studies. If we want to know what actual impacts cats are having on threatened and endangered species in particular places, and then manage cats on the basis of that information, more and different kinds of information will be needed. And the same goes for the other factors that undoubtedly affect the numbers and status of endangered and threatened native species, such as habitat size and quality, bushfires, and the presence of other predators. Without that information, it is not possible to devise management strategies that will be effective in protecting threatened and endangered species, nor will they represent the best return on government and private funding.

Predation by domestic cats

The widespread perception that free-roaming urban cats, whether owned or semi-owned/unowned, contribute to declines in *urban* native wildlife through predation is reflected in data from a recent Australian study showing that 32% of respondents believed cats had a negative effect on native wildlife in their area (Rand et al. 2019). Despite multiple, hypothetical extrapolations of data about the predation impacts of urban cats (Legge et al. 2017 & 2020; Woinarski et al. 2017 & 2018; Murphy et al. 2019), we actually know remarkably little about the effects that cats in urban environments have on population sizes of native birds and animals. Several Australian studies have failed to demonstrate a correlation between the abundance of cats in urban areas and the density and diversity of native animals or birds (Grayson et al. 2007; Lilith et al. 2010; Maclagan et al. 2018).

We comment on this work.

Lilith et al. (2010): A study in Perth investigated the association between the density and diversity of mammals in bushland adjacent to three suburbs, each with different cat management legislation, including one which did not allow cats, one which required cats to

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

wear a bell during the day and be confined at night, and a third which had no relevant regulations at all. Numbers of the two most abundant medium-sized mammals present, brushtail possums (*Trichosurus vulpecula*) and southern brown bandicoots (*Isodon obesulus*), were not different across all sites. The smaller mardo *Antechinus flavipes*, which was regarded as highly susceptible to cat predation, was trapped mostly at a site with no relevant regulations relating to cat management. The vegetation density was greater at this site, and the authors concluded it was vegetation density, rather than cats or cat management legislation, that had the greatest impact on susceptible populations.

Maclagan et al. (2018): A Victorian study of bandicoots similarly suggested that cats do not have a negative effect on bandicoots in urban areas. The abundance of the southern brown bandicoot was *higher* in peri-urban areas compared with nature reserves. It was in fact highest at sites with the most urbanized surroundings, where cats were also most prevalent, and significantly lower in nature reserves, where cats were largely absent.

Grayson et al. (2007): Another Australian study to investigate the effect of cats on bird populations looked at 57 sites in metropolitan Perth. The researchers were interested in the factors affecting passerine bird community composition. Bird data were collected at each site, and a questionnaire distributed to surrounding neighbours to determine cat density. No link was found between cat density and passerine bird species richness (density and diversity). However, there was a negative correlation between richness of bird species and both housing density and increasing distance from bushland (and decreasing size of bushland), leading the authors to suggest that habitat destruction and degradation were the critical factors affecting the native birds, not the cats.

The disparity between the hypothetical effects and the observed effects of cats on native bird and mammal populations in urban areas is, of course, both troubling and cautionary. The most plausible explanation is that the methodology used in studies intended to generate hypothetical estimates of cat impacts on other species is flawed, because it fails to control or account for the inaccuracies that arise when the findings of research conducted in one region or environment are extrapolated to other regions or environments with significantly different attributes. Such hypothetical estimates also typically fail to include any measure of the positive impact cat predation has by reducing the numbers of other predators, like the rats that predate bird nests (Matthews et al. 1999).

An important further limitation of attempts to estimate the significance of bird predation by cats is that they do not always properly account for the condition of the birds; whether or not they are sick, for example, or might otherwise not have contributed to the next breeding

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

cycle. The average lifespan of banded birds of Australian species predated by cats is typically 2-4 years (Department of Environment and Energy 2017). This means that approximately 25-50% of the population of bird species susceptible to cat predation dies annually from natural causes. Studies of bird mortality from Europe find that birds killed by cats are significantly less healthy than those killed by other forms of trauma (Baker et al. 2008; Møller & Erritzøe 2000). A study in the city of Bristol, UK, for example, found that fat and pectoral muscle mass were both lower in birds killed by pet cats, compared with birds killed through collisions with windows or cars (Baker et al. 2008). Another study, using dead passerine birds recovered by members of the public, determined that spleen size was significantly smaller in birds caught by cats (n=58) than those that died from collisions with windows or cars (n=477) (Møller & Erritzøe 2000). The difference in spleen size was almost one-third and is considerable in the light of the fact that spleen size is an accepted measure of immunocompetence and is involved in both humoral and cell-mediated responses (National Research Council 1992). There was some evidence that younger birds were being caught by cats, but even within juveniles, spleen size was on average 48% smaller in birds caught by cats. The inference is that cat-killed birds were in significantly poorer condition than those killed following collisions, leading the authors to conclude that cat predation represents a compensatory rather than an additive form of mortality. In other words, cat predation does not cause a secular change in the overall mortality of bird populations.

The implications of these findings for public policy are clear. If predation by cats removes unhealthy individuals unlikely to breed again, and likely to die from other causes anyway, the magnitude and significance of any effect urban cats have on native bird populations is at the very least unclear. And if the large numbers of birds killed by cats that some studies report (Loss et al. 2013; Woinarski et al. 2017, Legge et al. 2020) are misleading, they ought not to be the basis for imposing lethal control measures on urban cats unless and until more reliable measures of the impacts of cats on wildlife numbers become available. Or, to put it differently, prospective studies are urgently needed to evaluate the impact alternative control measures would have on wildlife numbers and diversity in urban areas. These are not technically difficult to do, using motion-detecting wildlife cameras and animal traps.

There is not at the moment a sufficiently robust evidentiary basis for concluding that either low intensity efforts to trap-adopt-or-kill urban cats or other and non-lethal approaches to reducing cat populations will have a significant impact on wildlife losses.

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

Impact of cats on human health: Disease risk

In a survey of residents of Brisbane, Queensland, 18% agreed that stray cats spread disease to humans (Rand et al. 2019). However, most diseases with the potential to spread from cats to humans and cause serious disease are rare, and require sufficiently close contact with infected cats that disease can be transmitted directly through bites, scratches, or in faeces (Centers for Disease Control and Prevention, 2016). The risks to public health from cats are, therefore, small (Chomel 2014). Pet cats with close human contact pose a higher risk to humans than semi-owned/unowned cats, which less frequently have direct physical contact with humans. Ringworm (a fungal infection caused by *Microsporum canis*), fleas, mites (*Cheyletiella* spp.) and intestinal worms (*Toxocara* spp.) can all be transmitted from cats to humans, but these are easily treated. Cat bites and scratches represent a more serious risk, resulting in wounds that cause localised pain and infection, as well as the transmission of the bacteria (*Bartonella henselae*) that causes cat scratch fever.

Gastrointestinal infections (such as *Giardia* and *Salmonella*) occur when humans are in contact with the faeces of an infected cat. The risk of zoonoses will be reduced by maintaining high standards of animal care and husbandry and good hygiene practices.

Impact of cats on human health: Toxoplasmosis

Toxoplasmosis is a cat-borne parasite that infects about 25% of the world's human population. Although it rarely causes human disease, its prevalence means that it is the second most common cause of death from food-borne disease in North America, accounting for 24% of fatalities (Scallan et al. 2011). Toxoplasmosis can result in neurological damage in immunocompromised people and abortion or stillbirth when pregnant women are exposed. Human infection occurs via ingestion of oocysts directly from the environment (for example, on unwashed vegetables) or improperly cooked meat – especially mutton or lamb.

In Australia, 16% of lambs and 32% of sheep have evidence of prior infection with *Toxoplasma gondii* (*T gondii*) and will, therefore, have infective tissue cysts in muscle, posing a risk to humans if they eat undercooked meat (Kiermeier 2008). Sheep are infected by consuming pasture, feed or drinking water contaminated by cat faeces containing *T gondii* oocysts. *T gondii* infections have been identified with cases of “abortion storms” in sheep flocks causing severe impacts on affected farmers, with many subclinical losses going unnoticed (Munday 1975a). In addition to posing a risk to human and animal health, *T gondii* results in commercial losses to the sheep industry, at an estimated cost in Tasmania, for

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

example, of \$1.7 million/year (unpublished data, Department of Primary Industries, Parks, Water and Environment, Tasmanian Government).

Cats are typically infected by *T gondii* in their first year of life and shed oocysts for 2-3 weeks before becoming immune. Young cats shed 300 times more oocysts than older adults with prior exposure, and 60 times more than older, immunologically naïve cats (Davis & Dubey 1995; Dubey 1995). Low-intensity trap-adopt-or-kill programs, result, therefore in more environmental contamination with *T gondii* oocysts than those based on desexing. This is because of the higher proportion of kittens in areas managed by trap-adopt-or-kill programs than in desexing programs, where colonies comprise primarily mature cats. By reducing semi-owned/unowned cat numbers in urban, peri-urban and rural (farm) areas using a non-lethal desexing paradigm, the potential for disease spread will likely be reduced compared with current trap-adopt-or-kill strategies.

Moreover, research has shown that cats living in close proximity to humans—and largely reliant upon human provisions—are much less likely to be exposed to toxoplasmosis than cats that have to hunt to provide all their nutritional needs (VanWormer 2013). This is because prey, such as introduced rodents and native animals, will often contain infective tissue cysts in their muscle, and hence they act as intermediate hosts, infecting cats. This is why desexing semi-owned and unowned cats and feeding them processed cat food can be an effective measure to reduce the spread of toxoplasmosis in cats, humans, and wildlife.

Given the life cycle of *T gondii* and variable cat densities in different environmental contexts, contamination from *T gondii* oocysts and subsequent infection of production animals, especially sheep, probably originates largely from farm cats, rather than feral cats. Farm cats produce litters of immunologically naïve kittens, which then become infected and shed oocysts around areas where the sheep are managed for shearing, drenching, and vaccination. Cats become infected by preying on mice and rats living around these areas. It is important, therefore, to ensure that all farm/barn/shearing shed cats are desexed, and that all immigrant cats are promptly trapped and desexed, to prevent kitten births; a strategy that would likely reduce environmental contamination by toxoplasmosis cysts. This would in turn reduce economic losses from abortion in sheep and reduce the prevalence of sheep infected with *T gondii*, and therefore, reduce risks to humans.

Remaining desexed farm cats could then be tested to determine if they have protective antibodies to toxoplasma. This provides an additional benefit, because cats with protective antibodies could still hunt rodents with minimal risk of additional oocyst shedding. Cats without protective antibodies could be adopted or relocated to horse barns, confined inside or

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

in an outdoor enclosure, or be artificially infected and then confined in an enclosure until oocyst shedding is finished and it is confirmed that protective antibodies have developed. Barn cats should be monitored to ensure they are able to maintain good body condition from rodent predation, with supplementary food if needed, because cats in poor condition or stressed in other ways are more likely to shed oocysts, even if previously exposed.

Impact of cats on human health: Sarcocystis

Sarcocystis infect beef and sheep that eat pasture or feed contaminated by cat faeces containing *Sarcocystis* spores. Cats are infected by consuming sheep carcasses or uncooked meat containing tissue cysts. Unlike *T. gondii*, cats do not develop immunity and can be reinfected throughout life. *Sarcocystis* infection in sheep and cattle is common, with research suggesting over 90% of Tasmanian sheep and cattle are infected (Munday 1975b). Although it does not cause clinical disease in livestock, it results in significant commercial loss as a result of unappealing, white, rice-grain sized cysts in muscle. Losses result from the trimming of infected muscle or the condemnation of carcasses, with estimated trimming costs of \$1.50/sheep at a Kangaroo Island abattoir in 2003. Estimated overall costs to the Australian sheep industry are \$15 million/year (Animal Health Australia 2020). To reduce risk, farm/barn cats should not be fed raw or uncooked meat, and sheep carcasses should be promptly removed from paddocks.

Impact of cats on human health: Mental health

The inability to utilize humane and effective methods of population control to manage domestic cats in Australia results in approximately 80,000–115,000 healthy and treatable cats being killed every year in local pounds and shelters. Currently and on average across all the shelters and pounds in Australia approximately 50% of cats admitted are killed (Rand et al. 2018). Approximately half the admitted cats are kittens, and pre-weaned kittens and healthy but poorly socialised cats are over-represented amongst those killed. What this means, to put it quite straightforwardly, and bluntly, is that the management of domestic cats in Australia is a major welfare issue for cats, and a major ethical issue for Australians.

In most Australian animal shelters and pounds, cats have substantially poorer outcomes than dogs. In local government areas in Victoria, for example, the average euthanasia rate for admitted dogs was 8%, compared to 48% for cats. And in one quarter of the shelters and pounds servicing Victorian local government areas, the level of killing reached 67-98% of all impounded cats (Rand et al. 2018).

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

The fact that current management methods result in large numbers of healthy and treatable cats and kittens being killed in shelters and municipal facilities, has a substantial adverse effect on the mental health of shelter and pound staff, resulting in post-traumatic stress and increased risk of suicide (Rohlf & Bennett 2005; Scotney et al. 2015). In the USA, the work-place suicide rate for the animal shelter sector has reached number one ranking, comparable to other protective service professions, such as police and firefighting (Tiesman et al. 2015). Staff turnover rate in shelters is proportional to the euthanasia rate (Rogelberg et al. 2007). The results of a recently published US study reveal a suicide rate among veterinarians that is up to 3.5 times higher than the national suicide rate, with ‘euthanasia procedures’ identified as a likely contributing factor. In Australia, suicide rates for veterinarians are four times higher than for the general public (SBS News 2020, ABC News 2019). The way Australia currently manages domestic cats is, in other words, a significant source of mental health damage to people working in local shelters and pounds.

Quotes from shelter staff highlight the issues: “The effect on mental health is a very real problem, and veterinarians were the most affected – it was terrible to see the impact on them” AND “I have seen so many people’s lives damaged by having to kill a never-ending stream of kittens and cats”.

Quote from a mental health practitioner: “Shelter staff are certainly overrepresented in my practice”.

Quote from an Animal Management Officer (AMO): “AMOs spend their time trapping cats, then become a taxi for a cat killing program because there is no room left for them (in the shelter). As an AMO, it is extremely heartbreaking to go to work each day knowing that is what your role is about. This method of cat management makes no difference to the cat intake numbers each year, and the cost is high for me personally and for the cats.” (See City of Banyule submission)

Impact of cats on pet health: Disease risk

Cats under one year of age shed substantially more infectious agents in faeces, including helminths and toxoplasma oocytes, than older cats (Davis & Dubey 1995; Dubey 1995, Epe 2011). Decreasing cat numbers and increasing the proportion that are desexed can therefore reduce the risk of disease spread to pets, as well as to humans and wildlife (Levy et al. 2014; Natoli et al. 2006; Rand et al. 2019; Spehar & Wolf 2018a & 2018b; Zito et al. 2015 & 2018). Desexing also reduces fighting, which in turn reduces the risk of cellulitis and

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

abscesses from cat bites and decreases the spread of feline immunodeficiency virus (FIV or feline AIDS) to pet cats (Sykes 2013).

Recommendation 2:

Feral cats

Future funding for cat management strategies should be tied to demonstrating a measurable increase in the numbers of endangered native species at the location being managed, before there is more widespread implementation of those strategies. Modelling studies and studies estimating the numbers of native animals killed by cats have serious limitations in predicting the effectiveness of a given cat management intervention for protecting targeted native species, and such studies should not be prioritized for funding. Similarly, strategies that treat the number of cats culled as the principal measure of successful outcomes should not be funded, because of the risk that they will be ineffective in protecting targeted native species, and will at worst, result in adverse effects. The effect of other strategies to increase native wildlife populations, such as increasing habitat size and quality, reducing the frequency and intensity of bushfires, and the retention of apex predators need to be investigated as a matter of urgency.

Domestic cats (owned, semi-owned and unowned)

Funding is needed to determine the *actual* impact (not based on modelling or hypothetical predation studies) of owned and semi-owned/unowned cats on native wildlife populations, and to evaluate the effectiveness of the various strategies to reduce that impact, where there is a reasonable prospect of success. In addition, as a basis for good public policy, the effect of various cat management strategies on other relevant impacts needs to be determined, including the impacts that killing large numbers of cats and kittens have on the mental and physical health of the people tasked with doing the killing, and on the health of other pets. A high priority should be assigned to research that will support the evidence-based management of farm cats and the contribution that can make to reducing both risks to human health and economic losses from toxoplasmosis.

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

TOPIC 3: The effectiveness of current legislative and regulatory approaches

Feral cats

APWF does not support declaring feral cats to be pests, because it risks deflecting scant funds for protecting threatened and endangered species to controlling cats as the primary goal. In most areas, this likely has no benefit for wildlife, given the magnitude of the culling that is needed to effectively reduce cat populations. If not accompanied by evaluation of effects on wildlife (which is unlikely to occur if the end goal is culling cats), it may even be detrimental (Lazenby et al. 2014, Bergstrom et al. 2009). Its only predictable effect would be to intensify “eradication” strategies that we already know are going to be ineffective.

Declaring feral cats as pests commits governments, and potentially individual landholders, to fund programs to control cats as an end goal, when state and federal government funds are better spent on effective evidence-based strategies to protect wildlife. For example, it would be more effective to allocate funds for buying back privately-held land to prevent future land clearing, or paying farmers to remove livestock and regenerate land.

Some salient facts:

Firstly, cats are difficult to kill in sufficient numbers to reduce overall numbers. The average density of cats in natural environments is 0.27 cats/square kilometre (Legge et al. 2017), so there is approximately 1 cat per 300 hectares, or 100 cats in 30,000 hectares. Typically baiting does not remove more than 20% of cats, so for every 100 cats, removal of 20% leaves 40 females producing an average of 5 kittens a year (200 kittens), and these kittens can produce more kittens by 6 months of age (Nutter et al. 2004). Although at least 75% of kittens die before 6 months, sufficient survive to maintain the same number (Nutter et al. 2004)

Secondly, unless 30-50% of the population is removed every 6 months, no progressive decrease in cat numbers occurs (Miller et al. 2014, Boone et al. 2019). For example, removal of 30% of cats in a 12-month period, rapidly increased cat numbers by 2 to 3 times in a Tasmanian study (Lazenby et al. 2014), mainly because of immigration from surrounding areas. Numbers subsided to baseline, once culling stopped. Note, an average of one cat was caught per 100 nights of trapping – removal of cats is time consuming and costly. Therefore, low level culling is ineffective in progressively decreasing cat numbers, is costly and could actually increase cat numbers. High level culling is prohibitively expensive and difficult to achieve except in contained areas. For example, the cost to remove 315 cats on Macquarie

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

Island was \$10,476 per cat (total \$3.3 million), which is mid-range for reported costs for removing cats from islands (Robinson & Copson 2014)

Thirdly, unless other pest species such as rabbits, foxes and rats are also effectively controlled (additional costs), the effect of removing cats can worsen the situation. This happened on Macquarie Island, where removing cats caused “environmental devastation” that cost a further \$24 million to remedy by removing rats, mice and rabbits (Bergstrom et al. 2009).

Therefore, removal of cats needs to be targeted to areas it is shown to benefit wildlife, not just because they are classed as a pest species.

Domestic Cats – Owned

Effectiveness of legislation relating to mandatory desexing

An analysis of 191,000 cats entering RSPCA shelters over 4 years in Australia found that while the ACT had mandated desexing of all dogs and cats by 6 months of age for 10 years prior to the study, the territory had the lowest proportion of desexed kittens (by 6 months of age) of all the jurisdictions in the Commonwealth (Alberthsen et al. 2016).

Legislation only works, in other words, if it is enforced. One cannot readily tell from a distance, of course, whether a free-roaming cat is desexed as required by law, or not, or who owns it. So, mandatory desexing is difficult and resource intensive to enforce, because it requires cats to be trapped and traced to an owner. The costs to local governments of meeting these requirements mean it is just not feasible to enforce mandatory desexing. Moreover, the main barrier to desexing is not addressed by mandating it.

In Australia, multiple surveys report that most owned cats are desexed, at rates typically exceeding 90%. We also know, however, that the intake of cats and kittens into shelters and pounds is correlated with socioeconomic factors, and that intakes are significantly higher in suburbs where 20% to 30% of households are classed as low income, which in Australia is often defined as 2.4 people living on less than \$650/week. In these suburbs, there are high numbers of “free/give-away” kittens and cats, because the cost of desexing cats is unaffordable.

People who take on the care of a cat or kitten often do it on a good Samaritan basis, in response to social media messages that implore people to provide a home for the animal, because otherwise it “will be killed at the pound” - which may or may not be true, depending on which local government area people are living in. We are talking, here, about people who can afford to feed a cat and provide inexpensive items, such as bedding, but the cost of

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

desexing, microchipping and local council registration for the cat they have opted to care for is simply unaffordable. It typically runs from \$350 to \$500 for a female cat.

In the face of these realities, the effect of mandating desexing is essentially to criminalize cat ownership in the less prosperous parts of the country and to encourage semi-ownership. Public policy effectively encourages people to say that “it’s not my cat,” and disavow their best instincts for caring.

If the goal of public policy for cat management is to reduce free-roaming cat numbers, and more specifically the numbers of semi-owned, unowned and owned cats producing kittens, then the money and resources associated with mandating desexing and compliance would be more effective if it were targeted to providing support for free/affordable desexing in socioeconomically disadvantaged areas.

In the USA, to cite some comparative data, in households with annual family incomes greater than or equal to \$USD 75,000, 96% of cats were desexed. In households with annual family incomes between \$USD 35,000 and \$USD 74,999, 91% of cats were desexed (Chu 2007). When annual family income was below \$35,000, only 51% of cats were desexed. At the US federal poverty line where individual incomes range between \$16K and \$19K a year for 2 people, only 10% of pets are desexed.

Research also shows, however, that providing free or affordable desexing in socioeconomically disadvantaged areas increases the desexing rate in pets to 90% (Chadwich, Emancipet, AIAM 2019 conference). The clear implication is that low income individuals and families want to do the right thing in caring for pets, and when voluntary, free/affordable and accessible desexing programs are available, and are coupled with information on why it is important to desex, high rates of desexing can be achieved. Other assistance to overcome barriers to desexing, such as provision of a carry cage, assistance with catching the cat, and transport of the cat to and from the veterinarian may also be needed.

More specifically, in a survey of people enrolling a cat in a free desexing program in the City of Banyule (VIC), a program targeted to low SOE suburbs with high cat intake and complaints, when people were asked “What was the single most important factor why you have not already had this cat desexed?” 90% said it was because desexing was unaffordable. The targeted suburbs in this case had 20-30% of households living on \$650 a week or less.

Effectiveness of legislation relating to mandatory containment

The same factors of income and affordability surface in trying to understand why mandates for the containment of cats get limited traction in those Australian suburbs where

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

many properties are rental properties and where cat containment systems can cost on the order of \$1,000-\$2,000. For many low-income families or renters these costs are simply not feasible.

For people with “door-dasher” cats, confinement inside is usually not possible, except at night. In addition, a significant proportion of Australian cat owners believe that total indoor confinement of their animals is a welfare issue (McLeod et al. 2015). This is why a policy focus on educating owners about responsible cat ownership in suburbs with high free-roaming cat numbers has not been an effective strategy for decreasing cat impoundments or cat-related complaints. Some councils have in fact noted an increase in complaints after enacting containment by-laws, likely because of unrealistic expectations of residents that these by-laws will be complied with, and that council animal management officers will enforce them.

It costs between \$150 to \$400 for an animal management officer to trap one cat, and additional costs for it to be held in a pound or at a service provider’s shelter (animal welfare agency) until it is claimed, rehomed or euthanased. Costs for councils and animal welfare agencies to manage cats in their shelters range from \$500 to \$1,000/cat, with an average hold time of 30 days.

Note that for “door-dasher” cats, strategic feeding (feeding 30% of daily food in the morning, 30% at dusk and the last 30% after the door is closed for night) helps to ensure that cats will be contained. This can be an effective and inexpensive way to facilitate night confinement and it needs to be promoted by local governments, and coupled with information to residents about the benefit to their cat of night-time confinement in reducing cat fight injuries, risk of FIV and road accidents.

No-pet clauses in rental accommodation

In Australia, the lack of rental accommodations allowing pets is common reason people surrender pets to pounds or shelters. The lack of rental accommodation for pets accounts for 36% of adult cat surrenders to RSPCA shelters (Alberthsen 2014; Alberthsen et al. 2016). Although 33% of Australians live in rented accommodation (ABS, 2016), only 4% of advertised rentals specifically allow pets (Danaher 2016). Banning “no-pets” clauses in tenancy agreements would allow more pet owners to obtain rental accommodation, thus reducing the number of cats surrendered to shelters and pounds, and reduce the numbers euthanased. Note that most large welfare agencies charge owners to surrender their pet (approximately \$100 for a cat), which in low income areas can be a barrier to surrender, and “no-pets” clauses encourage dumping or leaving cats at rental properties when they are vacated. In addition, “no-pets”

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

clauses in tenancy agreements mean that fewer homes are available to adopt pets from shelters and pounds, further contributing to unnecessary pet euthanasia.

Many landlords have a preconceived notion that pet owners cause more property damage than non-owners (Carlisle-Frank et al, 2005), and conclude that pet owners will be a financial burden. However, research conducted in the USA demonstrates that pet owners stay twice as long, pay more rent and are no more likely to cause damage than non-pet owners. In contrast, renters with children cause an average of \$150 more damage per unit per year (Carlisle-Frank et al, 2005). In all the states in Australia, however, it is illegal to discriminate against tenants with children (eg. Anti-Discrimination Act Queensland, 1991). The U.S. findings are consistent with the experiences of First National Real Estate in Australia. Stewart Bunn, a First National spokesperson stated that ‘what we observe is that pet owners generally sign longer leases and pay more rent’ (Quelch 2015).

Pet ownership in the community has well-documented physical, psychological, and social benefits for individuals and for the community as a whole (RSPCA, 2015, Franklin 2006, Power 2013). Pet ownership decreases loneliness and stress amongst elderly owners (Keil 1998), improves community neighbourhood interactions and relations (Power 2013), and enhances the sense of community (Wood et al. 2007). Pet ownership also results in health benefits to the community. For example, total health care savings associated with cat and dog ownership were estimated at \$1.813 billion or 5% of Australia’s total health expenditure in 1999 (Headey 1999). Pet owners have fewer doctor visits and less use of medication for high blood pressure, high cholesterol, sleeping difficulties, and heart problems (Headey 1999). “No-pet” clauses mean many renters miss out on the health benefits of pet ownership, and this indirectly leads to mental health damage in shelter and municipal staff because of surrendered cats. It also encourages dumping and abandonment of cats, including at rental properties.

Domestic cats: Semi-owned and unowned

The effectiveness of current legislative and regulatory approaches: trap-adopt-or-kill

The approach currently supported by legislation and local government by-laws for the management of semi-owned/unowned cats in Australia is to trap cats that give rise to persistent complaints from the public, and to kill those that are not adopted. This results in approximately 5% of the semi-owned/unowned cat population being culled annually (Tan 2017). Both population modelling (Miller et al. 2014, Boone et al. 2019) and field data support the conclusion that this low-level culling of cats is ineffective in reducing cat-related complaints

Inquiry into Feral and Domestic cats
AUSTRALIAN PET WELFARE FOUNDATION

and associated impoundments, or in reducing cat numbers. It is instructive to look at some statistics about local council pound and shelter intakes and outcomes:

- In NSW, over 7 years (2008/09 to 2014/15), 173,000 cats were impounded by local governments and 107,000 killed, but intake did not decrease and remained at 24,000 per year (NSW Office of Local Government).
- In Queensland, over 7 years (2011/12 to 2017/18), RSPCA Queensland shelters admitted 94,770 cats (70% were semi-owned and unowned cats), and 18,420 were killed. But intake increased over the 7-year period from 13,600 to 14,895 (Kerr et al. 2018; RSPCA Australia 2016, 2017, 2018).
- In Victoria, over 7 years (2011/12 to 2017/18), the RSPCA and Lost Dogs' Home admitted 157,959 cats and killed 74,368 cats, with minimal impact on yearly intake (which declined from 23,684 to 21,844).
- In Queensland, a generously funded program for controlling urban free-roaming cats is run by the Brisbane City Council (BCC). The program employed two trappers at an annual cost of around \$250,000, to catch 1,000 cats annually, approximately 90% of which were killed (per Cr Bourke). Although it was generously funded, the BCC program was ineffectual in achieving a sustained decrease in semi-owned/unowned cat numbers. Cat intake into the council pound increased by 36% from 2015 to 2017 (data from BCC).

The reason low levels of cat culling in urban areas does not yield the intended result has to do with the fecundity of the remaining cats. For example, based on population estimates for the Brisbane local government area (Legge et al. 2017; Tan et al. 2017), the annual removal of 1,000 cats leaves untouched at least 40,000 unowned cats. This includes 20,000 females, each potentially producing 5 kittens a year, and each female kitten can then reproduce at 6 months old (Nutter et al. 2004). Although 75% of free-born kittens die before 6 months of age, (Nutter et al. 2004), enough survive to maintain overall population numbers, which slowly increase over time as the human population grows.

The inescapable conclusion from the preceding analysis is that current legislative and regulatory approaches to the management of urban and peri-urban cats in Australia are ineffective. Changes to state and local government bylaws are urgently required to allow management of owned, semi-owned and unowned cats using scientifically proven, best-practice methodologies. Parliament can lead by outlining the legal and policy framework within which local and state management could proceed.

