Lane Cove New South Wales

Introduction of Wildlife Protection Areas

Australian Pet Welfare Foundation (APWF) submission

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Executive summary

Summary

While the impact of feral cats on Australian native wildlife populations in natural environments is well-documented, **there is no scientific evidence that domestic cats (cats that live in the vicinity of people), have any viability or conservation impacts at a population level on native wildlife.** In fact, Australian population studies have not found a measurable effect of domestic cats on native wildlife (Barratt 1998, Grayson 2007, Lilith 2010, Maclagan 2018).

Inaccurate estimates of domestic cat impacts on Australian native wildlife populations

Highly publicised impacts of domestic cats on birds (Woinarski 2017), mammals (Murphy 2019), reptiles (Woinarski 2018) and amphibians (Woinarski 2020) are based on extrapolating the findings from stomach and faecal samples of feral and stray cats and surveys of pet cat hunting behaviour. **This has resulted in highly inaccurate conclusions regarding implied population effects of domestic cats in urban areas** (Legge 2020)**.**

Flawed data collection and calculations

For example, the effects of stray cats are extrapolated from just 5 studies, 3 of which were from rubbish dumps in small rural towns, and the other two explicitly stated they **only analysed stool samples that contained evidence of wildlife remains and excluded those that had evidence of cat food.** The authors then **calculated that all 0.7 million unowned cats living in highly modified environments (stray cats) predated similarly** to those samples analysed. Clearly these results are in no way representative of urban stray cats, the vast majority (>99.9%) are fed intentionally by humans (unpublished data from Australian Community Cat Program 2022).

Similarly, the effects of pet cats were extrapolated from 6 studies that were conducted 25 to 30 years ago from surveys of owners of cats that were observed to predate. Only 2 of the 6 studies were published in the peer-reviewed literature. Of the two peer-reviewed studies, they estimated that pet cats predated a median of 1.5 birds per year. However, **the authors of the highly publicised papers calculated that pet cats killed an average of 15.6 birds a year. The authors then assumed that all 3.88 million pet cats predated similarly, regardless of whether they were contained inside or never seen to predate** and calculated that 61 million birds were killed each year in Australia (including introduced species) by pet cats. This has resulted in a gross overestimation of pet cat predation of native birds by approximately 100 times, given that many pet cats are confined solely inside, not all cats predate, particularly older cats, and of those that predate birds, most predate far fewer than 15.6 birds a year.

Other confounding factors

In compounding these errors, the authors then imply this data translates to a population effect. For birds, for example, this is erroneous, because birds killed by cats in urban areas are significantly less healthy than birds killed by cars or flying into windows (Baker 2008, Møller & Erritzøe 2000), leading these authors to conclude that cat predation in urban areas 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.**

Therefore, the inherent biases, inaccuracies, and limitations of the study design of these highly quoted studies by Woinarksi, Murphy and Legge mean that there can be little to no confidence in the implied population effects. **In contrast, actual Australian population studies have not found a measurable effect of domestic cats on urban wildlife.**

Furthermore, as concluded by Barratt (1998), estimates of predation by house cats, particularly extrapolated estimates, should be treated with caution. Predation estimates alone do not prove that prey populations are detrimentally affected, especially in highly disturbed and modified environments such as urban areas.

An ongoing issue is that feral cat impacts are often wrongly attributed to domestic cats, even though these are two distinct and geographically separate populations of cats with different behaviour and ecology.

False blame is harmful and prevents a resolution to the free-roaming cat issue

Despite the lack of scientific evidence, domestic cats in Australia still receive significant blame for negative impacts on native wildlife populations. False blame for wildlife impacts directed at domestic cats is harmful because it contributes to the implementation of ineffective domestic cat management strategies and can be used as a justification for lethal approaches to domestic cats. This perpetuates the unnecessary and pointless killing of many healthy cats and kittens. This causes devastating psychological damage to staff and community residents involving depression, traumatic stress and increased risk of suicide. In addition, this lethal approach does not reduce the overall number of free-roaming cats overtime as the population quickly replenishes to original levels (Baran 2009, Reeve 2005, Rohlf 2005, Rollin 2011, Tiesman 2015, Whiting 2011, Lazenby 2015, Miller 2014, NSW Animal Seizures – Pound Data Reports).

False blame can also promote the use of inhumane killing methods and be used as a justification for cruelty towards cats. This blame can also be used as an argument for mandatory cat containment, which is not an effective strategy for reducing free-roaming stray cats or their associated issues such as potential wildlife predation.

What is the main threat?

Habitat loss is recognised as the main threat to Australian native wildlife populations (Australia State of the Environment Report 2021). In contrast to domestic cats, population studies have found that habitat loss does have a measurable effect on Australian native wildlife populations. **Motor collisions are also a very large contributor to wildlife loss.** For example, it is estimated that half of the mortality of Powerful Owls in in the greater Sydney Basin is due to motor vehicles.

NSW Wildlife Rehabilitation Government Dashboard (2021) shows that in 2019-20:

- **402 threatened species** were reportedly rescued as a result of **loss of habitat,**
- **290** as a result of **collisions with motor vehicles,**
- **127** as a result of **dog attacks**
- **31** because of **cat attacks**

What is Effective?

1. Habitat preservation and prevention of land clearing for human use such as urban development and agriculture is likely to be the most effective strategy to protect Australian native wildlife. For example, for Powerful Owls, loss of large old trees for nesting sites is leading to steadily decreasing populations. These are often lost when large house blocks are redeveloped to smaller blocks. “the greatest threat to successful breeding in both the city and rural areas is expanding urbanisation and tree loss.”
2. **Habitat preservation should be combined with Community Cat Programs, i.e., high-intensity free desexing of owned and semi-owned stary cats targeted to areas of high cat intake or complaints.** These programs significantly reduce the number of unwanted kittens born, free-roaming cats and associated issues such as nuisance or potential wildlife predation.
3. **Reducing speed limits around areas of native forest** and policing these with speed cameras
4. **Bed-time feeding** – promote feeding pet cats their evening meal inside after securing them inside for the night. It has minimal to no cost and is very effective for “door-dasher” cats.
5. **Targeted protection** of threatened and endangered species , for example, exclusion fencing around high value bushland and/or assisting cat owners with provision of cat enclosures or fencing.

Listen to talk by Emeritus Professor Rand presented at the Animal Justice Party conference Sydney 2022. *The Myth of Cats and Urban Wildlife:* https://drive.google.com/drive/folders/10iZ-YzP_--7sqUiEgh9AW2SZlFck6WWZ?usp=sharing

Other considerations:

Worsening outcome for wildlife

Low level removal of cats can make things worse for wildlife, for two reasons.

1. Low level trapping and removal of 30% of cats over 12 months led to a rapid increase in cat numbers by 2-3 times in the trap locations because of increased migration and survival of juveniles into the area (Laxenby 2014). Numbers eventually returned to normal after trapping was stopped. To get a sustained reduction in cat numbers requires a high intensity effort -30% to 50% of the cat population need to be removed every 6 months for 10 years.
2. Removal of just cats can have a worse impact on native wildlife because of the increase of other predators such as rats

In Sydney bushland, it was found that the more cats present, the less raiding of birds nests occurred – the cats were suppressing the numbers of introduced black rats (Matthews 1999)

How prevalent cats are in the bushland?

This point is very important if you don't want to have an adverse effect on wildlife by removing insufficient numbers of cats.

What wildlife do you want to protect?

a. Do you have threatened and endangered species in your bushland that are susceptible to cat predation. If so, what species?
b. Do you know the location of threatened and endangered species are in your bushland that are susceptible to cat predation? Aare they just in small pockets or throughout the park?
c. Are their populations stable or decreasing?

Is trapping cats in bushland the best use of ratepayers funds? How much will trapping cats cost?

It takes an average of 9 to 27 nights per cat to trap 30% to 90% of the cats. Traps need to checked every day for welfare reasons, and native wildlife released and the traps reset. What is your labour cost per hour to visit a set trap an average of 9 times to get one cat and then transport to Blacktown and then pay their impoundment costs?

Australian Pet Welfare Foundation

The Australian Pet Welfare Foundation (APWF) is a peak research body and advocate for pet welfare in Australia. As a not-for-profit organisation, APWF uses science-based research to enhance community well-being and improve the health and welfare of animals and people. APWF specialises in evidence-based solutions to prevent euthanasia of healthy companion animals in shelters and pounds and the associated mental health damage to staff and community residents, and ensure all adoptable animals find a home. We share research knowledge with the community, shelters and pounds, state and local governments and veterinarians to create change and save animal and human lives.

APWF is led by Chief Scientist Dr. Jacquie Rand, Emeritus Professor of Companion Animal Health at The University of Queensland (UQ) and a registered specialist veterinarian in small animal internal medicine. She has worked extensively in shelter research over the last 16 years, including collaborative studies with the RSPCA, Animal Welfare League and local governments. While at UQ Dr Rand taught Urban Animal Management and since 2013 has co-authored 21 peer-reviewed articles on urban animal management including management of semi-owned and unowned cats.

Domestic cats and Australian native wildlife populations in urban areas

Evidence to support Statements:

Many recent publications have raised concerns about the impacts of domestic cats - cats which live in the vicinity of people - on wildlife populations in Australia. Wildlife protection is an argument often proposed as a reason for mandated cat containment measures such as cat curfews or 24/7 cat containment.

However, it is important to note that there is actually **no scientific evidence that domestic cats living in the vicinity of people, impact Australian native wildlife populations**. In fact, **population studies have not found a measurable effect of domestic cats on native birds and mammals** (Barratt 1998, Grayson 2007, Lilith 2010, Maclagan 2018). In addition, there is no evidence that cat restrictions in urban areas benefit native wildlife populations.

An ongoing issue is that impacts of feral cats on wildlife are often wrongly attributed to domestic cats, even though they are two distinct and geographically separate populations with different behaviour and ecology.

The impact of feral cats on native wildlife in natural environments is well-documented. Surprisingly, however, limited research exists on domestic cat wildlife impacts. The impacts (if any) of domestic cats on native wildlife populations is largely unknown. Contrary to popular belief, there is actually no definitive scientific evidence demonstrating viability or conservation impacts at a population level on Australian native wildlife by domestic cats living around people. Despite this lack of evidence, domestic cats in Australia still receive significant blame for negative impacts on native wildlife populations. See: Cat Definitions in Appendix.

Listen to talk by Emeritus Professor Rand presented at the Animal Justice Party conference Sydney 2022. The Myth of Cats and Urban Wildlife:

https://drive.google.com/drive/folders/10iZ-YzP_--7sqUiEgh9AW2SZlFck6WWZ?usp=sharing

Australian research findings:

Australian studies were unable to detect a measurable impact in urban areas of domestic cats on native mammals (Maclagan 2018, Lilith 2010), or birds (Barratt 1998, Grayson 2007), but found that vegetation quality, housing density, distance from bushland and size of bushland were significant factors (summarised below). Other studies demonstrate the positive impact cat predation has by reducing the numbers of rats that predate bird nests (Matthews 1999).

Importantly, the **NSW Wildlife Rehabilitation Government Dashboard (2021) shows that in 2019-20, 402 threatened species were reportedly rescued as a result of loss of habitat, 290 as a result of collisions with motor vehicles, 127 as a result of dog attacks and 31 because of cat attacks.** Additionally, domestic cats that are obtaining food intentionally or unintentionally from humans predate significantly fewer animals than feral cats, which have to hunt to supply all their nutritional needs (Murphy 2019, Woinarski 2017).

Study 1: Do cat restrictions lead to increased species diversity or abundance of small and medium-sized mammals in remnant urban bushland? City of Armadale WA (Lilith 2010)

This Australian study analysed cat regulations enacted within differing suburbs, to test the hypotheses that the species diversity (measured by the Shannon-Weiner index) and abundance of small and medium-sized mammals should be higher in native bushland within or adjacent to subdivisions where cats are restricted, compared to similar areas where cats are not restricted. There were three different cat regulation regimes at the three different experimental sites and these were compared and assessed for impact on native mammals:

1. no-cat zone (strict prohibition of cat ownership)
2. compulsory bells on cats and night curfew of cats,
3. no cat-related regulations

These different cat regulations were in place for approximately 10 years prior to the study. The researchers also measured structural and floristic features of the vegetation at each site that might influence the species diversity and abundance of small and medium-sized mammals, either independently, or interactively with cat activity.

Findings:

- No significant differences in species diversity were found across the sites and KTBA (known -to-be-alive) statistics for Brushtail Possums and Southern Brown Bandicoots, the two most abundant medium-sized mammals present, were similar across all sites.
- The smaller mardo (*Antechinus flavipes*), which the authors suggested could be regarded as the most susceptible to cat predation of all the native species trapped because of its size, was trapped mostly at an unregulated cat site.
- Total mammals trapped at the unregulated cat sites exceeded those caught at the two sites with restrictions, but these unregulated sites also had significantly denser vegetation.

Conclusion: The authors concluded that pet cats did not negatively impact the species diversity or abundance of small and medium-sized mammals at these sites and that vegetation characteristics are likely more important. In addition, cat related by-laws, including prohibition of cat ownership, had no measurable benefits on wildlife.

Study 2: Species richness and community composition of passerine birds in suburban Perth: is predation by pet cats the most important factor? Perth WA (Grayson 2007)

This study was conducted across 57 sites in metropolitan Perth. The researchers investigated factors affecting passerine bird community composition. Bird data were collected at each site, and a questionnaire distributed to surrounding neighbours to determine cat and dog density.

Findings:

- No link was found between cat or dog density and passerine bird species richness (abundance and diversity).
- However, a negative correlation was found between richness of bird species and both housing density and increasing distance from bushland (and decreasing size of bushland).

Conclusion: These findings led the authors to conclude that habitat destruction and degradation were the critical factors affecting richness of bird species, rather than cats or dogs.

Study 3: Do Pet Cats Deserve the Disproportionate Blame for Wildlife Predation Compared to Pet Dogs? NSW, Queensland and Victoria (Franklin 2021)

This Australian study analysed pet cat and dog predation and challenges longstanding assumptions and beliefs about the impacts of pet cats on native wildlife.

Findings:

- Not all pet cats were observed to catch prey which concurs with previous research. Of the pets observed to catch prey, the median numbers of native animals caught per dog or cat over 6 months were actually low (3 native animals per cat that predated).
- Only a very small minority of cats were prolific hunters countering common claims that all cats are efficient and prolific hunters that kill many animals. This finding also potentially invalidates often-used calculations estimating the number of native animals predated by pet cats.
- Most prey animals in the study were common native or introduced species suggesting that cats may not be having a significant negative effect on these populations.

Conclusion: The authors stated that, as others have concluded, hunting by domestic dogs and cats appears to be of relatively minor conservation concern compared with issues such as habitat loss and urban development. Therefore,

efforts directed at habitat preservation are likely to be the most effective strategy to protect wildlife, as opposed to pet control regulations.

Study 4: Don't judge habitat on its novelty: Assessing the value of novel habitats for an endangered mammal in a peri-urban landscape. Melbourne Victoria (Maclagan 2018)

Novel ecosystems are increasingly common across the world, particularly in areas heavily impacted by people such as urban and peri-urban landscapes. As a result, interest in their potential contribution to biodiversity conservation is increasing, including their ability to sustain populations of threatened species. Few studies have explored whether novel habitats can support viable populations over time and how they compare to less modified, remnant habitats.

This Australian study investigated the capacity for novel habitats to support an endangered mammal, the southern brown bandicoot (*Isoodon obesulus obesulus: Peramelidae*), in a highly-modified landscape near Melbourne. The study compared bandicoot abundance and body condition between five novel sites that were highly modified by human development, and two remnant sites that were bushland reserves, and examined whether novel sites support residency and key demographic processes necessary for bandicoot population persistence.

Findings:

- Bandicoot abundance was higher at novel sites where cats were common, than at remnant sites (cats were uncommon), with the highest abundance at the novel site with the most urbanised surroundings.
- Female body condition was similar between novel and remnant sites. The majority of bandicoots at novel sites were resident, and breeding activity, recruitment of first-year adults, and survival of mature adults were observed at all novel sites.
- It remains unclear how sufficient numbers of bandicoots at novel sites were avoiding predation by invasive red foxes, cats and other predators.
- The results demonstrate the potential significance of novel urbanised habitats for conserving threatened species within heavily-modified landscapes. The quality of habitats should not be judged on their novelty alone. Broadening appreciation of the potential value of novel ecosystems could increase off-reserve species conservation opportunities - a key priority area in modern times.

Conclusion: The authors concluded the study showed novel urbanised habitats (where cats were common) can offer new conservation opportunities for species that have the adaptive capacity to exploit them. Traditional assumptions that human-modified habitats are automatically poorer in quality to remnant bushland habitats – such as the Human Threat Hypothesis - need careful re-examination. The capacity of habitat to support species of concern should be assessed without bias regarding its degree of novelty. As novel ecosystems become increasingly prevalent worldwide and off-reserve conservation becomes more important, conservation approaches should exploit novel conservation opportunities.

Study 5: Domestic cat stomach content analysis study (Brisbane, Qld)
Analysis of the stomach contents of trapped urban stray cats (domestic cats) in the City of Brisbane revealed that the only prey species consumed were introduced black rats (BBC Invasive Times Newsletter).

Study 6: Domestic cat stomach content analysis study (Southern Downs Shire, Qld)
Cats impounded by the Southern Downs Shire (Qld) found predominantly cat food, house mice and carrion (eastern grey kangaroos) and no species of conservation concern in cat stomach and colon samples (Leis 2021).

Collectively, these findings from Australian research studies contrast with the well-documented adverse effects of feral cats on native wildlife populations in undisturbed natural environments.

Inaccurate estimates of domestic cat impacts on Australian native wildlife populations

Highly publicised impacts of domestic cats on birds (Woinarski 2017), mammals (Murphy 2019), reptiles (Woinarski 2018) and amphibians (Woinarski 2020) are based on extrapolating the findings from stomach and faecal samples of feral cats and surveys of pet cat hunting behaviour. This has resulted in highly inaccurate conclusions regarding implied population effects of domestic cats in urban areas.

Flawed data collection and calculations

For example, the effects of stray cats are extrapolated from just 5 studies, 3 of which were from rubbish dumps in small rural towns, and the other two explicitly stated they only analysed stool samples that contained evidence of wildlife remains and excluded those that had evidence of cat food. The authors then calculated that all 0.7 million unowned cats living in highly modified environments (stray cats) predated similarly to those samples analysed. Clearly these results are in no way representative of urban stray cats, the vast majority (>99.9%) are fed intentionally by humans (unpublished data from Australian Community Cat Program 2022).

Similarly, the effects of pet cats were extrapolated from 25 to 30-year-old studies of cats that were observed to predate and the authors then assumed that all 3.88 million pet cats predated similarly. For example, the authors estimated that every pet cat, regardless of whether it was contained inside or never seen to predate, killed 15.6 birds a year. This has resulted in a gross overestimation of pet cat predation, given that many pet cats are confined solely inside, and not all cats predate, particularly older cats.

Other confounding factors

In compounding these errors, the authors then imply this data translates to a population effect. For birds, for example, this is erroneous, because birds killed by cats in urban areas are significantly less healthy than birds killed by cars or flying into windows (Baker 2008, Møller & Erritzøe 2000), leading these authors to conclude that cat predation in urban areas 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.

Therefore, the inherent biases, inaccuracies, and limitations of the study design of these highly quoted studies by Woinarksi and Murphy mean that there can be little to no confidence in the implied population effects. In contrast, actual Australian population studies have not found a measurable effect of domestic cats on urban wildlife.

Furthermore, as concluded by Barratt (1998), estimates of predation by house cats, particularly extrapolated estimates, should be treated with caution. Predation estimates alone do not prove that prey populations are detrimentally affected, especially in highly disturbed and modified environments such as urban areas.

False blame directed at domestic cats

False blame for wildlife impacts directed at domestic cats is harmful because it contributes to the implementation of ineffective domestic cat management strategies and can be used as a justification for lethal approaches to domestic cats. This perpetuates the unnecessary and pointless killing of many healthy cats and kittens under the ineffective *Trap, adopt or kill* model, which causes devastating psychological damage to staff involved and community cat carers (Rolf 2005, Whiting 2011, Scotney 2023). It does not reduce the overall number of wandering cats overtime as the population quickly replenishes to original levels due to the high cat reproductive rate, immigration of new cats into the area and increased survival of juveniles (Lazenby 2015, Miller 2014, Boone 2019, NSW Animal Seizures – Pound Data Reports).

Australian shelter staff are often required to repeatedly kill large numbers of healthy cats and kittens, resulting in a significant human cost. Many workers directly involved with the euthanasia of healthy animals develop post-traumatic stress, which is associated with depression, substance abuse, high blood pressure, burnout, sleeplessness

and increased risk of suicide (Australian Veterinary Association 2022, Baran 2009, Reeve 2005, Rohlf 2005, Rollin 2011, Tiesman 2015, Whiting 2011).

Two quotes from shelter staff support research showing that killing healthy and treatable animals can result in severe mental health damage and increases the risk for suicide.

> *"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" (senior shelter staff member)*
>
> *"I have seen so many people's lives damaged by having to kill a never-ending stream of kittens and cats" (senior shelter veterinarian)*

False blame for wildlife impacts directed at domestic cats can also promote the use of inhumane killing methods; be used as a justification for cruelty towards cats, increasing pain and suffering. This blame is also be used as an argument for mandatory cat containment which is not an effective strategy for reducing wandering and stray cats, and has many negative consequences. See Position Statement on Cat Containment https://petwelfare.org.au/our-position-statements/

Recommendations

To reduce any potential impacts of domestic cats on native wildlife in Australia, strategies must reduce the number of wandering domestic cats (fewer wandering cats means less potential wildlife predation). The Australian Pet Welfare Foundation recommends implementation of evidence-based and cost-effective strategies including Community Cat Programs and Bed-time feeding, instead of ineffective and costly *Trap, adopt or kill* or mandated cat containment. Community Cat Programs and Bed-time feeding will significantly reduce the number of wandering cats and associated issues including nuisance complaints, cat impoundments and costs, euthanasia and mental health impacts on staff and community residents caring for cats, and potential native wildlife predation particularly of threatened and endangered species.

1. Community Cat Programs

Community Cat Programs are based on high-intensity free desexing and microchipping of cats micro-targeted to locations of high cat complaints and impoundments (which are typically the low socioeconomic areas). These proactive and humane programs are scientifically proven in Australia and internationally to significantly reduce the number of wandering cats and associated issues.

Recent Australian data demonstrate that community cat programs are cost-effective and result in a 30-50% decrease in council pound cat intake, more than a 60% - 80% reduction in cat euthanasia and a 30-50% decrease in cat nuisance complaints over 1 to 3 years, with these parameters reflecting the decrease in the surrounding wandering cat population (APWF 2022, Banyule City Council 2020, Cotterell 2021, Spehar & Wolf 2019, Levy 2014, Swarbrick 2018).

City of Banyule (Melbourne Victoria)

In the third year after implementing a high-intensity free desexing program (a community cat program) targeted to where cat-related calls and impoundments were occurring in Banyule (Cotterell 2021, Banyule 2020):

- impoundments decreased by 61%
- euthanasia decreased by 74%
- cat-related calls decreased by 64% (from 11 to 4 cat calls/1000 residents)

Since 2013, Banyule has spent $60,000 on its free desexing program and saved $397,500 on cat impoundment costs alone.

Community Cat Programs are non-lethal, which Australian research shows the majority of the community support (Rand 2019) and importantly, they do not cause psychological damage to staff or community residents associated with euthanasia of healthy cats and kittens, because they are based on desexing rather than euthanasia.

Community Cat Programs increase adoptions

Community Cat Programs are very effective at getting desexed kittens adopted and getting cat semi-owners to take full official ownership of the stray cat they are feeding. This increases responsible pet ownership rates and prevents a significant number of unwanted kittens being born. In addition, community cat programs facilitate higher return to owner rates (reclaim rates) due to increased numbers of microchipped cats.

Of critical importance, research shows that the majority of cats admitted into shelters and pounds were born in the preceding 6-12 months, emphasising the need to desex cats to reduce shelter and pound admissions (and subsequent euthanasia of healthy cats and kittens). Please refer to the APWF Info sheet: How to implement a Community Cat Program 11 steps. https://petwelfare.org.au/wp-content/uploads/2022/05/APWF-Community-Cat-Program-Fact-Sheet.pdf

2. Bed-time feeding

Bed-time feeding of cats is recommended as a highly effective way to assist cat owners at minimal to no additional cost to keep owned pet cats safely inside at night and prevent potential wildlife predation. This strategy involves feeding cats their evening meal inside and closing windows, screens and doors before the evening meal is fed, to prevent the cat from leaving the dwelling after it has eaten that night. Night-time is when native animals of conservation concern that may be vulnerable to cat predation are most active (most are nocturnal mammals). Bed-time feeding should be widely promoted to raise awareness among cat owners to increase cat containment at night. However, containment should not be made mandatory as this has many negative consequences including preventing a resolution to the wandering and stray cat issue. Please refer to the APWF Infographic: Bed-time feeding.

3. Native wildlife habitat preservation

Given that the NSW Government Dashboard (2021) shows that in 2019-20, **402 threatened species were rescued as a result of loss of habitat, compared to only 31 because of cat attacks**, governments should focus on habitat preservation and the prevention of any further land clearing for human use such as urban development or agriculture, to best protect native wildlife. Habitat loss is recognised as the primary threat to native wildlife in Australia (Australia State of the Environment Report 2021). It is therefore imperative that areas of native wildlife habitat have regulatory protection from future land clearing.

4. Targeted protection of threatened and endangered wildlife

Local governments are encouraged to use citizen science backed by wildlife cameras (camera trapping) to identify locations where wildlife of conservation concern are present. Local governments should target these areas with resources such as barrier or exclusion fencing, and/or assist cat owners with constructing cat-proof fencing. Local governments should also educate both dog and cat owners to contain their pets inside the house at night, given that most threatened species, which may potentially be predated by dogs and cats, are nocturnal. For cats, this can be achieved with minimal to low cost using bed-time feeding.

Additionally, the NSW Government Dashboard (2021) shows that in 2019-20, **290 threatened species** were rescued as a result of **collisions with motor vehicles**, therefore governments should also focus efforts on road safety measures to prevent native wildlife road accidents, particularly in areas of threatened and endangered species.

Importantly, **127 threatened species** were rescued as a result of **as a result of dog attacks. Most of these species were nocturnal,** so in urban and peri-urban areas where these species are located, dog owners should be encouraged to **confine their dogs at night.**

In conclusion, there is no scientific evidence that domestic cats living in the vicinity of people impact Australian native wildlife populations. However, to reduce any potential predation of native wildlife by domestic cats, strategies must effectively reduce the number of wandering cats. Mandated cat containment and the traditional *Trap, adopt or kill* approach are not effective strategies for reducing the number of wandering cats and therefore will not protect native wildlife. In contrast, evidence-based Community Cat Programs and Bed-time feeding will significantly reduce wandering cats and potential wildlife predation, and should be combined with habitat preservation, road safety measures and targeted protection of threatened and endangered wildlife.

Appendix

Appendix 1 Cat definitions

The definitions utilised by Australia's leading national welfare agency, the R**oyal Society for Prevention of Cruelty to Animals (RSPCA)** and used by the Commonwealth Government and some state governments is recommended, **with cats categorized based on how and where they live.** **Please refer to the APWF Position Statement on Cat definitions in Australia**
Feral cats live and reproduce in the wild (e.g., forests, woodlands, grasslands, deserts) do not live in the vicinity of where people live and survive by hunting or scavenging; none of their needs are fulfilled by humans. Feral cats have no dependence on humans (neither direct nor indirect) and are not fed intentionally or unintentionally (such as via food waste bins) by humans. **Feral cats are not a source of nuisance complaints from people living in cities and towns.**
Domestic cats are **owned, semi-owned** (fed intentionally by humans), and **unowned** (obtain food from humans unintentionally) living in the vicinity of where people live, in and around cities, towns, and buildings on rural properties. Domestic cats have some dependence on humans (direct or indirect). Because domestic cats live around where people live or frequent, their behaviour may result in nuisance complaints to council animal management officers.
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