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BY EMAIL: Environment.Reps@aph.gov.au

Dear Committee Members,

Submission to the inquiry into feral and domestic cats in Australia

Thank you for the opportunity to provide a submission to the Standing Committee on the Environment and Energy's inquiry into the feral and domestic cats in Australia.

We trust our submission will be of assistance and look forward to providing any further information the Committee may require.

Yours sincerely,

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Introduction

Management of feral and domestic cats in Australia is an ongoing and complex challenge. Although considerable efforts have been made to protect vulnerable native species through reducing predation by feral cats and decreasing the unwanted domestic cat population, the complexity of these problems makes effective cat management very difficult. Effective cat management requires a high level of government and community support, and communication and coordination between all stakeholders; aspects which are often difficult to achieve and maintain over time. In 2018 the RSPCA published a report on best practice domestic cat management from which much of this submission is drawn. This report has been provided in **Appendix A**. The report has played a significant role in the development of cat management plans in the Australian Capital Territory (ACT), Tasmania and South Australia.

In terms of communication, it is very important to consider the language used. For example, the title of this inquiry refers to the cat 'problem'. The RSPCA considers the focus should be on the 'impact' of cats rather than the 'problem', given that responsibly owned domestic cats do not create a 'problem' but in fact add to the quality of life of many people through their companionship. Promoting cats as causing a 'problem' further polarises community perceptions and feelings about cats which can significantly affect support for control measures as well as lead to inhumane treatment of cats. Labelling animals as pests can also be detrimental, as highlighted in the *International Consensus Principles for Ethical Wildlife Control*, developed with input from RSPCA Australia, which state that negative labels such as 'pest' and 'abundant' should not be applied to target species but rather based on the specifics of the situation [1].

It is important to differentiate feral and domestic cats, particularly in terms of management. Cats with some dependence (direct or indirect) on humans should be defined as domestic cats. Cats who are unowned, unsocialised, have no relationship with or dependence on humans and reproduce in the wild should be defined as feral cats. The appropriate choice of management strategies differs significantly between domestic cats and feral cats.

RSPCA Australia recognises that under certain circumstances there is a need to manage wild animals, where they have adverse impacts on human activities or the environment. The RSPCA has a number of policies relating to wildlife, with the most relevant being RSPCA Policy E01 Wildlife - General principles and RSPCA Policy E02 Management of wild animals. In our Policy E02 we state that any measures taken to manage wild animals must recognised that whether the animals are native, introduced or viewed as a 'pest' this does not affect their capacity to experience pain, suffering or distress. We believe that it is important to emphasise this and advocate for management techniques for feral cats that are humane. The full wording of these policies is provided in **Appendix B**.

Response to the Terms of Reference

A. Prevalence of feral and domestic cats in Australia

A.1 Cat categories

The scope of this inquiry focuses on feral and domestic cats in Australia. It is important to note that cats have a diverse range of relationships with humans and there are more nuanced definitions of the cat populations than simply 'feral' and 'domestic' cats, that better reflect these relationships.

Various definitions have been used to categorise cats in different populations, but most share a common basis in that they describe some aspect of a cat's relationship with humans.

The lack of universally agreed cat definitions causes confusion and conflict, inconsistencies in legislation and difficulties in implementing cat management initiatives.

Cat management strategies aimed at influencing human behaviour must recognise the ownership status of cats as well as their level of socialisation to, dependence on and relationship with humans.

The most important definitional delineation is between feral and domestic cats as this has profound consequences for the treatment and fate of individual cats. Many people use the term 'feral' to describe stray urban cats who may be owned (roaming free), semi-owned or unowned but have some dependence on humans (as these cats are generally poorly socialised and, therefore, fearful; thus being described as feral which is a label rather than a true description of their behaviour, which is timid or fearful rather than feral).

Unowned cats found in and around human habitations, may depend opportunistically on some resources indirectly and unintentionally from humans, and have no identifiable owner, although they may have been previously owned or become lost [2–4]. It is also likely that a proportion of unowned cats were originally unwanted kittens of owned or semi-owned cats [5,6]. Semi-owned cats are under the direct and intentional care of humans but their carers do not consider themselves to be their owner [7]. Unowned and semi-owned cats both add to cat overpopulation and predation of wildlife. Furthermore, rescue groups have achieved success in rehoming unowned and semi-owned cats on an individual case basis or through community-based initiatives.

Domestic cats, including owned, semi-owned and unowned cats, should be excluded from the legal definition of feral cats because the effective management of domestic cats is largely dependent on creating consistent management programs, legal requirements, cat owner education and community support. This will achieve greater consistency in implementing management programs, legislation, research and evaluation activities as well as engendering community support [8].

Another important reason to achieve a universal understanding of cat categories is to accurately assess prevalence of true feral cats vs unowned domestic cats who may reside in peri-urban areas but still have some dependence on humans. Even owned but frightened cats will behave in a way that could be misconstrued as them being 'feral' when in fact they are a loved companion. Significant expertise and resources are needed to make these assessments effectively. Often scared owned cats or sociable but homeless cats suitable for adoption may need some days to calm down before their true socialisation status can be determined. Many facilities (particularly local government facilities) have no expertise or resources to either assess or house cats for an appropriate time period (at least 3 days) to allow proper assessment.

Recommendations

It is recommended that all jurisdictions define all cats with some dependence (direct or indirect) on humans as domestic cats. Cats who are unowned, unsocialised, have no relationship with or dependence on humans and reproduce in the wild should be defined as feral cats.

Domestic cats, including owned, semi-owned and unowned cats, should be excluded from the legal definition of feral cats.

Cat management strategies should recognise three subcategories of domestic cats using the following definitions:

- 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.
- 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.
- Unowned – these cats are indirectly depending on humans with some having casual and temporary interactions with humans. They are of varying sociability, including some who are unsocialised to humans, and may live in groups.

A.2 Prevalence of domestic cats

We will use the three subcategories of domestic cats described above in this submission.

A.2.2 Owned cats

Cats are a very popular companion animal in Australia, with 27% of Australian households owning at least one cat. This equates to 3.8 million domestic owned cats [9]. Companion cats have a very positive impact on their families' lives and are an important source of love, affection and companionship. Cat owners tend to regard their pets as 'fur babies' and most refer to their pet as a member of the family and spend an average of 3-4 hours with their pets every day [9]. It is important that cats are not devalued, and that their place as a companion animal, and the human-animal bond that many people have with cats is acknowledged.

A.2.3 Semi-owned and unowned cats

Semi-owned and unowned cats are widely distributed across Australia, with highest densities in urban and peri-urban areas. However, it is impossible to give any accurate numbers on these sub-populations of cats as there is no monitoring or surveying of semi-owned and unowned cat colonies and populations.

Most shelters and municipal pounds record the entry of 'stray' cats; this category could include semi-owned and unowned cats as well as lost owned cats. In addition, this is only a small proportion of the actual population of 'stray' cats.

Case Study – RSPCA ACT

'Stray' cat intake at the RSPCA ACT for FY 18/19: 1005, and for FY 19/20: 1000. Of those, 184 and 159 respectively were brought into the shelter in traps. Of those, 111 and 87 respectively were deemed behaviourally unsuitable for rehoming.

Colonies of unowned cats are widespread around Canberra, with notable (but fluctuating) hotspots including the following: Calwell, Campbell, Duffy, Flynn, Fyshwick, Garran, Griffith, Hughes, Hume, O'Malley, Symonston, Theodore, Watson and Weston.

There is seasonal variance in cats and kittens entering the RSPCA ACT shelter with the summer months showing an increased number of cat admissions (this is similar to other jurisdictions).

From 2010 to 2020 the numbers of cats admitted have been decreasing. The total numbers of cats and kittens admitted to RSPCA ACT are as follows:

2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
1472	1146	1049	1159	1251	1350	1222	918	1012	811

A number of factors are likely contributing to the decline in cat admissions to RSPCA ACT: RSPCA desexing programs, Canberra Cat Fix reduced cost desexings, other rescue groups are now active and the rise in activity of community groups actively engaged in trapping and desexing unowned cats, particularly in industrial areas, has increased.

A3 Prevalence of Feral cats

It is very difficult to accurately estimate the number of feral cats in Australia because feral cat density varies significantly depending on rainfall, food availability, presence of other predators and other factors [10]. However, a recent study involving the collation and modelling of population density data from 91 sites, has attempted to estimate the number of feral cats as being on average about 2 million [11]. It may be unhelpful to focus on a national population estimate because in terms of impact and management, local population densities in ecologically sensitive areas are likely to be more meaningful in terms of prioritising and adequately resourcing activities.

B. Impact of feral and domestic cats including on native wildlife and habitats

B.1 Domestic cats

Hunting and killing is a very strong natural instinct, even for owned cats who are fed daily [12–18]. Studies show that the majority of domestic cats do hunt when given the opportunity, although individual cats vary significantly in their predilection for hunting and their prey preference [18–23]. The impact of domestic cats on biodiversity also depends greatly on their location. In highly urbanised settings, there is evidence that introduced species are more commonly hunted than native species. A Canberra survey of cat owners found that 75% of owned cats hunted, with 64% of prey being rodents, 14% native birds and 10% introduced birds and a few reptiles and frogs [12]. Indeed, cat predation on introduced black rats was shown to have a positive effect on tree-nesting birds in remnant bushland in metropolitan Sydney [24]. Other studies have also found that cats will selectively predate sick and old rather than healthy birds [25,26]. In comparison, domestic cats living in a NSW National Park, preyed mainly on native mammals (49%), then introduced mammals (26%), followed by native birds (19%) and reptiles (6%) [27]. Irrespective of whether domestic cats kill native or introduced animals, prey animals will suffer and die as a result of the hunting and killing process. Minimising these impacts and protecting wildlife at the local level is one justification for the containment of domestic cats [28]. However, there is no direct evidence that domestic cats in urban areas have caused the decline of any threatened species in Australia. It is well understood that in these areas, land clearing and development and other human activities pose a much greater threat to the survival of vulnerable native species than do domestic cats [29–31].

It is difficult to estimate the impact that domestic cats in the semi-owned and unowned sub-populations have on native wildlife and habitats, as this has not been studied. There is also some confusion within the literature and public arena in this area with free-roaming semi-owned and unowned domestic cats in highly modified landscapes often being mistakenly referred to as feral cats. Despite the absence of accurate information on the impact on native wildlife and habitats of domestic cats in the semi-owned and unowned sub-populations, it is important to implement measures to reduce unowned and semi-owned cat populations and, consequently, minimise any impact they do have.

B.2 Feral cats

The Threat Abatement Plan for Feral Cats [10] describes the significant impact of feral cats on native animals including birds, mammals, reptiles and hence the need for control measures to be implemented, particularly due to the risk to threatened species. In addition to direct predation, feral cats also pose a risk due to resource competition and disease transmission, particularly toxoplasmosis to domestic and native animals [32–34]. It is important to note that feral cats also prey on introduced species, such as rabbits and rodents, and so it is crucial to consider the impact of removing either of these species, as part of management programs. Similarly, if feral cats are targeted in areas where fox numbers are high, removing only feral cats may not substantially improve survival rates of vulnerable species or vice versa [35]. Feral cats also impact on the success of conservation programs involving re-introduction of threatened species [36]. In terms of conservation of threatened species, the impact of other key threatening processes must also be considered including other predators (e.g. foxes), bushfire and land clearing, with the latter recognised as a significant cause of loss of biodiversity [31] as well as being a serious welfare issue [37]. A study conducted by McGregor et al [38] demonstrated that intense fires and

large herbivore grazing can improve hunting efficiency of feral cats of small mammals due to reduction in cover. The authors concluded that the impact of feral cats could be reduced in most ecosystems by maximising grass cover, minimising the incidence of intense fires and reducing grazing by large herbivores.

Requiring landholders to trap and potentially kill feral cats without any requirement to establish their actual impact or assess the effectiveness of control activities may also be viewed as lacking in justification and being inconsistent with an adaptive pest animal management approach.

Recommendations

Impacts, other than feral cat predation, such as climate change and land clearing, must be considered in action plans to protect and conserve vulnerable and threatened species.

Management and evaluation plans must consider the interaction and impact of other species which either compete with (e.g. foxes) or are prey (e.g. rabbits and rodents) of feral cats.

C. Effectiveness of current legislative and regulatory approaches

C.1 Domestic cats

C.1.1 Cat management legislation

Domestic cat management is legislated at both the state/territory and local government level. Some states have combined companion animal legislation whilst others have separate legislation for dogs and cats. There is no state-based cat management legislation in the Northern Territory. Provisions for cat management may also be enacted by local government in the form of council bylaws.

There are significant inconsistencies in the provisions of domestic cat management legislation and bylaws.

In most states there are overlapping provisions between different types of legislation affecting domestic cats, which can cause confusion or conflict amongst stakeholders and have a detrimental effect on how domestic cats are managed. For example, the (NSW) *Companion Animals Act 1998* (CAA) currently makes it difficult for councils in NSW to be proactive in approaches to cat population management. Prohibitions on where cats can roam are limited to wildlife protection areas and food preparation/consumption areas (s30 CAA), or where the cat is threatening personal property. This limited legislative scope impacts RSPCA NSW directly in terms of dealing with the presentation of stray cats if council pounds refute their lawful seizure. It also has implications for cat welfare (their health and safety), and wildlife impacts.

The significant inconsistencies between states/territories and between local councils, in legislation, approach and level of commitment to domestic cat management, need to be urgently addressed. There has been some work towards national consistency including the draft Australian Code of Practice for the Welfare of Cats which was initiated under the Australian Animal Welfare Strategy and the Australian Cat Action Plan [39] but further work is needed.

There is a need for careful consideration of the implications of legislation mandating cat containment or exclusion. For example, there have been anecdotal reports of unintended consequences such as cats being vilified and targeted by people in those areas.

Recommendation

State and Territory jurisdictions should work together to share resources, coordinate research and evaluation activities and identify and implement consistent approaches to the management of unowned, semi-owned and owned cats.

C.1.2 Cat management advisory groups

Some states have established cat management advisory groups that can play an important role in giving advice on, monitoring and evaluating cat management strategies.

Case Study – South Australia

The Dog and Cat Management Board was established **South Australia** following the introduction of the *Dog and Cat Management Act 1995*. The Board undertakes many functions including planning, promoting and providing advice about the effective management of dogs and cats throughout South Australia, undertaking or facilitating research and educational programs as well as advising the relevant Minister and the Local Government Association on the operation of the Act. As an independent statutory authority, the Board has been able to publicly test ideas, advocate for positions that government has not yet adopted and negotiate potential legislative changes with stakeholders.

The Board has coordinated and implemented a number of key activities including:

- promotion of responsible cat ownership through website materials and bus stop posters promoting desexing, microchipping and cat containment – evaluation has been limited to monitoring website traffic seeking more information on containment
- conducting surveys of cat owners to collect data on levels of desexing, microchipping and containment
- facilitating research, e.g. University of South Australia Citizens Science Cat Tracker Project to demonstrate the distances owned cats will travel in the local neighbourhood [40]
- development of guidelines and templates for councils on cat bylaw preparation.

Case Study – ACT

The ACT Responsible Cat Ownership Steering Committee commissioned the report 'Responsible pet ownership and the protection of wildlife: Options for improving the management of cats in the ACT', which recommended improvements in cat regulations, community education and unowned cat management [22].

Case Study – NSW

The NSW Responsible Pet Ownership Reference Group was established in 2015 to provide advice to the government on strategic cat and dog management including policy, legislation, community engagement and council programs. The group has representation from animal welfare, veterinary, local and state government and the pet industry.

Recommendation

State/Territory governments should consider establishing a cat management advisory group with terms of reference that include:

- advising and advocating on changes to state and local government legislation
- monitoring the implementation of cat management legislation and compliance with mandatory requirements
- consulting with key stakeholders
- developing relevant codes of practice and SOPs for cat management
- identifying key metrics to evaluate the effectiveness of cat management strategies
- funding relevant research and evaluation.

C.1.3 Cat management plans

A cat management plan may be a useful tool for local councils to identify key priorities, develop strategic and operational plans as well as evaluation measures. Examples of work that has been done in this area include the Australian Cat Action Plan developed by the Animal Welfare League of Queensland [39] and the South Australian Cat Management Plan developed by RSPCA and Animal Welfare League of South Australia [41].

Local councils require support and financial resources to implement effective cat management programs.

Development and distribution of templates for cat management plans and relevant other documents as well as standard operating procedures would greatly assist councils.

Key data relating to cat management is either not collected or inconsistent information is recorded making it difficult to evaluate and compare management strategies.

Recommendation

State governments should encourage and support local councils to develop and implement cat management plans that include:

- defining and quantifying cat management aspects with a focus on impact
- setting clear, achievable and consistent objectives
- using humane, ethical and sustainable strategies
- identifying the responsibilities of key stakeholders
- consideration of owned, unowned and semi-owned cats
- securing sufficient resources for implementation
- facilitating the collection, storage of standardised data
- formally evaluating management strategies using agreed measures.

C.1.4 Community engagement

It is important that local government prioritises engaging with and collaborating with the community. For an approach to cat management to have community support, it requires community and stakeholder participation to fully discuss all relevant management techniques and come to an agreement on the path forward [8]. Community collaboration has successfully contributed to humane domestic cat support and management in several locations across Australia, but this is inconsistent.

Councils that partner with reputable local welfare/rescue groups can meet public expectations by cost-effectively minimising the number of healthy, adoptable cats killed and increasing the number of desexed domestic cats adopted into the community.

Best practice cat management requires the involvement of all stakeholders in decision making and solutions. Where possible, councils should take the lead role and develop partnerships with other community groups and members including veterinarians. Including animal welfare organisations in the decision-making process on cat management strategies may improve public support, as people believe this will make it more likely that the management methods selected are humane and have been discussed from varying viewpoints [8].

Councils, veterinarians and cat welfare groups should establish formal collaborative partnerships to implement humane and effective cat support and management programs. Formal written agreements help ensure key roles and responsibilities are agreed by all parties engaging in a collaborative partnership.

Working directly with the community and providing free or heavily subsidised animal care services results in high community engagement. Working directly with the community also allows for extra benefits beyond the initial service provision. For example, the ability to also provide information, such as recommending when providing free desexing that owners confine cats to their property; this reduces the impact cats have on the environment, over and above the positive benefits only in terms of controlling cat populations. Therefore, it is recommended that federal, state and territory governments invest in grant schemes to fund community led cat welfare and responsible pet ownership programs.

Case Study – RSPCA Victoria

RSPCA Victoria has found that working directly with the community can have the greatest impact in increasing responsible ownership of animals. Recently, RSPCA Victoria ran a pilot project in one local government area, Latrobe City, to develop a deeper understanding of the drivers of animal cruelty and neglect, identify barriers to good animal welfare practices and pilot prevention initiatives. This aimed to both reduce cruelty and neglect in the target region and allow successful intervention models to be applied in other regions across Victoria.

Since the official launch on 12 February 2020 the pilot has directly supported over 408 individual animals with veterinary care, behavioural and health advice and the provision of food and flea and worming treatment, 195 of which were cats and kittens. RSPCA Victoria's Community Liaison Officer (CLO), has had over 700 interactions with members of the community by phone, face to face and email. Initial data shows that most requests were for assistance with desexing (250) with 81 of those desexing requests made for cats and kittens. In addition, over 200 bags of pet food, 27 kennels and cat carriers, 482 individual flea and worming products have been distributed in the Latrobe community.

Working directly with the community and providing free animal care services had very high community engagement. Being able to provide free desexing is invaluable, as this works to address cat overpopulation and therefore minimises the number of cats and, therefore, their impact on the environment. Additionally, working directly with the community allows for provision of information, including recommending owners contain cats to their property which will also reduce the impact cats have on the environment.

C.1.5 Enforcement

In areas where there is regulation to manage cats such as a requirement to contain cats, if the regulation is not enforced adequately or consistently it will have limited effect. For example, in areas designated as cat containment areas, the enforcement of the cat containment regulation in these areas may be minimal, and this means that the reporting and catching of wandering cats falls largely to the public. Even if wandering cats are reported, if resources are not adequate, local government is not able to respond effectively. Another example is the requirement to desex a domestic cat; if this is not enforced, it can result in uncontrolled domestic cat population growth despite the regulation.

In some areas, cat population control falls largely on welfare organisations and rescue groups (i.e. most surrendered, stray, and trapped cats are taken to welfare organisations and rescue groups for assessment and rehoming where possible), which can tax the resources of these organisations.

C.2 Feral Cats

C.2.1 Commonwealth legislation

Predation by feral cats is listed as a key threatening process, first under the *Endangered Species Protection Act 1992* and then under the *Environment Protection and Biodiversity Conservation Act 1999*. As a result of this listing, in 1999 the first Feral Cat Threat Abatement Plan (TAP) was developed, with the aim of promoting 'the recovery of endangered or vulnerable native species and communities, and to prevent further species becoming endangered by reducing predation by feral cats to non-threatening levels'. Revision of the TAP in 2008 included greater emphasis on the need for closer cooperation of stakeholders and for an implementation plan with performance indicators, priority setting and a timeframe of actions to achieve an integrated approach to cat control.

A further review was undertaken in 2014 to produce the current version of the Threat abatement plan for predation by feral cats [10], with the revised objectives being to:

- effectively control feral cats in different landscapes
- improve effectiveness of existing control options for feral cats
- develop or maintain alternative strategies for threatened species recovery
- increase public support for feral cat management and promote responsible cat ownership.

The TAP provides a blueprint for actions required to control feral cats across Australia [42] but the implementation of feral cat management occurs at the state and territory level.

C.2.2 State legislation

Most states have some legislated provisions for the control of feral cats, but the precise nature of these varies between jurisdictions. Legislation regarding feral cats has primarily focused on the need to undertake control measures to reduce the impact on threatened species and native wildlife in general. In 2015, state and territory Environment Ministers agreed to support legislative changes to enable landholders to undertake feral cat management on their properties [10,43]. In some states/territories (SA, Queensland, WA, Victoria and NT), feral cats have been listed as a pest species under relevant biosecurity or natural resource management legislation. In Tasmania, feral cats are declared an invasive species under the *Cat Management Act 2009* [44], which allows landholders to undertake control measures. Feral cats are not declared a pest species in the ACT and in 2016 the NSW Natural Resource Commission released a report which included a recommendation to declare feral cats as a pest [45]. The NSW government's response did not support the pest species recommendation as it was not deemed necessary in order to implement control measures [46]. Declaring feral cats as a pest under state legislation is regarded by many as a key step in recognising that urgent action is required to address their impacts and encouraging landholders to undertake control measures. However, there is a high level of public concern that this has a detrimental impact on the treatment of both feral and domestic cats, including inciting deliberate cruelty and unlawful killing. Riley [47] notes that current threats posed by cats has led to a reliance on lethal methods, which do not consider the relative importance of efficacy, animal welfare and changing community attitudes. Legislation to control feral cats must recognise that they are sentient animals capable of experiencing pain, suffering and distress, and provide protection from cruelty.

Impact of declaring feral cats as pests

The three main issues which relate to the declaration of feral cats as pests are:

a) legal definition of feral cat

b) impact on domestic cats

c) defence against charge of animal cruelty

a) Legal definition of feral cat

The legal definitions used to describe different categories of cats are of significant importance, as they have a direct impact on cat management strategies and enforcement practices. The most significant delineation is that between feral and domestic cats as this can have profound implications for the treatment and fate of individual cats.

For example, under the Queensland *Biosecurity Act 2014*, feral cats are declared pests and the definition of a feral cat includes all cats other than those who are owned. Thus, unowned and semi-owned domestic cats in Queensland are subject to the same legal requirements as feral cats which includes a prohibition on feeding, removal (e.g. for adoption) or return without a permit. This legislation essentially obliges local councils to use trap-and-kill programs as the primary method of domestic cat management, which is neither effective nor supported by the community. This has created tension and conflict, particularly where residents fear their own cat may be trapped and killed, and welfare groups are denied the opportunity to rescue and adopt suitable cats. This type of conflict could be avoided by allowing the available options for rehoming or transferring trapped cats who have the potential to be adopted, ensuring there is an appropriate minimum holding period after trapping, and liaising with local rescue groups. In jurisdictions where unowned cats are not legally defined as feral, many councils are working effectively with reputable local rescue groups to trap, desex and adopt homeless cats.

b) Impact on treatment of domestic cats

One of the consequences of labelling cats as feral and, therefore, as 'pests' is the demonisation of cats as aggressive predators, leading to a lack of consideration for their welfare and, in the most extreme cases, deliberate inhumane treatment [48]. There is a high level of concern amongst cat owners and carers over an apparent escalation in horrific acts of cruelty and indiscriminate killing of cats and the establishment of 'cat action' groups, such as *Cat Busters Australia*, who justify their behaviour by claiming they are saving native animals by killing cats. These acts are shared through the use of social media to post images of cat 'hate' crimes, e.g. cats killed with a bow and arrow, or being drowned, tortured or abused.

Two cases reported in Adelaide involved domestic cats being shot with an arrow in a suburban backyard, with the perpetrators claiming that the cats were feral and, therefore, their actions were justified. In one case, the accused was given a six month suspended jail sentence for what the magistrate described as actions which were unnecessary, extreme and inhumane.

Some of the issues arising from overlapping definitions of feral and domestic cats could be avoided through better coordination between government departments. An ongoing misconception is to use the word 'feral' to describe stray domestic cats who may be owned or unowned. It is inaccurate and misleading to refer to free-roaming domestic cats in urban and peri-urban environments as feral cats.

A coordinated approach to the management of feral and domestic cats is essential to ensure that laws and strategies are complementary, not opposing, and that no vital aspects in terms of definitions, responsibilities and initiatives are overlooked.

c) Defence against a charge of animal cruelty

Another issue of concern relates to defences or exemptions under animal welfare legislation to permit unnecessary pain and suffering resulting from pest animal control activities. For example, the Western Australia *Animal Welfare Act 2002* contains a defence against a charge of cruelty whilst attempting to kill animals defined as pests (section 24). Anecdotal information indicates that some feral cats are killed by drowning and are also shot using an air rifle. These methods are not considered humane but the s24 defence could be used to avoid a prosecution of cruelty as these methods may be regarded as 'generally accepted as usual and reasonable'. The Queensland *Animal Care and Protection Act 2001* section 42 contains a similar defence. The RSPCA advocates that mandatory welfare codes and practices be introduced for pest animal species to help ensure that pest animals are managed in a humane and acceptable manner. Furthermore, regulating prescribed practices which are considered unnecessary and inhumane such as bow hunting and drowning would help safeguard the welfare of feral cats.

D. Effectiveness of Commonwealth action and cooperation with states and territories on this issue, including progress made under the Threat Abatement Plan, national framework and national declaration relating to feral and domestic cats in Australia

D.1 Feral cat management

The Threatened Species Strategy (TSS) has identified predation by feral cats as one of three key factors leading to the extinction of many species of native wildlife. The strategy is a positive step in achieving national agreement and collaboration for feral cat management by identifying key success factors, sharing resources and gaining consistency in identifying and ensuring best practice for feral cat control.

In 2015, the Feral Cat Taskforce was established to drive delivery of the TSS targets aimed at tackling feral cats and their impacts. The Taskforce comprises representatives from commonwealth/state/territory government, natural resource management organisations, the RSPCA and environmental, conservation and invasive animal research organisations. The key activities of the Taskforce are to:

- link initiatives, innovations and progress on managing feral cat threats
- build relevant partnerships and national cooperation on feral cat management
- inform government policy, planning and investment on strategic feral cat management
- provide clear and accessible data, monitoring and public reports on feral cat management activity.

Communications regarding the TSS can be challenging, with some concern that a strong emphasis has been placed on setting a target for the number of feral cats killed, rather than an 'impact' target that can demonstrate a direct improvement in threatened species survival in ecologically sensitive areas. The focus on the kill number also demonises feral cats and tends to suggest that this is the only method that should be used. The RSPCA advocates that kill target numbers are not used to promote feral cat control programs but that the emphasis should be on the overall goal to protect and conserve threatened species. This switch in focus will also help the community to better understand why feral cat control is important as well as to include other threat abatement activities such as fox or rabbit control, which also needs to be considered. Declaring a 'war on cats' further polarises views in the community especially as many people refer to stray domestic cats as 'feral'. This causes concern and anxiety amongst cat owners and animal lovers and leads to victimisation of any cat, not just feral cats.

In general, it is useful that the TSS recognises feral cats as a key threatening process and that there is national collaboration through the Feral Cat Taskforce (FCTF) to focus efforts on reducing the negative impacts of feral cats. An important role of the FCTF is to promote best practice control methods which are effective and humane. Despite a draft national feral cat welfare code of practice and relevant standard operating procedures being developed (see https://pestsmart.org.au/pest-animal-species/feral-cat/), these have not been promoted sufficiently. An important step to achieve better welfare outcomes is to introduce compliance with these standards as a condition of commonwealth funding for projects. This would also help increase awareness of the importance of considering animal welfare in any pest animal control program.

Ensuring the definition of a feral cat excludes domestic cats, recognising all cats as sentient animals and avoiding demonising feral cats in information materials may help mitigate against this.

D.2 Domestic cat management

There is no nationally coordinated management program for domestic cats. There has been some work towards national consistency including the draft Australian Code of Practice for the Welfare of Cats which was initiated under the Australian Animal Welfare Strategy and the Australian Cat Action Plan [39] but further work is needed to agree on and implement a nationally coordinated management program.

Recommendations

National collaboration is needed in the development and implementation of management strategies, legislative reform and research, especially in relation to integrating control strategies in peri-urban and regional areas where feral cats and domestic cats may intersect.

Benefits could be gained by co-developing policies and procedures, sharing resources, achieving consistent evaluation processes, data sharing and working collaboratively on research projects.

E. Efficacy (in terms of reducing the impact of cats), cost effectiveness and use of current and emerging methods and tools for controlling feral cats, including baiting, the establishment of feral cat-free areas using conservation fencing, gene drive technology

It is understood that eradication of feral cats from mainland Australia is not achievable but that reducing impacts in targeted areas must continue. Continued reliance on lethal methods is labour intensive, costly and poses welfare risks. The main methods used to kill feral cats are trapping and shooting, poisoning with 1080 baits and ground shooting. Newer methods include the Felixer™ grooming trap which uses 1080 and toxic baiting using paraminopropriophenone (PAPP).

Successful approaches have required the implementation of two or more strategies: even in an island situation, it has not been feasible for a single control method to eradicate cats [42] and all control methods have some adverse animal welfare impacts. On mainland Australia, artificial 'islands' have been created through the establishment of wildlife sanctuaries through the use of exclusion fencing. The Australian Wildlife Conservancy maintains the largest cat and fox-free areas on mainland Australia and in this way protects 519 bird species and 204 mammal species from the impacts of feral cats. Some eradication success has been achieved on a number of islands [49]. Outside of these areas, ongoing lethal control is the standard approach to feral cat management.

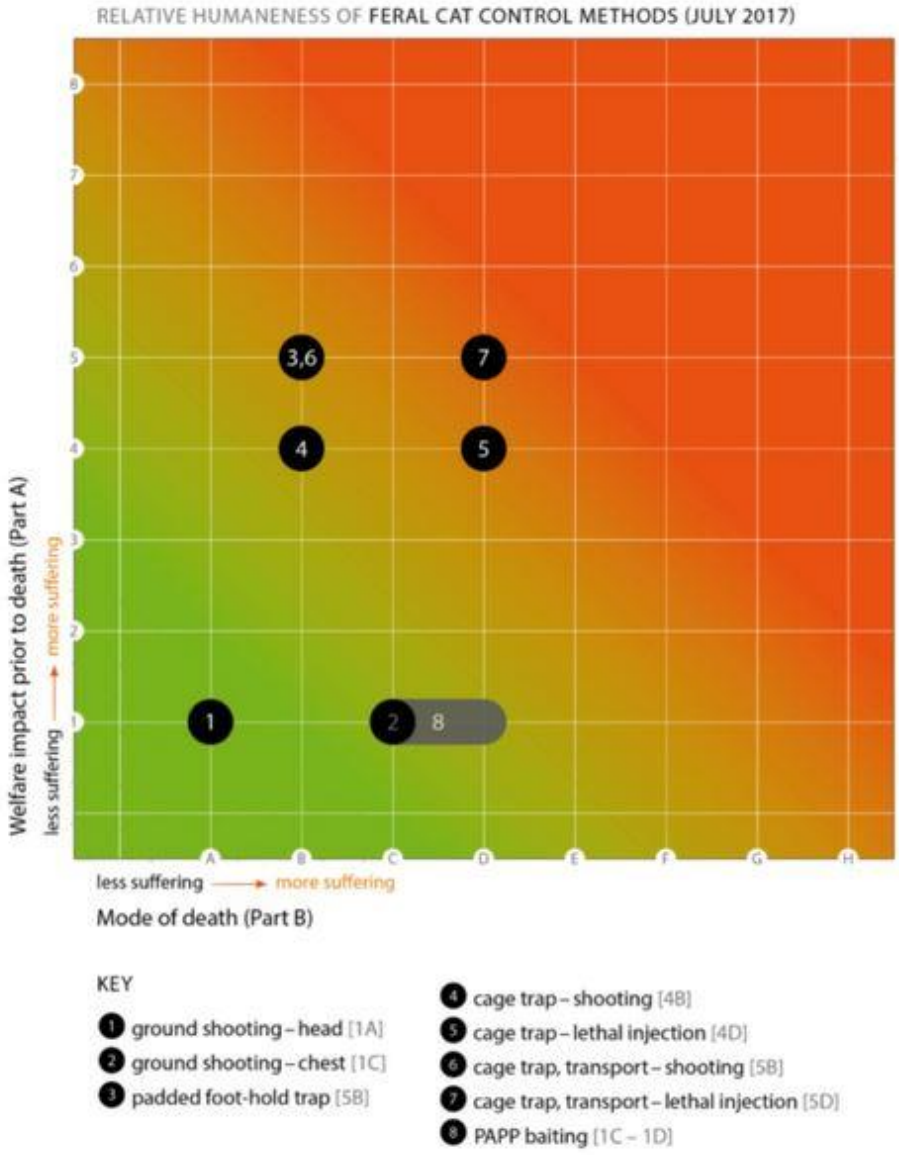
E.1 Animal welfare considerations

It must be acknowledged that feral cats are sentient and, therefore, capable of suffering fear and pain. Over recent years, there has been a greater recognition of the importance of assessing the impact on mental state when considering animal welfare [50]. Any physical impacts associated with a control method will also result in a mental impact. For example, if an animal is poisoned and the toxin causes difficulty in breathing, this will also cause breathlessness, which can result in fear and anxiety [51]. Trapped animals may also suffer injury due to escape attempts but are also likely to experience fear and anxiety due to confinement, especially if they are subjected to environmental stressors and are unable to avoid being attacked by ants which are often attracted to lures placed in traps.

The Five Domains Model originally developed by Mellor and Reid for predicting the impact of procedures on laboratory animals [52] has been widely used to assess welfare impacts across a broad range of species in different contexts including pest animal control [50,53,54]. The Five Domains Model also underpins the relative humaneness model developed by [55].

E.2 Relative humaneness model

The Relative Humaneness Model developed by Sharp and Saunders [55] compares the relative humaneness of different pest control methods which are shown in the relative humaneness matrix. The matrix is an extremely useful tool for helping select the most humane method of controlling the species. Pest control operators should only use the most humane method. Welfare codes of practice and standard operating procedures underpin the matrix and provide information to operators as to how to carry out particular control methods to be as humane as possible. The following graphic shows the relative humaneness matrix for several feral cat control methods but does not include 1080 baits or exclusion fencing.



E.4 Welfare Code of Practice

The welfare code of practice for humane control of feral cats which provides a very good overview of the key welfare risks, can be found here; [http://www.pestsmart.org.au/model-code-of-practice-for-the-humane-control-of-feral-cats/.](http://www.pestsmart.org.au/model-code-of-practice-for-the-humane-control-of-feral-cats/)

E.5 Standard Operating Procedures

Currently there are three standards operating procedures for various feral cat control methods:

CAT001 Feral cats - Ground shooting SOP http://www.pestsmart.org.au/ground-shooting-of-feral-cats/

CAT002 Feral cats - Cage trapping SOP http://www.pestsmart.org.au/trapping-of-feral-cats-using-cage-traps/

CAT003 Feral cats – Padded jaw traps SOP https://pestsmart.org.au/trapping-of-feral-cats-using-padded-jaw-traps/

A SOP is currently being developed for the use of 1080 baits but is not currently available. There is no SOP for exclusion fencing or for shooting trapped cats.

Recommendations

All government funded and/or coordinated feral cat management programs should require compliance with the welfare code and relevant standard operating procedures.

There is an urgent need for the feral cat welfare code of practice and SOPs to be regulated under state/territory animal welfare legislation.

E.6 Feral cat control methods

E.6.1 Ground shooting

Based on the matrix, ground shooting using a head shot is the most humane method compared to trapping, ground shooting using a chest shot or baiting using 1080 or PAPP. To achieve a humane head shot, the operator must be competent and use the appropriate firearm and ammunition. The best practice approach is set out in the standard operating CAT001 Feral cats - Ground shooting. If the correct firearm and ammunition are used, a well-placed head shot (with the brain as the point of aim) will result in immediate unconsciousness and death. When there is adequate damage to the brain and the animal does not regain consciousness there will be no suffering. In contrast, with chest shots (which cause damage to the heart and lungs) the time to unconsciousness can range from seconds up to a few minutes. When an animal is shot in the chest, the time to loss of consciousness and the time to death will depend on which tissues are damaged and, in particular, on the rate of blood loss and hence how long it takes for the brain to have insufficient oxygen. Loss of consciousness and death is likely to be quicker when animals have been shot in the heart. However, compared with head shot animals, those that are chest shot have a higher risk of remaining conscious and suffering for a short period prior to death. During severe bleeding they are likely to feel a sense of breathlessness and potentially some anxiety and confusion before they lose consciousness. Head shooting should be carried out at all times, unless it is not possible in exceptional circumstances or where it is necessary on welfare grounds to use a chest shot.

Ground shooting of feral cats should only be carried out where there is no risk of domestic cats being shot and must only be done by operators who are deemed competent.

Recommendations

The CAT002 Feral cats - Cage trapping SOP and CAT003 Feral cats – Padded jaw traps SOP should be revised to include detailed information for shooting a trapped feral cat or a separate SOP developed for this.

Landholders who use traps to control feral cats must be deemed competent in shooting a trapped cat or have a competent person available to shoot a trapped feral cat.

Members of the public should only use traps to control feral cats if they have undergone appropriate training and are authorised.

E.6.2 Trapping

Trapping is a relatively common control method, particularly as it can be used by community groups or individual landholders. Cage trapping is quite commonly used but leg hold traps are also used in some areas. The relative humaneness matrix ranks cage trapping and shooting as being more humane than leghold traps. If trapping is required, cage rather than leghold traps should be used. Leghold traps are prohibited from general use in some jurisdictions, i.e. special or Ministerial exemption is required for their use in WA, Victoria and Tasmania. Studies have shown that trapped animals suffer injuries with soft-jawed leg hold traps [56,57]. Iossa et al [57] also stated that without appropriate legislation an acceptable level of welfare for trapped animals could not be provided. A survey of North American conservation officers found that nearly half supported prohibiting the use of traps on the basis that they caused pain and distress, were not necessary tools and harmed non-target animals [58]. Critical to minimising pain and suffering is the requirement to check traps at least daily. Animals trapped for several days can experience significant suffering including exposure to excessive heat and cold as well as attack from predators including ants. To help mitigate these risks, trials conducted on Kangaroo Island ensured that all cage traps were surrounded with a line of Coopex™ insecticide to minimise the risk of baits attracting ants and captured animals subsequently being injured. Traps were covered with hessian bags to provide shade for captured animals [59]. These trials also found that cage trapping is an effective tool for feral cat management on the Dudley Peninsula of Kangaroo Island.

It is of concern that members of the public, either as individuals or as part of a community group, may be encouraged to trap and kill feral cats. The RSPCA does not consider that the killing of feral cats by members of the public is an appropriate option. The killing of any animal must be done by an appropriately trained and experienced operator, who has the knowledge and skills to cause death without suffering. The RSPCA is concerned that, regardless of the method used, many members of the community would not have sufficient knowledge and skills to perform the humane killing of feral cats. In addition, in locations near residential areas, not all community groups would have ready access to microchip scanners and companion animal databases to identify any domestic pets before they are killed. Trapped feral cats are difficult to handle when trapped or cornered and domestic cats can also sometimes appear

wild in these situations due to their fear. Therefore, it is virtually impossible to determine the sociability and ownership status of a trapped cat through visual assessment only. If lethal control is required, then the RSPCA believes that it should only be carried out as part of a government-supervised control program, which includes clear guidelines on humane procedures. Any person trapping cats should be required to comply with a mandatory standard operating procedure to minimise harm including either competently shooting the cat whilst in the trap or transporting a short distance for a competent person to shoot the cat in the cage trap (not suitable for leghold traps), with the latter being preferred. Trapping must not commence until arrangements are in place to ensure the prompt and humane shooting of trapped feral cats.

The details contained with CAT002 Feral cats - Cage trapping SOP and CAT003 Feral cats – Padded jaw traps SOP are insufficient for shooting a trapped feral cat. The standard operating procedure should include details of how to safely and humanely shoot a trapped cat, i.e. recommended point of aim, distance from head, method to properly restrain the cat (as they become agitated in human presence) etc.

E.6.3 Baits – 1080 & PAPP

1080

1080 has been extensively used for pest animal control in a variety of species over many years. The humaneness of 1080 has been questioned due to the pain and suffering experienced by both target and non-target species poisoned with 1080 [60]. On this basis, the RSPCA has advocated for many years for the use of more humane alternatives. Currently, there is work being done to register Eradicat®, a proprietary 1080 bait for feral cats to allow its use nationally. Currently, Eradicat® can only be used under experimental permit. The RSPCA is concerned about Eradicat® being registered as it will lead to more 1080 baiting which will result in more animals suffering. Efforts should be focused on reducing reliance on the use of 1080. The RSPCA has strongly advocated that as part of the registration process, the APVMA should require information relating to animal welfare considerations, similar to that required for environmental risks. This is not difficult given the humaneness assessment process developed as part of the relative humaneness model [55]. There is an urgent need to assess the relative humaneness of 1080 and for 1080 to be included in the relative humaneness matrix for feral cat control as well as a standard operating procedure being made available for 1080 use for feral cats. In reference to other relative humaneness matrixes (e.g. wild dog, fox, feral pig), 1080 scores relatively low in comparison to other methods.

Felixer™ grooming trap

The Felixer™ grooming trap has been designed to help minimise non-target exposure of 1080 by using a sensor which detects feral cats whereupon a bolus containing 1080 is propelled from the trap to hit the cat on the body to be later ingested from self-grooming [61]. Recent studies on Kangaroo Island have shown that some cats may take up to 21 hours to die following toxin being delivered from the trap [59]. This potentially long period prior to death during which the animal suffers is of concern but the time from ingestion is not known, and so the time to death from ingestion may be less. Some cats died within 4-5 hours of ingestion. The dose used in the trap was 11mg of 1080, which is relatively high compared to a toxic bait containing 1080. However, the higher concentration is thought to be beneficial in causing a

lethal effect much quicker compared to a lower dose. It is hoped that PAPP can replace the use of 1080 in the Felixer™ grooming trap, as PAPP is considered to be a more humane toxin.

PAPP

The development and availability of PAPP provides access to what is considered to be a more humane toxin than 1080 as the mode of action of PAPP results in poisoned animals losing consciousness relatively quickly. This is a positive step to help reduce the reliance on 1080. It is recognised that some native species, particularly reptiles are sensitive to PAPP, thus necessitating its use when reptiles are less active, i.e. winter months. Although PAPP has been included in the relative humaneness matrix, a standard operating procedure is still to be written and made available.

Non-target risks with toxic baiting

An important consideration regarding toxic baiting is the risk of non-target poisoning, especially of threatened carnivorous native species. Unless ongoing population assessment of particular at-risk native species is undertaken, unintended negative impacts could be caused but not detected. Capacity to assess mortality of non-target species is limited as it is difficult to verify animals who have died unless carcasses are found, which may be difficult if they have been scavenged. Many papers do not report on the impact on non-target species. A study by Buckmaster et al [62] found five threatened species of birds and 21 species of threatened mammals were rated as possible consumers and recommended that baits should not be used in places and at times of the year where non-target species may have access.

The other risk posed by non-target species is the removal of baits which has been documented to be quite substantial with some baiting programs. Fleming et al [63] reported that 58% of meat baits used for aerial distribution for feral pig control were taken by birds. This can significantly affect the overall effectiveness of baiting. Birds may also drop baits in other areas where non-target animals may access them.

Recommendations

Priority must be given to finalising the SOP for use of PAPP bait.

Priority must be given to publishing the welfare assessment for 1080 baiting, inclusion in the relative humaneness matrix for feral cat control and the development of a SOP.

Priority must be given for welfare assessment of the Felixer™ grooming trap using 1080, inclusion in the relative humaneness matrix for feral cat control and the development of a SOP.

Increased assessment of the risks of non-target species poisoning.

E.6.4 Bow hunting

It should be noted that hunting should not be considered as an effective form of pest animal control and some practices which are inhumane such as bow hunting, should not be permitted.

E.6.5 Exclusion fencing

The Australian Wildlife Conservancy (AWC) has established wildlife sanctuary zones to protect many threatened species from feral cat and fox predation. Ongoing monitoring indicates that these programs are associated with increases in numbers of several vulnerable species. The AWC is a private not-for-profit organisation which relies primarily on donations and sponsorship to operate programs for native species conservation and protection. The AWC plays an important role to conserve threatened species in specific locations through exclusion fencing as control work continues in adjacent areas not protected by fencing. Although costly to erect and maintain, this approach can be effective in preserving some species that would otherwise face extinction.

From a welfare perspective, exclusion fencing appears to be relatively humane but may pose a risk of injury to animals fleeing threats or are unable to avoid the fence. There is limited information available on the assessment of this method in terms of animal welfare. This is essential to determine the relative humaneness of this method. It would also be useful for a standard operating procedure to be developed. As part of the welfare assessment it would be helpful to include any impacts on non-target species.

Recommendations

Welfare assessments should be conducted on the use of exclusion fencing for feral cat control, mainly regarding impacts on non-target species.

Based on the welfare assessments, exclusion fencing should be included in the feral cat control methods humaneness matrix and a standard operating procedure should be developed.

E.6.6 Biocontrol

Most biological control agents rely on causing disease; a process that is likely to result in prolonged suffering for affected animals and that would place thousands of owned domestic cats and potentially other related species at risk. It seems prudent to gauge public opinion on this issue as a priority rather than spending considerable funding on investigating potential biocontrol agents only to find that the public strongly opposes their use. Biological control using feline panleucopaenia virus (FPLV) integrated with other methods such as trapping, baiting and shooting achieved success in eradicating feral cats from the sub-Antarctic Marion Island [64]. Clinical signs associated with FPLV include fever, anorexia, depression, lethargy, vomiting and diarrhoea with death resulting from secondary bacterial infection, dehydration or shock [65]. Sudden death is also reported, especially of kittens less than one year of age. The RSPCA does not support the use of infectious agents which cause pain, suffering and distress for pest animal control. Furthermore, the use of infectious agents also poses disease risk to domestic animals;

this has occurred with rabbit calicivirus where many pet rabbits have succumbed to the virus causing significant animal suffering and immense distress to their owners.

Recommendation

Biological control using a disease-causing agent should not be pursued as a potential feral cat control method.

E.6.7 Gene technology

Gene editing appears to offer potential benefits in terms of providing non-lethal control of pest animals [66]. However, there are many ethical and welfare issues which need to be investigated thoroughly prior to commencement of researching the application of this technology for conservation purposes. Due to the significant amount of work and investment as well as public debate, which is required to assess the feasibility of this option, it is likely to be many years before research relating to its use for feral cat control will commence.

E.6.8 Other methods

Some novel research has been conducted to reduce the impact of feral cat predation including predator avoidance training of greater bilbies which was shown to have some potential benefits but further work is required [67]. Another study of burrowing bettongs in a fenced enclosure demonstrated that in situ predator exposure could be used as a method to improve the anti-predator responses of predator-naïve threatened species populations [68]. A recent review by Doherty et al [69] highlights the importance of managing the interaction between lethal and non-lethal control methods especially fire, grazing, food and trophic cascades. The authors also noted that control via ecosystem management and investigation of the potential for native fauna to coexist with feral cats are important areas for future research.

Bounties

In 2016, the Banana Local Council in Queensland declared a bounty on feral cats. Several papers, including those by [70–72], all advise against the use of bounty systems due to lack of cost-effectiveness, potential to result in fraud, risk of compromised animal welfare and improbability of an appreciable reduction in the target species.

Recommendation

Relevant agencies should not introduce bounties for feral cats.

E.7 Control of domestic unowned cats in urban and peri-urban areas

The control of domestic unowned cats in urban and peri-urban areas has been overlooked in the Terms of Reference. This is likely because there is some confusion within the literature and public arena with free-roaming semi-owned and unowned domestic cats in highly modified landscapes often being mistakenly referred to as feral cats. However, the methods of control for domestic unowned cats in urban and peri-urban areas must be examined separately from feral cat control measures as these are different cat populations and management strategies must be tailored to the cat population to be effective. In addition, these various cat populations are viewed differently by the public; this may mean differences in perceived acceptability of control methods for these cats. Furthermore, the potential threat posed to domestic pets or other non-target animals who may be exposed in urban and peri-urban areas to some of the feral cat control methods (such as poisons) affects the public's acceptance of these measures in urban and peri-urban areas [8]. Many members of the community are opposed to lethal cat control programs, particularly in urban areas [73–78] and non-lethal cat control measures, or even inaction, are more often accepted [79,80]. There is often a significant disparity between public opinion and the operating policy of local governments, animal control and even some welfare organisations [81].

Further detail on control of free-roaming semi-owned and unowned domestic cats is given in section H on the interaction between domestic cat ownership and the feral cat problem, and best practice approaches to the keeping of domestic cats in this regard.

The RSPCA also considers that exclusion of 'humaneness' from the inquiry's terms of reference is disappointing given the increasing community concern relating to the treatment of animals.

F. Efficacy of import controls for high risk domestic cat varieties to prevent the impacts of feral and domestic cats, including on native wildlife and habitats

It is essential to retain import prohibition on hybrid breeds including Savannah cat, Safari cat, Chausie and Bengal. It is difficult to assess the efficacy of import control for these high-risk breeds to prevent biodiversity risks. As with any breed identification, it may be difficult to ascertain the true breed of an imported cat without genetic testing, so it is unclear as to how border security ascertains the true breed of imported cats. Illegal importation, as with any prohibited animal species, is always a threat, although there does not seem to be any evidence that there is a demand for these high-risk cat breeds, which would otherwise encourage illegal importation.

G. Public awareness and education in relation to the feral and domestic cat problem

G.1 Domestic cats

A combination of consistent public messages from government and animal welfare organisations, education programs in schools and social marketing campaigns can result in positive progress for cat management. Legislation alone is not an effective instrument for addressing cat population, nuisance and predatory issues.

It is important to note that research has shown that cat owners fail to perceive the magnitude of their cats' impacts on wildlife and are not necessarily influenced by ecological information. This has led to the conclusion that management options for the mitigation of cat predation appear unlikely to work if they focus simply on "predation awareness" campaigns or restrictions of cat freedom [82]. Rather, research has suggested that messages focusing 'wildlife protection' and 'cat benefit' messages and promoted as a part of "responsible pet ownership" initiatives increase motivation for owners to contain their cat [83]. Strong owner-cat bond has also been noted to be an important factor motivating owners to contain their cat to keep the cat safe [84,85].

Provision of information alone is not sufficient to change behaviours. Providing educational information does not necessarily mean individuals will read it and even if they do, knowledge alone does not change behaviour. It also depends on the influence and impact that this new knowledge brings and the person's desire and ability to overcome the barriers that are preventing them from making the behaviour change [86].

Another issue of concern is awareness and education in relation to use of cat traps by members of the public. For example, some RSPCA Member Societies regularly have cats brought in via traps with inadequate (and dangerous) handling techniques, no covering, bedding or water, and the cats appear to have been in the trap for a considerable time; all of which raise serious welfare concerns. Traps are hired (at hirer's own expense) from several commercial organisations. It is not known if members of the public understand how to use traps or have been given any proper instruction on how to use the traps they have hired.

In addition, some members of the public continue to feed and, consequently, encourage the survival and growth of cat colonies. This is seen in a number of areas by RSPCA Member Societies.

Public awareness and education in relation to cat management is vital but making it effective in changing the desired behaviours is challenging.

Changing community attitudes, beliefs and behaviours is vital to the success of every strategy to manage cat populations. An effective cat management campaign requires public support and a social license to act; insufficient community acceptance can delay or derail management efforts [8]. Education assists in community engagement which is a key component generating social license by involving individuals in planning and management [8]. Therefore, it is important to use best-practice principles of behaviour change and persuasive communication to improve the design of education programs. Education programs should focus on increasing cat owner understanding of the benefits of cat management (such as containment, identification and desexing of their cat) for individual cats and also to decrease the number of unwanted kittens and cats in shelters and pounds.

Recommendations

Changing community attitudes, beliefs and behaviours should be a key component of every strategy to manage cat populations.

Best-practice principles of behaviour change and persuasive communication should be used in the design of education programs.

Education programs should focus on increasing cat owner understanding of the benefits of cat management.

G.2 Feral cats

Awareness among the general public about our native animals and an understanding of the challenge facing many threatened species appears to be lacking. Emphasising the need to kill feral cats results in demonisation of all cats and does not help the community to understand why feral cats need to be controlled. Language such as 'declaring war on cats' and quoting 'kill number targets' polarise views and can incite cruelty to all cats as well as reduce acceptance of feral cat control programs. The RSPCA advocates that education programs must be comprehensive and focus on the end goal in terms of conserving and protecting specific threatened species. Just promoting killing of feral cats, particularly as many people view domestic (roaming owned or unowned cats) as feral, leads to inhumane treatment of cats. People need to understand that well planned, conducted and evaluated programs are essential to achieve any measurable objectives. Communication of recovery of specific threatened species due to coordinated efforts is also essential to maintain interest and support for such programs and that any humane killing of cats is justified.

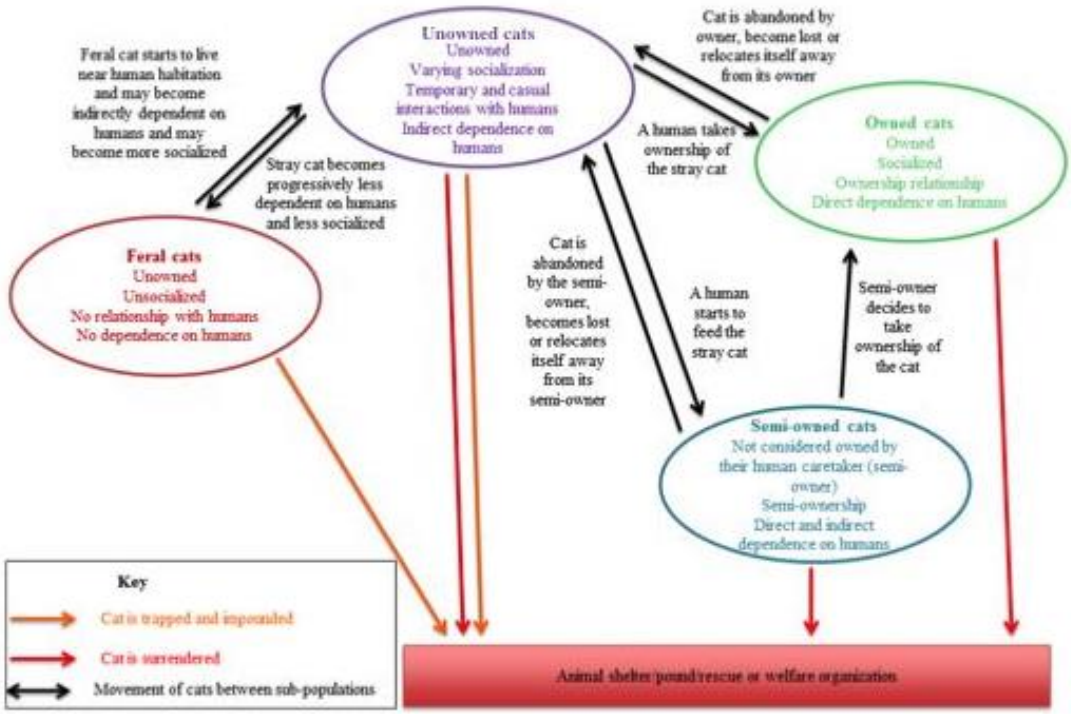
In addition to education initiatives, training is also essential for operators, both professional and landowners in the use of different control methods. Only competent operators should be permitted to undertake shooting and trapping of cats to ensure humaneness and effectiveness as well as human safety. As previously stated, compliance with the welfare code of practice for feral cat control and relevant standard operating procedures should be mandated through state/territory animal welfare legislation as a matter of urgency.

H. The interaction between domestic cat ownership and the feral cat problem, and best practice approaches to the keeping of domestic cats in this regard.

There are various populations of cats which make up a larger, interconnected network of populations called a 'metapopulation'. This is a similar concept to the cat continuum described in Australia [87,88], which also incorporates the human-cat relationships involved, such as perception of ownership and feelings of responsibility for the cat, association time, attachment, caretaking and interaction behaviours, and the cat's dependence on humans. This concept is represented diagrammatically in Figure 1 which illustrates the fluid relationships between these different sub-populations and, in the process, demonstrates why they are so difficult to manage. This concept also shows how the owned and unowned domestic cat populations could potentially interact with the feral cat population and why it is necessary

to manage all populations of cats holistically. It should be noted that it is currently unknown to what extent domestic cats, including unowned cats, contribute to the feral cat population. Woinarski et al [89] stated that this issue may be relatively insignificant compared to other factors.

Figure 1: Populations of cats and their interactions with humans (adapted from Zito 2015 with additional input from Andrew Byrne)



H.1 Humane management of cats

The problem of unwanted cats in urban areas is anthropogenic and, consequently, requires stakeholder and community engagement to devise cat management plans that have a good chance of success [79]. In order to achieve this, relevant social, cultural, political and economic issues must be considered [79]. Different approaches are needed to address owned and unowned cat populations. This has been acknowledged in the South Australian Cat Management Plan [41], Australian Cat Action Plan [39] and the Tasmanian Cat Management Plan (although semi-owned cats are not specifically addressed in this plan) [90].

There are three main strategies that can be used to reduce unowned and semi-owned cat populations:

- Limiting the flow of cats from the owned cat population into the unowned and semi-owned populations by reducing abandonment and the incidence of cats roaming and not returning home and the production of unwanted kittens.
- Reducing the number of unowned and semi-owned cats through removal of cats (through adoption, or euthanasia if the cat in unwell or injured; trap and kill programs should not be considered as an effective long-term solution to cat management).
- Controlling reproduction of unowned and semi-owned cats and supporting the long-term responsible care of semi-owned cats.

There are three main strategies that can be used to manage owned cats:

- Desexing to prevent the birth of unwanted kittens (particularly pre-pubertal desexing).
- Cat containment to prevent cats wandering, becoming lost and to reduce the risk of predation
- Reducing loss, surrender or abandonment of cats by their owners by addressing the reasons why this occurs (for example, behavioural issues, inability to find accommodation that allows cats, financial hardship).

Further detail can be found on all of these aspects of cat management in RSPCA's Identifying Best Practice Domestic Cat Management in Australia: A Discussion Paper (provided as an attachment). Key recommendations on managing unowned, semi-owned and owned cats are given below.

Recommendations

Cat management plans and strategies should recognise semi-owned cats as a separate category to unowned cats and ensure that cat semi-owners are specifically targeted in education, desexing and other relevant cat management programs.

Trap and kill programs should not be considered as an effective long-term solution to cat management. Where trapping is used, procedures should follow best practice and include a community education program and a process for adoption of kittens and cats.

A research study should be conducted to evaluate whether a targeted low-cost desexing program, combined with education of cat semi-owners, is an effective tool for managing semi-owned cats.

Cat surrender and abandonment could be reduced through increasing the availability of cat-friendly rental accommodation and promoting the value of the human-cat bond.

Education programs are needed to increase the acceptance and uptake of 24-hour cat containment, with subsequent regulation in areas of high conservation value.

Cat management plans should aim to increase the number of cats who are identified through mandatory microchipping.

Recommendations continued

Mandatory desexing has the potential to be successful in reducing shelter and pound intake and euthanasia rates where it is well-promoted within the community, supported by veterinary practitioners, targeted at pre-pubertal desexing prior to sale or transfer, supported through targeted low-cost desexing programs and adequately enforced.

Increasing access to targeted low-cost desexing initiatives, especially areas of low socio-economic status or those overrepresented in shelter and pound intakes, should be considered a key strategy for domestic cat management.

The promotion of pre-pubertal desexing as normal practice is key to reducing the number of unwanted kittens born. Engagement with cat owners and the veterinary community is vital to increase acceptance and uptake of pre-pubertal desexing by veterinary practitioners.

Further research is required to inform future cat management strategies and ensure that limited resources are effectively targeted. This will require allocation of resources, coordination and priority setting at a national level.

Low cost desexing initiative case study – RSPCA Victoria

RSPCA Victoria recently set up the Glenelg cat desexing project, but the low-cost desexing initiative did not have the community uptake initially aimed for. The program was developed following the Glenelg Shire Council requesting assistance from RSPCA Victoria to address the over population of semi-owned and un-owned cats. The aim was to reduce the number of semi-owned and un-owned cats in the Glenelg shire area through high-volume desexing. The aim was to desex 175 cats over 5 days at each of the two clinics set up by RSPCA Victoria. However, only 139 cats were able to be desexed at one clinic and 114 at the other.

Several key learnings were identified following the evaluation of this project. Most notably it was found that community engagement was essential in people coming forward to have their cat desexed. For example, in reviewing the program it was noted that more targeted community engagement and education was required to enhance community uptake in the scheme. In addition, while the desexing program was low cost, it was found that removing the cost of desexing entirely for some people in the community may have been beneficial.

In the prevention pilot discussed under community engagement some of these learnings from the Glenelg project were adopted and a different approach tried. For example, RSPCA Victoria let the community know through more targeted advertising that they were 'here to help' with no mention of specific costs of services – this appeared to make people feel more comfortable in coming forward and asking for the assistance that they needed. In addition, the work of our Community Liaison Officer was invaluable as this enhanced RSPCA Victoria's knowledge of, presence in and engagement with the local community.

Low cost desexing initiative case study – RSPCA Queensland

For the past six years, RSPCA Queensland has been running Operation Wanted, a desexing campaign that is a collaboration between RSPCA Qld, local councils and local veterinarians offering 20% Off desexing by pre-registering with Operation Wanted through the website. A total of 208 veterinary practices from 27 council regions signed up to participate in 2019.

Over the program's life approximately 54,000 cats have been desexed through the program.

This program demonstrates the public desire for such services with people registering to participate even if they were from council areas that had no veterinary clinic participating but were in reach of other areas that do have a participating veterinary clinic. In addition, the program even has people coming from interstate to have their cats desexed through the program.

Cat containment case study – RSPCA Australia

The RSPCA advocates for keeping cats safely and happily contained at home. RSPCA has provided public education and information on this topic via the RSPCA Australia Guide on keeping your cat safe and happy at home, social media channels and new website.

Cat containment case study – RSPCA Victoria

An example of a joint initiative to promote cat containment between RSPCA Victoria and Zoos Victoria

RSPCA Victoria and Zoos Victoria's joint campaign Safe Cat, Safe Wildlife was launched to promote cat containment and educate Victorian cat owners about how to provide cats with enriching and happy lives in the home to protect both their welfare and the welfare of Victoria's wildlife. The campaign has been targeted towards both individual cat owners, as well as veterinary clinics and local councils to promote this message. Across 2018 and 2019 over 20,000 individuals and organisations joined the Safe Cat, Safe Wildlife community. By signing up to the Safe Cat, Safe Wildlife, cat owners are able to share and access 'cat hacks' to transition their cat to indoors and provide them with enriching activities. Educational campaigns such as this, that do not demonise cats but rather aim to promote the benefits of cat containment for cats and other animals can be beneficial in promoting change in cat owner's attitudes and practices.

There is significant value in developing and implementing these types of community focused engagement and education campaigns as they can improve cat welfare and promote responsible cat ownership. Therefore, these types of programs should receive government funding and support.

H.2 Driving behaviour change

It is common for organisations to provide fact-based information to try and persuade individuals to change their current behaviours but the ease of use and ability to promote action is generally poor [85]. Communication techniques that may be more effective, such as commitment, prompts, goal setting, story-telling, descriptive norms, and likable and identifiable messengers are under-used, are not used effectively, such as the debunking of misinformation and framing of messages. There is evidence based guidance available on how to improve the behavioural effectiveness of cat management intervention designs [85]. In addition, it is known that knowledge transfer alone is not effective in changing behaviour; instead, behaviour theories have been used to create a practical framework linking drivers of and barriers to behaviour change with intervention strategies and policies to advance the management of cats [91,92].

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Appendix A - Attachments

- Identifying Best Practice Domestic Cat Management in Australia: A Discussion Paper
- RSPCA Australia Guide on keeping your cat safe and happy at home
- Cat Management Plan for South Australia
- Australian Cat Action Plan
- Cat Management Plan for Tasmania
- Draft Cat Management Plan for ACT

Appendix B - RSPCA policies

RSPCA Policy E01 Wildlife - General principles (adopted 06/12/10)

1.1 RSPCA Australia recognises that the state of an ecosystem directly affects the diversity of populations, the likely survival of species and the welfare of individual animals within it. Consideration of wild animal welfare thus requires finding a balance between maintaining the viability of an ecosystem and protecting the welfare of individual animals.

1.2 RSPCA Australia believes that wherever human activities have the potential to have a negative impact on wild animals, whether directly or indirectly, we have a duty to ensure that they are conducted in a way that causes as little injury, suffering or distress to animals as possible.

1.3 RSPCA Australia supports the use of independent environmental impact assessments to determine the potential of any development to threaten the continued survival of a species, significantly alter existing ecosystems, or have a negative impact on animal welfare. Where development projects identify threats to the welfare of wild animals, conditions must be placed on the development to mitigate these threats. Where mitigation is not possible or reasonable the development should not go ahead.

1.4 RSPCA Australia believes that management practices utilising natural resources (such as mining and logging) must be designed to ensure that they cause as little suffering to animals or negative consequences for the viability of a given population as possible.

1.5 RSPCA Australia supports the establishment and maintenance of national parks and conservation zones in areas of environmental significance to preserve genetic diversity, promote biodiversity and protect native animals from human impacts. The use of such areas should only permit activities that do not compromise animal welfare. At the same time, RSPCA Australia recognises that these areas alone are not sufficient for the conservation of biodiversity.

1.6 RSPCA Australia supports the ratification by the Australian government of international treaties, conventions and agreements which serve to protect biodiversity and promote the humane treatment of wild animals.

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RSPCA Policy E02 Management of wild animals (adopted 06/12/10)

2.1 RSPCA Australia acknowledges that in some circumstances it is necessary to manage populations of wild animals, native or introduced. There are three main reasons used to justify the management of wild animals*:

- to protect the welfare of individual animals
- to help conserve a threatened, endangered or vulnerable native species
- to reduce adverse impacts on human activities or the environment.

* It is noted that in most cases these problems have arisen as a result of human activities or interventions.

2.2 Any measures taken to manage wild animals must recognise that whether an animal is native, introduced or viewed as a 'pest' does not affect its capacity to experience pain, suffering or distress.

2.3 Programs and strategies which prescribe the management of wild animals (such as threat abatement plans and native animal management plans) must be justified, supported by scientific evidence and have clearly stated aims. Such programs should be subject to public consultation, ethical approval and review prior to implementation. Once implemented, the results of such programs should be regularly monitored, evaluated, publicly reported and used to inform future activities.

2.4 Management activities (such as on-ground intervention or control) should only be undertaken if it is likely that the aims of the program can be achieved. The methods used must be humane, target-specific and effective (see E2.10).

2.5 Once the aims of a management program have been achieved, steps must be taken to ensure that the outcomes are maintained in the long-term.

2.6 RSPCA Australia advocates the adoption and implementation of compulsory codes of practice and standard operating procedures for all wild animal management activities.

See www.dpi.nsw.gov.au/agriculture/pests-weeds/vertebrate-pests/codes/humane-pest-animal-control

2.7 Protecting the welfare of wild animals

2.7.1 Management programs aimed at protecting the welfare of individual animals or populations may be necessary where populations are subjected to severe environmental stress, habitat fragmentation, disease or human activity. Such programs must only be carried out under the supervision of the relevant government agency.

2.7.2 In some circumstances it is considered necessary to reduce the size of a given population of wild animals for the long-term benefit of that population. The killing of animals for this reason should only be permitted where it can be carried out humanely and there is no non-lethal, humane and effective alternative available (see E2.10).

See E3 Rescue and rehabilitation of wild animals

2.8 Conserving native species

2.8.1 Management programs aimed at conserving native animals, including threatened, endangered or vulnerable species centre on habitat protection, but include strategies such as captive breeding, translocation and release of animals. Care must be taken to minimise any adverse effects of these activities on the welfare of both target and non-target animals. Such programs must only be carried out under the supervision of the relevant government agency.

2.9 Reducing adverse impacts of wild animals

2.9.1 Many introduced animals, and some native animals, are viewed as 'pests' because of their adverse impacts on human activities, health and wellbeing or the environment. These adverse impacts include:

- land degradation, ecosystem effects, and predation and competition with native species
- losses to agricultural, horticultural and forestry production, including grazing competition, damage to crops, predation on domestic animals and damage to infrastructure
- risks to public health and safety
- other human activities such as tourism, recreation and transport.

RSPCA Australia acknowledges that, in certain circumstances, it is necessary to manage populations of wild animals in order to reduce these impacts.

2.9.2 Management programs must be aimed at reducing adverse impacts rather than simply reducing the number of animals. RSPCA Australia is opposed to the use of incentive methods (such as bounty systems) where these focus on killing animals rather than reducing impacts.

2.9.3 Wherever possible, pest control measures should be carried out as part of an integrated pest animal management program in consultation with the relevant government agency. Lethal methods must only be used where there is no non-lethal, humane alternative available that is effective at achieving the program's aims.

2.10 Management and control methods

2.10.1 RSPCA Australia is opposed to the use of inhumane methods of controlling or managing wild animals. A totally humane method is one which does not cause any pain, suffering or distress to target and non-target animals.

See also Policy G1 Humane killing

2.10.2 When determining the method of control, the most humane method that will effectively achieve the aims of the management program must be used.

2.10.3 The humaneness of a given control method is influenced by its application and the skill of the operator. Control methods must be applied in the best possible way by trained and competent operators.

2.10.4 RSPCA Australia supports the independent assessment of the relative humaneness of control methods and the publication of these assessments to assist in identifying the most humane available methods for a given situation.

See Sharp T and Saunders G (2008) A model for assessing the relative humaneness of pest animal control methods. Australian Government Department of Agriculture, Fisheries and Forestry, Canberra, ACT [93].

2.10.5 RSPCA Australia believes there is a continuing need to improve current control methods or replace them with more humane and effective alternatives. The RSPCA supports research and development of humane alternatives, including the replacement of lethal methods with humane and effective non-lethal methods, such as reproductive control.