Submission No 194

INQUIRY INTO MANAGEMENT OF CAT POPULATIONS IN NEW SOUTH WALES

Name: Mrs Ruth Norris

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Management of cat populations in New South Wales

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In response to your call for submissions for cat management:

I am an ecologist also running a rescue association in SA and have done so for over 40 years. I was requested to respond to your submission process in the hope that other rescue groups may be of assistance. We are after all not isolated by mapped GPS locations but connected across these.

The Animal Welfare Committee inquire into and report on the management of cat populations in New South Wales, and in particular:

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

The impact in these areas on threatened native species is less than that occurring in rural areas because cats here are highly reliant on humans for food and shelter, meaning there is less need to hunt. If they do, cats and other predators are most likely to hunt species that are in abundance, rather than threatened species. With less reliance on hunting, the hunting skill set is also less honed, meaning far less attempts at hunting are successful. It takes numerous generations for cats to become feral and these cats are not human reliant and do not occur in metropolitan and regional settings. Other invasive species, specifically mice and rats also occur in higher proportions in these areas, and with cats having a long history of predation on these, there is also some benefit in these regions with cats keeping these species at lower population levels. Where cats have been removed there has been a surge in population levels of mice and rats. Additionally, rats are detrimental to wildlife species. Therefore, cat control in these areas has to be undertaken carefully and in consideration of the repercussions.

It is important to specify between the categories of cat which has not been adequately done previously in many jurisdictions. **Appendix 1**

It is necessary to understand cat growth see **Appendix 2**

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

Cat containment is difficult for many. If this is mandated, then it requires assistance to undertake this. However the repercussions from cat containment need to be understood (Appendix 2). Cats are territorial and containing essentially removes cats from territories, allowing movement into these vacant areas by other cats.

(c) welfare outcomes for cats under contained condition

The welfare of cats is important. If they are contained, they must still have access to outdoor sites which also assists with territorial control.

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

Education of community is vital, and this should be introduced to primary school age children. However, often those that would benefit the most, are those not willing to listen or do not have the resources to undertake appropriate management.

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

This is additional work on local councils, but there needs to be a united effort in cat control methods, not simply cat containment. Cat containment has both positive and negative repercussions in that it opens up territory for other cats and therefore increases potential for breeding. There needs to local council assistance in implementing and enforcing desexing as the priority as below

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

The source of the cat problem is the continual breeding. Therefore, the problem needs to be addressed at its source, not at the symptom. Dr J. Rand and CATS Incorporated SA are proven in their management objectives in the provision of cat desexing.

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

While the Victorian legislation could still be improved upon, it has provided a reasonable method to adopt while SA cat management is lacking.

(i) options for reducing the feral cat population

Culling cats has not worked. The reasons why are specified in the Appendix.

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Appendix

Introduction.

I run an Animal Rescue Incorporated Association in the mid north of South Australia and am also an ecologist. I am against the predation and loss of native species, but I am also aware that there has been, and still are, many inaccuracies regarding cats, their impact and their management. It is very easy to accuse an animal when it cannot verbally defend itself and often implicates itself through necessity and its inherent nature. While better management of the cat is vital, it must be ethical and accurate and without political agenda, which unfortunately plays a role in The Threat Abatement Plan for Predation by Feral Cats (TAP) but which has not been made transparent.

Australia cannot return to Eden. The cat is here to stay, but new methods of management are rare in Australia where we continue to follow the 1800's mentality of culling, which rather than providing a solution often results in greater detriment. Australia is well known worldwide for its killing mentality which has also assisted in attaining our infamous extinction rate. Cat management is difficult and complex because it involves a cryptic species but also involves species interactions, many of which we have not considered but the majority we are not aware exist. Additionally, regardless that the cat is considered a pest species in the TAP, the outcome of any management plan and the **welfare** of both wildlife **AND** cat **must** be prioritised.

The cat

The cat is an important, widely recognised and loved companion animal. It is known and valued for the companionship and mental health benefits it provides to humans. However, problems exist because of mis-management as the result of irresponsible human practices. Importantly there is agreement, from all parties; welfare organisations, rescues and shelters, ecologists, cat owners, members of the public etc, that:

1. Cats in Australia are here to stay.
2. There is an overpopulation of cats which has resulted in major issues in towns, and in rural areas, including the predation on native species.
3. Management must focus on reducing the cat population and maintaining it at a manageable level.

We all want the same result.

Issues with the TAP:

The management of any species is a science and with all due respect to the scientists referenced science does not appear to have been adhered to in the Threat Abatement Plan for predation by feral cats (TAP) both past and present. The (TAP) has previously been lacking, ambiguous and even containing erroneous information which has had major and disastrous repercussions.

Recommendations:

1. Stop publicly demonising the cat. Information must be factual and not sensationalistic.

2. Accurate and consistent definition of cat categories.

3. Management to utilise proven ethical methods that target the problem's source rather than the symptom.

4. Coordinated, consistent multifaceted, management of cats across all States and Councils and with stakeholder involvement. Local Government to be active in cat management with this not optional. Local Government to provide free desexing or at the least, subsidised programs.

1. The Cat and how it is portrayed

While current population estimations of the cat are potentially more accurate than those previously, there is no accurate measure of cat populations (and no measure on the success of management methods which should be measured in terms of those species saved). The current review of the TAP draft 2023 states that "the Australian public already has a high level of awareness about the impact of feral and pet cats on naïve wildlife." Much of this awareness comes from sensationalistic headlines from magazines such as the Australian Geographic (Pickrell 2013) and Australian Wildlife Conservancy (2012/13) which utilised incorrect information originating from TAP 2008. These inaccuracies in the TAP 2008 were even used in scientific articles without checking the validity of the TAP's statements and

references, and resulted in damage, hatred and cruelty inflicted on cats. The inaccuracy refers to an incorrect population estimation taken from a newspaper article and stated as scientific evidence stating the population of cats in Australia was 21 million cats with 18 million of these being feral. Further extrapolation resulted in headlines stating 75 million native animals were killed every night by cats (or 27 billion annually). Ten years later, the current scientific population estimation is actually 2–3 billion native species are killed annually. These sensationalistic reports of 2008 had inflated the latter and more realistic and accurate estimated feral cat population by approximately 813–1269 %!

The killing of any number of a native species is unacceptable but the inaccuracies, their acceptance, and blatant indifference to the repercussions, such as the demonization of the cat that followed, are also unacceptable. While the actual figure stemmed from a mistake, no-one cared enough about the cat or the science to check. The figures were just accepted without question. As a scientist and working with cats and other species, I wanted to know how these figures had been determined, hence finding the error. When I saw these figures were being used by AWC on which to base further research, I was concerned for the PhD candidate who, in good faith, was using them as a basis for further study and contacted AWC and the department responsible for the TAP 2008. The department (Dr Quinn) told me that this mistake was 'rather sloppy' of the federal government and they would bring this up at a meeting. The director of AWC (Atticus Fleming) was annoyed with me, stating the cat was a killer and therefore accuracy regarding actual numbers, was irrelevant.

While this inaccuracy may have been remedied in the TAP 2015, the damage had already been done, with members of the public incited and stating publicly what they would do if they caught a cat. This still occurs today. There was never a retraction, apology or public statement to amend the situation with an attitude by many that "well the cat kills anyway". It does kill and for feral cats, or for any abandoned, displaced species including us, this is a necessity to survive. The cat is a domestic companion animal introduced to Australia in the 1800's and then bred and released in the1000's across Australia to fix a vermin problem that humans had created. Now we have caused another problem. It is however our duty to treat it morally and ethically. It is the Governments and leading scientists' responsibility to lead by example and show appropriate behaviour and treatment of the cat which is vulnerable to persecution and abuse, particularly because it has been denigrated so badly.

Cats are today, still trapped, transported and, without a period of containment, released in rural areas for vermin control, despite this being illegal. The cats trapped caught in rural towns, are semi-owned, dependent on humans, and on release they simply run. They are terrified in unknown surroundings and without food and water, they starve and perish. This illegal practice was undertaken recently by prominent members of a land care group with positions on local Government in our rural town, therefore ignorance is no excuse. While this constitutes illegal practice under The Landscape Act (SA) to release a feral animal at large, it also is illegal under the Animal Welfare Act 1995 to dump an animal. While protection of native species is vital, **our** inability to undertake adequate and appropriate management of cats results in a surplus of this species leading to idiotic, cruel and illegal practices.

Of note: Over a period of approximately 8 years (2013–2021) I have had (20–40) motion activated cameras, also on time lapse, positioned on burrows and alternative shelters, water troughs etc, on different properties in the mid-north of SA. I have found few images of cats, from 300,000 videos and 1.6 million stills. The images I have found equate to 0.027 cats/km^2.

2. Defining the different cat categories.

Different categories of cats require definition. For a species identified in 1999 as an important key threatening process, it is ironic that the background document for the TAP 2023 (DCCEEW 2023) shows the states and territories definitions are almost non-existent as well as inconsistent. In South Australia 83 % of Councils (Chua *et al*. 2023), do not undertake active cat management. Both the lack of definition and local government management show a disregard for this problem. Regardless, definition is important in science without which there is ambiguity, confusion and room for error. Currently these categories of cats are defined by RSPCA (2018) and the Veterinary Association of Australia (2020) as Owned, Stray (Semi-owned and Unowned) and Feral. Despite the recognition that their behaviour, location, requirements, survival, problems and therefore the management criteria between each, differ, the draft TAP 2023 publication omits the category 'Stray'. To define appropriate and successful management, accurate definition and consistency between stakeholders, is required.

Additionally, the TAP's 2023 proposed definition of feral cats includes those living in and around human infrastructure and states they are "not… cared for by people". This is incorrect with the majority of stray cats being cared for in some way and at some time by humans (Australian Pet Welfare Foundation 2023).

Example of definition: "Stray cats (unowned and semi-owned cats)" compare with the TAP definition "Feral cat - subset of Feral cats found in and around cities, towns and rural properties; these cats may rely on resources that are inadvertently provided by people") the former definition written in bold is more accurate and succinct compared to the definition provided by the TAP which is wordy, cumbersome and ambiguous because "feral" also refers to cats which are not associated with, nor dependent on humans. These definitions therefore require amending to include the category of Stray, semi-owned and unowned and to align with other organisations and stakeholders.

3. Cat management: why it has not been successful

The management of cats has focussed on population reduction, largely by different methods of killing, some of which are highly controversial and inhumane. With culling having continued for decades and the TAP 2023 plan continuing to be updated and reviewed it is fair to state that killing the cat is not a successful management tool. The culling or removal of many mammalian species is ineffective in diminishing populations unless the area is small and contained, such as within predator proof enclosures or on small manageable islands.

Culling targets the symptom and not the cause. The symptom is the increasing cat population and the cause of this is the cat breeding. Removing or culling the cat is essentially 'harvesting' cats but only exacerbates the situation (see explanation below).

Why culling does not work.

Unless within predator proof enclosures or on small islands, culling cats has proven to be largely ineffective. This failure is very simply explained by the theory behind mammalian population growth, and additionally cat behaviour and ecology. Continuing to use a management tool which is ineffective is a waste of resources, while culling further results in animal and human welfare concerns. Understanding the theory behind mammalian population growth also reveals why other methods of control (discussed later) have proven successful. This theory is common in basic ecology and therefore understood by the scientists who undertake animal management, and whom TAP 2023 references. However, because TAP past or present makes no reference to this, nor is it referenced by those undertaking cat management, it is explained below.

The population growth rate of cats

The majority of mammalian species, including cats, are density dependent mammals, meaning, their rate of population increase over time is dependent on their density (the number of cats per unit area).

Populations start small with slow growth rate due to a small number of breeding individuals (Fig. 1). Breeding results in offspring and offspring grow to sexual maturity increasing the number of breeding adults in the population. The rate of population growth now increases almost exponentially. As this occurs, resources in the environment are used far quicker and the rate of increase slows in line with the decreased availability of resources. The population attains a size that is maintained by the available resources without surplus, and the population stabilises and plateaus. This is the carrying capacity of the environment for this species.

The carrying capacity is determined by the amount and availability of resources within an area and is also capped by negative effects of a population, such as wastes and diseases etc. This is why there is often an aggregation of cats around town dumps, hospitals, etc because of a greater number of resources in that area. Human inhabited areas provide food, shelter and water and therefore support cats, as well as rats and mice, which are also a resource for the cat. Additionally, often in areas of human habitation well-meaning, compassionate people feed stray cats, and these are the cats defined as semi-owned.

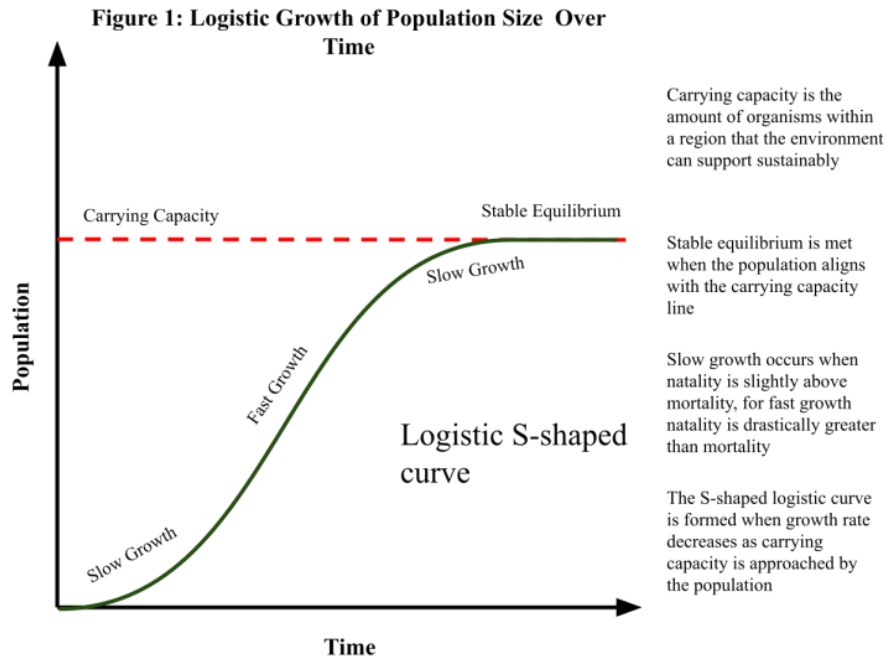

Fig. 1. Graph detailing density dependent population growth.
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From Fig. 1, culling the population removes animals from the top right section of the graph reducing the population but increasing the rate at which the population grows. This occurs because lowering the population frees up resources for others, improving conditions for those left and breeding can increase. This is the premise upon which many agricultural activities are based including the kangaroo harvest where population estimations and knowledge of their intrinsic rate of increase, allows the formulation of a quota of kangaroos which can be 'harvested' while maintaining a sustainable population. As long as the population is not driven too low, breeding continues to occur, is relatively rapid and the population is sustained and will not go to extinction (under normal conditions). To reduce cat populations there must be 65 % – 95 % reduction per year which is difficult to achieve (Doherty 2019).

Behaviour and ecology

As cats are cryptic species, clever, can be trap shy etc. the high rate of culling is rarely achievable except as stated previously, in enclosed areas. It is recommended that to maintain a low population of cats or for populations to become locally extinct, culling should occur every 6 months which in most cases is costly and not achievable. But there is more to this…

Carrying capacity, territoriality,

As the human population continues to grow, the availability of resources increases. Therefore, humans artificially continue to increase the carrying capacity of the environment, which is why the human population continues to grow. We have overtaken the natural carrying capacity for human habitation on this planet but continue to breed, due to artificially

increasing resources such as food and shelter. As our population grows so we increase the availability of resources for the cat.

If a cat population was to drop below a certain level, the population would be predicted to become extinct. This lack of cats, or even a decrease in the population in an area results in increasing the resources available for others. In Australia, unless a specific area is surrounded by predator proof fencing, cats on the periphery will move into this newly vacated territory. Previously these new comers were kept at bay by the former occupants. Migration of new individuals into an area generally results in increased nuisance behaviour, such as calling, territorial marking, and fighting to determine and attain a new social order.

Why continue with an unsuccessful method?

The theory of mammalian population growth is basic ecology and is therefore well understood by ecologists and scientists. Culling has proven ineffective, not only with cats, while often also resulting in increased breeding. It is questionable therefore why it continues to be used as a management tool, at huge cost to the nation when it hasn't been successful in the past and isn't likely to be in the future.

This raises the question asked by many: Is the reason for continuing down the same failing path, due to: **"Conservation or politics? ..."** Where, "The focus on killing cats runs the risk of distracting attention away from other threats to biodiversity, most prominent of which is widespread, ongoing habitat loss, which has been largely overlooked…" (Doherty *et al.* 2019). "Land clearing is a politically sensitive issue because significant economic interests (agriculture, urban development, and mining) are the main drivers of habitat loss (Curtis, Slay, Harris, Tyukavina, & Hansen, 2018; Evans, 2016; Reside et al., 2017)" (Doherty *et al.* 2019). Another vital issue adding to habitat loss and extinction is Climate Change and despite the magnitude of this threat, Governments in general continue to defer action. Many of these other issues such as land clearing, agriculture and changed fire regimes, exacerbate and increase the success of cat predation and therefore should be incorporated into ethical management of the cat rather than focussing on the cat in isolation from these contributing factors.

It is well known that Australia has one of the worst rates of land clearing. Agricultural activities are openly supported as a priority over native animal welfare and habitat by government. One only has to look at the destruction of native species and the lack of penalties and cover ups of these criminal actions. With the cat firmly entrenched as the scapegoat for the extinction of Australia's native species, maintaining it in the environment by 'harvesting' has financial benefits. With the public focus on the cat, destructive practices of land clearing and mining can continue unabated. However, true wealth is in a healthy environment. Continuing to place our focus elsewhere is leading rapidly to landscape desertification where agriculture will no longer be supported. "Significant environmental degradation has always accompanied humankind. Wherever humans have settled, environmental destruction has been the rule" (J. Diamond 1992), and, included with this are animal extinctions.

Additionally, where are the measures of effectiveness?

A management plan must be measured for its efficacy over time and through responses of the objective – the threatened species. This has not done this in the past, how will it be measured in the future?

Where cat removal has occurred

A section of the background information for the TAP 2023 importantly displays the benefits of cat removal. Removal of any species must be done carefully due to the ecology within that specific area. On removal of cats from Macquarie island, remote-sensor Arko Lucieer stated, "Our findings show that it's important for scientists to study the whole ecosystem before doing eradication programs," (Svoboda 2009). Similarly, Barry Rice from The Nature Conservancy stressed, "This study clearly demonstrates that when you're doing a removal effort, you don't know exactly what the outcome will be," (Svoboda 2009).

In 1878 rabbits were introduced to Macquarie Island and in 1968 the Myxoma virus was introduced to reduce the rabbit population. It worked in reducing the numbers of rabbits , but cats on the island without their preferred prey, predated on the seabirds. In 1985, a cat eradication program was undertaken. Later they found this led to the rabbits increasing in number which decimated the islands vegetation. The vegetation composition changed with exotic grasses and herbs taking over and forming a dense network of vegetation, in some places preventing native seabird access to suitable nesting sites (Svoboda 2009).

Similarly, cat eradication from Little Barrier Island resulted in reduced breeding success of Cook's petrels, because without the cats keeping rats at bay, the petrels were predated upon by the Pacific rat (Raynor *et al.* 2007) .

In 24 bushland sites in Sydney NSW, a study on artificial nest predation found that where cat activity was high, nest predation was reduced, believed to be due to cats suppressing populations of black rats (cat activity was determined by the numbers of cat faeces within sites) (Matthews *et al.* 1999).

BAN the use of 1080 Proposed Control methods using 1080

Ethics approvals must be obtained when dealing with non-human animal species. I am interested in knowing if ethics approval is obtained for TAP 2023 objectives especially in regards to the use of 1080 or is Government and these management options exempt from ethical considerations and the application process? It is also recognised in the TAP 2023 draft, that the use of poisons to control the cat does result in poisoning non-target species (see Appendix). Many different species have been inadvertently baited with the use of poisons. No poison can ever be considered target specific, safe or without risk. When evaluating the efficacy of the management method a correction factor should be included for accidental loss.

The methods utilised in the management of cats has involved 1080 with different ways for ingestion. This is an extremely dangerous poison. It is water soluble, colourless, odourless, tasteless, slow acting and there is no antidote. It is listed as a 'Chemical of Security Concern' by The Council of Australian Governments (COAG) as a potential chemical weapon for

‘terrorist related activity.’ One teaspoon is enough to kill 100 human adults. The WHO list it in their most toxic category. The RSPCA is opposed to the use of 1080 stating it is inhumane. Australia is one of the few countries that still use it, with many others having a total ban on its use and import.

This chemical is placed in the hands of scientists and agriculturalists alike, no psychological evaluation necessary and many of whom are desensitised to killing. Disconnected from the fact that “A feral cat is no less a mammal and its heart no less an incredible pumping machine and it is no less a tragedy to see it dropped into a yellow plastic bag…” (on monitoring cats poisoned with 1080) (C. Marks 2013).

“Although emotion has no part in the application of the scientific method, science has never demanded emotional nihilism or the abandonment of compassion from its practitioners (C. Marks 2013). Read quoted in The Advertiser newspaper (Bogle 2019) promotes the belief that cats “just go to sleep” when poisoned with 1080 and poisoned cats and “videoed it to see how it dies” (see Appendix 1). However, the truth is that “Animals poisoned with 1080 scream, vomit, defecate and suffer violent and prolonged seizures. They die with a final convulsion anywhere between 30 minutes and 72 hours after ingesting the poison. In some species, death can occur even later.” Suffering for up to 22 days later, or if taking a sub lethal dose, further doses will result in death. Non-target species are killed and secondary poisonings also occur. The myth that native animals have a natural resistance to 1080 is still taught at Universities and is one of the most prevalent and dangerous lies. It has been trialled on native species by force feeding them 1080, monitoring them over time to document their responses, until death. Laboratory technicians who have had the job of documenting the trials on cats, decide when the cat ‘has had enough’, and these ‘lucky ones’ sometimes may be given a fatal dose of lethobarb to end their suffering.

Picking and choosing who lives and who dies, where the situation you are born into determines whether you are friend or foe, is surely discrimination regardless of the species. We don’t need more killing, discrimination, or cruelty on this planet. We don’t need more people desensitised to cruelty and indoctrinating others with the belief that some life – whatever a human decides - is simply disposable. When we learn science, our revered lecturers teach us that life is a miracle in all species, and then the tables are turned and they teach us that some, based on human perception, are not only expendable, but are treated as unworthy of humane treatment. As students we admire our lecturers and lead from their example.

It concerns me greatly the kind of a society which results from a government that sanctions killing through the use of horrendous poisoning of any species, let alone a species that on one hand we consider a pest, and on the other, is a beloved pet. A species, that we held in high regard when we thought it could fix a problem we created. It did and does fix the problem of vermin to some degree, but again only when we desire. Abandoning the cat resulted in an animal oddly needing to kill to survive. It has been disturbing to hear and see some of the rhetoric on social media surrounding the cat, where people openly incite, promote and condone cruelty. “Surely our humanity as scientists must be measured by our capacity to empathise, as no biologist should expect to carry the burden of killing for science too easily.

Because only a psychopath kills without emotion." (C. Marks 2013). Why are we using such horrendous cruel and inhumane methods when there are other proven, compassionate ways that encourage community kindness and inclusivity and the values we want to foster in the Australian population.

What does work?

Culling the cat has been used for decades with little success, in fact the problem in many sectors has worsened to the point rescues, shelters and veterinarians are struggling both physically and mentally. Please stop attacking the symptom and start attacking the cause.

Another form of Cat Management has already been suggested, is being used worldwide and in Australia, and for the most part has been proven successful at:

4. reducing the number of cats in specific areas,
5. the intake of unowned cats and,
6. euthanasia rates.

This is not TNR but community cat programs in town areas. While similar to TNR, cats are maintained and cared for in their environment while carers and other members of the public are also encouraged to take on a role of ownership of cats.

Community Cat Program endorsed and run by Dr J. Rand

Areas are identified where populations of cats predominate and cats are trapped and transported to veterinarians where they are first assessed and then desexed, microchipped and vaccinated. Desexed cats are maintained for a brief recovery period (up to 3 days for males and a week for females – although some organisations hold for less time) at an appropriate location where they are under shelter, provided with warmth, as they cannot maintain body temperature immediately after surgery, and provided with food and water, until ready for release. At the time of desexing they may also have their left ear tip clipped by 1 cm which is the universal sign for a desexed cat. This makes identification of the desexed cats easy while also avoiding the stress of retrapping etc. Cats are returned to the location from which they came, where they are routinely provided with food and shelter. Having these cats returned to their territory and maintained there, reduces the potential for other cats to move in. The social structure is not disrupted, and with desexed cats there is also reduced nuisance behaviour. The caretaker will be aware if a newcomer moves in by observation of intact ears and these cats can be desexed as they appear.

Another source of cats to the stray cat population are cats which are owned but remain undesexed. Continual education can assist but also free desexing programs should be made available. A source of kittens/cats from owned cats is not necessarily the result of an irresponsible owner. Escalating living costs and an inability to find rentals accepting pets are having a huge toll on companion animals and their families. While subsidised desexing has

been offered by some Councils, in South Australia alone, 83 % of Councils do not actively engage in any form of cat management. Free cat desexing should be offered to:

1) encourage all owners to desex their cats and

2) low socio economic areas and situations.
Often those struggling the most are those people most in need of a companion, and these people are discriminated against having a companion animal due to the costs of desexing.

A further source of undesexed cats

Cats are often used by farmers for vermin control. They are not routinely desexed because these cats are not cared for by the farmer, they are simply there for a purpose and their life span is short. Therefore, farmers want regular recruitment and if breeding results in too many, cats and kittens are disposed of often by inhumane and horrific means. Farmers are part of the Australian population, they should not be exempt from the basic rules that are inclusive of everyone. (Currently in SA farmers are exempt from mandatory dog desexing.) Indeed, cats on these remote properties are more at risk of becoming feral over time. While it takes numerous generations for a cat to be deemed feral, , the possibility is highest for these cats on outlying properties simply because human interaction for these cats used as 'mousers' is non-existent. The cats are not fed or handled by humans. **Management of one sector is worthless if all stakeholders (most of the population of Australia) are not on board working together to a common end. NO EXEMPTIONS APPLY.**

For feral cats in outlying areas who are not human dependent, effective management can still be achieved through sterilisation. Sterilising stops the continual breeding and lowers the population because territories remain occupied, but by a sterilised adult cat. While culling results in increased resource availability, causing increased breeding and/or migration into vacated territories, therefore encouraging a feral population to endure, sterilisation can ultimately render a feral population extinct. Sterilisation maintains the cat in its territory, keeping resources at the carrying capacity and migration at zero. Predation will continue but it will be reduced and continue to decrease because populations will decline over time. With no recruitment into a declining population, feral cats should go to extinction **IF** all sources are extinguished (dumping, farmers desexing their cats etc). With culling, unless occurring in a contained area, predation continues because there is continual recruitment maintaining the feral cat population. Sterilisation is species specific and targets the cause. This management incorporates, as before, the density dependant population growth model and the cat's innate behaviour (Fig.1). The time, effort and cost to trap, desex, maintain over recovery and release would be less than the costs involved in continual culling.

The recommendation in TAP draft for synthetic biology and immunocontraception is important to be investigated further where chemical sterilisation also has the potential to be delivered remotely. (Additionally, investigating gene drives where genomes are engineered to eliminate specific prey searches may have potential.)

4. All State and local Governments to undertake cat management

Effective Cat Management requires a multifaceted approach. All stakeholders must be working towards the same goal. The current situation shows gaps in management which negate advances made by those working on the front line, such as community cat programs, TNR, shelters, rescues and members of the public. The goal is to reduce the cat population and this should be done through eliminating breeding, not through increasing breeding by culling.

A lack of local Governments undertaking cat management results in a continual problem in these areas. This results in a massive workload falling on a very few within each community. This work is voluntary, but costly, both financially, emotionally and mentally. While legislation for cat management exists in South Australia (promoted by the Dog and Cat Management Board (DCMB)) it remains optional for each Council to incorporate cat management into their own bylaws. Therefore, in SA 83 % of councils do not actively undertake any cat management. RSPCA states cat issues are local Government responsibility, but this 'responsibility' is ignored by these Councils. A cat problem occurring in one municipality will extend into the next, making it difficult and/or pointless for one Council to engage in cat management if neighbouring Councils do not. Local Governments therefore **must** be mandated to address the cat issue through legislation which must be consistent across all. Additionally, local Governments must offer free desexing to all constituents of their council area and additionally aid with transport to Veterinarians for those disadvantaged in this respect. The lack of accountability by local Governments is costing this state and others in mental health care and ultimately loss of lives as the problem becomes overwhelming for those volunteering as well as animal professionals such as Vets, to continue to bear alone. (See Appendix 2)

The legislation:

- Containment of cats should not be enforced because it discourages those members of the public who may wish to home a community cat. These cats can take a little time to become comfortable with being housed. Additionally, containment removes cats from their territory, leading to stray cats moving in, resulting in increased breeding of undesexed cats and/or migration of stray cats into vacant territories, and increased nuisance behaviour. However, with cleverly planned and designed containment including outdoor areas, it may be possible to retain some semblance of territory. Containment may also impose further limitations on low socio-economic families discriminating again against this group to maintain a cat as a member of their family.
- Where Councils have not previously actively undertaken cat management, the legislation regarding microchipping etc should occur only from the date Council takes on this role and therefore for cats born from this date forth. Without enforcement of the legislation by local councils over numerous years, cat owners in these areas have no to little knowledge of the legislative requirements and should not be penalised for Councils inaction, if and when Councils decide to enforce legislation.

- Community cat programs, currently endorsed, proven effective, and implemented by Dr J. Rand should be undertaken in all towns across Australia, so that cats in communities are desexed, ownership is encouraged, shelter intake and euthanasia is reduced. This results in a healthy caring community.

References

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Appendix 1

From Cat baiting using Eradicat and Curiosity… is it working? :: Terrestrial Ecosystems

Ethical issues (1080)

Doherty and Ritchie (2016) raise the often forgotten ethical issues associated with wide-spread attempted culls / killing of feral species including cats and foxes as the bycatch / kill resulting from these widespread aerial baiting programs can be significant. For example, Dundas et al. (2014) reported 99% of the monitored 1080 baits (Probait®) laid in the Jarrah forest of south-west Western Australia were taken by non-target species and the threatened quokka took 48% of them. Doherty and Ritchie (2016) explained the logic of these culls is that the benefits to conservation significant species outweigh the impact on the bycatch / kill species. However, they suggest this logic must be challenged when culls fail to have a positive impact on the species they aim to protect. They went on to express concern about the resources spent on these ineffective culls.

So what is an acceptable percentage death rate of the target species relative to the number of deaths of unintended species? Is 10% of non-target species acceptable, if we get 90% of the target species acceptable? As indicated above, aerial baiting is not always effective in culling the target species for a variety of reasons, but an unknown number of non-target species are often killed in these failed or unsuccessful attempts.

Rethinking cat management priorities

Given the Threatened Species Commission has committed the Commonwealth Government to killing 2 million cats by 2020 (Anon. 2015), which will mostly be done using aerial baiting programs, then perhaps we need to rethink how best these funds might be spent in conserving threatened species. Other programs including top-predator conservation and release, maintaining and restoring habitat complexity and ecological refuges, exclusion fences and assisted behavioural and evolutionary ecology may be viable alternatives (Doherty and Ritchie

There is much literature on the non-target baiting by 1080 and the deaths that occur as a result. I have much more information on this available at your request. It is currently not in an easy to read format.

My experiences with 1080 bait have been:

1. On properties where I conduct research 1080 is regularly laid. While the instructions given to the landowners are to bury the bait, they put the baits in their pockets and throw them out when they are on their motorbike. They do not get buried as required. Therefore there is a lack of concern and attention to appropriate methods when handling this deadly poison.
2. A local conservation park regularly baits and allows camping. While signs are at gates and dogs are not allowed, the park is not regularly monitored nor do members of the public always see signs, know or obey. Additionally, it borders local farms and at times our rescue group has been called to attend to wandering dogs and livestock inside the park.
3. At times when mouse and rat numbers have risen and public baiting has been high, we have regularly been called to attend to large numbers of birds of prey which have been baited.
4. Local fencing contractor who also was contracted to undertake replacement/repair of the dingo fence SA attended a job on a property where his dog ate a bait. The property was outlying and far from any Veterinary help. Having nothing to put his dog out of his misery except a hammer, he used this to kill his dog.

Excerpt from the Advertiser Magazine:

"Read with federal and state funding from SA's Department of Water and Natural Resources and F.A.M.E., among other sources. Called the Felixer, it detects cats as they pass and sprays them with gel laced with 1080 poison. The cats then groom their sprayed coat, ingesting the poison. "People think that 1080 is a really cruel death but cats just go to sleep," says **Read**. It is currently being trialled in the Flinders Ranges, on Kangaroo Island and Phillip Island.

The Felixer uses sensors to differentiate between cats, or foxes, if that's its target, and spare the ones it's designed to protect. It can also be programmed so that **cat**-sized pet dogs, or pet cats, for example, can be protected by tags which would cause the device to shut down if they were to come within 20 metres of it.

Even if the Felixer were to accidentally spray a native animal, most have a natural immunity to 1080 because they've co-evolved with native legumes in the Gastrolobium genus, as well as certain acacias, that contain the poison. **Read** has observed the effects of cats sprayed with 1080 by the Felixer in a small enclosure near his house that's equipped with several cameras. "There's a lot of public mistrust and dislike of 1080 … but no one's ever done this," he says. "No one has ever poisoned a **cat** and videoed it to see how it dies."

While Read states this has not been done previously, documentation of how the cat suffers after ingesting 1080 has been done (Marks 2013). To suggest otherwise shows a lack of knowledge regarding this but also a lack of ethics where this practice surely constitutes cruelty and does not abide by the three "R's" in ethics permits obtained for scientific studies.

Conversation comments following this were many, relevant to 1080 are two only.

"Magazine August 24, 2019 SA Weekend (South Australia)

Wrong on cats Natural born killers (SA Weekend, August 10-11) contains numerous incorrect statements and is devoid of scientific proof to substantiate claims made.

1080 is a deadly poison which causes a slow, agonising death, and is banned in most countries including the US. For **John Read** to say "cats just go to sleep" is absurd….. Christine Pierson, President, C.A.T.S. Cats Assistance To Sterilise Inc"

"Misinformed **John Read** (Natural born killers, SAWeekend, August 10-11) is incorrect. 1080 poison is banned in many countries because of the prolonged suffering of the baited animal. There are videos of these agonising deaths. **John** doesn't mention secondary poisoning of the foraging raptors (hence the marked decline of wedge-tailed eagles in the Flinders Ranges). There is also toxic seepage from the cadavers into ground water. Without feral cats, rabbit populations will increase.
Humans are green, blue, brown-eyed "monsters", destroying habitat with accompanying loss of species. Alice Shore"
Because only a psychopath kills without emotion." (C. Marks 2013).

Appendix 2

The following exemplifies the lack of local Government attention and duty of care; the dependency of cats on humans; further suggests that human dependent cats are not as likely to hunt.

In early 2023 our rescue group was contacted by our local SAPOL to assist with a number of stray cats which had been fed (intermittently) by an elderly gentleman who had recently

passed away. His immediate family lived interstate and overseas and requested removal of these cats. Our local Council denied any responsibility despite by being contacted by the deceased owners son asking for assistance. The RSPCA would not assist stating that in our state of South Australia it is local Council's responsibility to deal with cat problems.

The cats had not been fed for approximately 2 weeks while the elderly gentleman had moved into care interstate and subsequently shortly after, passed away. In agreement with our local vet we removed 37 cats from this one property. These cats all presented in differing levels of starvation. Many were kittens and juveniles and extremely malnourished. They had not been predating on wildlife although this is a rural town with the property located on the edge of town with paddocks therefore on all sides of the house except for one neighbouring property. We placed motion activated cameras in the semi-enclosed porch area where the cats were fed, to make sure we were trapping only those cats who were associated with this address and that we were not encouraging new comers through the placement of food. On this camera footage, prior to removing all cats, we also saw images of mice, possums and their young, birds entering the porch, and an echidna. We saw no evidence of predation and with the cats starving and waiting to be fed this would have been thought to be inevitable. Therefore, cats that are reliant on humans for food are probably less likely to hunt for a number of reasons. These being: hunting is a skill and it takes time and practice to develop and be proficient. It is a high energy expending activity with more hunts known to result in failure than success (success rate is considered to be 32 % for proficient cat hunters) and stray cats have access to an easier food source, such as bins, compassionate people etc. After removal of the cats, cameras did not detect new cats moving into this property presumably due to a lack of resources (food was no longer provided).

We have started undertaking desexing of our street cats as a community cat program to deal with the overwhelming request and due to us no longer being able to take in or deal with the issue of an escalating population. The burden on us financially as well as to my own mental health, is not sustainable.

In 2014-2015 we did make steps towards this but were threatened by local Government with fines and jail time: $100,000 or 2 years imprisonment for releasing a feral animal at large, (even though this was just putting back where the cat had been picked up after recovery from desexing) AND $50,000 or 4 years imprisonment for cruelty for tipping the cats left ear (which our vet would do under anaesthesia so not cruel and universal). If we had dealt with the situation then, we would not be in the predicament we are in today, but we could not afford jail time or fines. Currently we have the cats we desex becoming owned cats, therefore fulfilling all legalities.

Cat control of approximately 30 cats was undertaken on an outlying property in the mid-north of SA, early 2024 when the renters moved out. We organised to trap and remove these cats and liaised with local vets to deliver the cats, for assessment, possible rehoming or, with all rescue centres full and closed for intakes, euthanasia. However, the landowner laid baits despite no baits authorised for cat control in SA, this was illegal. On attendance at the

property, we found numerous cats over days, poisoned but still alive and suffering. We were left with no alternative but to attend this property every morning and evening for approximately two weeks, to euthanise these cats on site, so that no cats were left to suffer, and to avoid the risk of secondary poisoning to other species. Apart from this being cruel and illegal, it also placed a heavy toll on us to continually have to euthanise pets, especially those for whom we are responsible.

There is a general apathy and lack of conscience regarding animal welfare in rural areas in SA, which is probably similar in other states.